

Does Neighborhood Availability of Healthy Foods Influence Healthy Diets?

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Background

- Heart disease, diabetes, and hypertension continue to rank as leading causes of morbidity and mortality among older Americans. African Americans are disproportionately burdened with these diseases.
- A healthy diet is essential for prevention of these diseases, wellness, and healthy aging. Older African Americans have historically reported suboptimal diets based on recommended guidelines.
- Restrictions resulting from the COVID-19 pandemic had a disproportionate impact on neighborhood food environment, particularly among vulnerable populations such as older adults, low-income individuals, and minorities.
- We studied the influence of neighborhood food environment on the diet quality of older African Americans during the COVID-19 pandemic. We also looked at the impact of food insecurity.

Methods

- Older African American parishioners living within and around South Los Angeles between November 2021 and July 2022.
- Aged 65 years or older, or age 55-64 years with a chronic medical condition.
- Diet quality was assessed using Diet History Questionnaire (DHQ) III.
- DHQ III results were used to calculate the Healthy eating index 2015 (HEI-2015).
- Data analysis:
 - Descriptive statistics
 - Bivariate associations between diet quality and neighborhood food environment
 - Bivariate associations between diet quality and food insecurity security (chi-square tests and Pearson correlations)
 - Multivariable linear regression to examine associations of diet quality with neighborhood food environment and food security, controlling for demographic factors.

Results

Table 1. Participant characteristics

Variable	N (%)
Age	
55 – 64	40 (33.9)
65 – 74	53 (44.9)
75 and older	25 (21.2)
Gender	
Male	36 (30.5)
Female	82 (69.5)
Education	
High school degree or less	33 (35.11)
Associate degree or some college	39 (41.9)
College or post-graduate degree	22 (23.4)
Annual income	
<\$50,000	73 (75.3)
>\$50,000	24 (24.7)
Physical Health	
Excellent/ very good	27 (27.3)
Good	37 (37.3)
Fair or poor	35 (35.4)
High quality fruits and vegetables in neighborhood	
Disagree	16 (15.8)
Neutral	15 (14.9)
Agree	70 (69.3)
Large selection of fresh fruits and vegetables in neighborhood	
Disagree	16 (15.8)
Neutral	11(10.9)
Agree	74 (73.3)
Large selection of low-fat products in neighborhood	
Disagree	17 (16.8)
Neutral	15 (14.9)

- Most participants were female and had at least a high school education.
- 64.6% of participants reported good or better physical health
- 75.3% of participants had <\$50,000 annual income.
- Majority of participants agreed to have large selection of produce (73.3%) and low-fat products (68.3%) in their neighborhood.
- In bivariate analyses, food environment was not significantly correlated with total HEI (Fig 1), with fruit or vegetable HEI.
- Food insecurity was significantly associated with total HEI (p=0.0052), as well as the total and whole fruit HEI subscores (p=0.0090, p=0.0240, respectively) (Fig. 2).
- Food insecurity was negatively associated with the two food environment variables relating to produce: quality of produce (r=-0.22, p=0.0247) and selection of produce (r=-0.21, p=0.0385).

Figure 1. Associations between diet quality and food environment

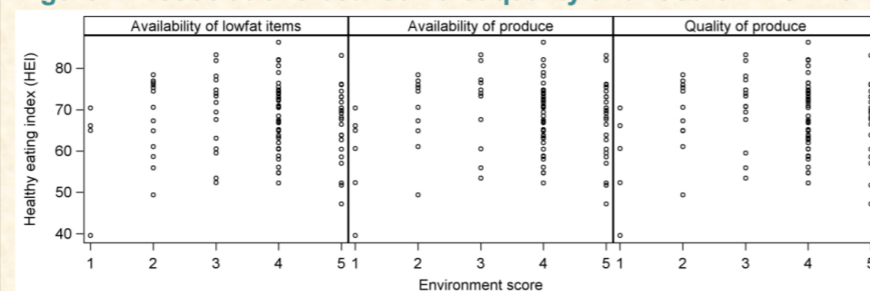
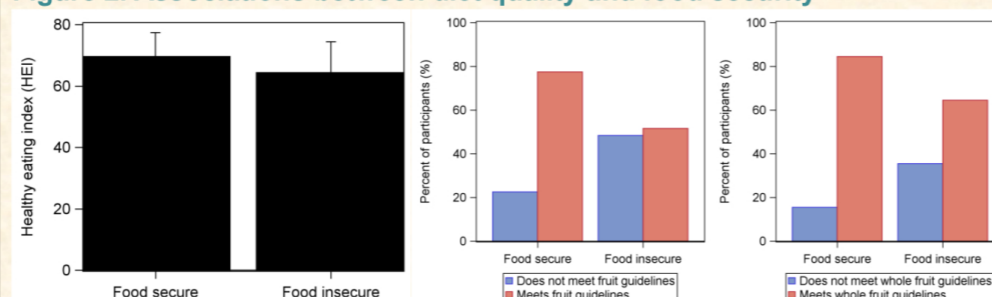


Figure 2. Associations between diet quality and food security



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Results

Table 2. Results of multivariable linear regression

Variable/Index	Standardized Beta	SE	Sig.
High quality produce	0.11	2.40	0.373
Large selection of produce	0.98	2.53	0.344
Large selection of low-fat items	-0.83	1.83	0.650
Food Insecurity	-0.96	0.54	0.032

After controlling for age, gender, and education, there was still no significant associations between food environment variables and either total diet quality or quality of diet components. The significant association between food insecurity and whole fruit HEI subscore persisted (p=0.0282), but the association with total HEI was no longer statistically significant (p=0.0809).

Discussion

- Our study shows that the diet of underserved older African Americans were far from optimal during the thick of the COVID-19 pandemic.
- Although our participants met the requirement for total fruit and total vegetable consumption, these were not enough to improve their overall diet quality.
- In our study the availability, or lack of healthy foods, in the neighborhood did not affect the diet quality of our participants.
- The consumption of healthy diets is influenced by additional factors such as cost, and individual dietary choices.

Limitations

- Natural bias from the convenience sampling. Results may not be transferable to other populations.
- Smaller sample size.

Conclusions

Factors associated with suboptimal diets in older African Americans during the COVID-19 pandemic were complex and multifaceted, encompassing both individual and environmental influences. To improve the health and well-being of older African Americans, it is imperative to identify interventions that can achieve the greatest impact in the shortest timeframe and at a low cost. Identifying these interventions will be critical for the success of future initiatives.

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