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Does Dietary Intake Meet the Recommendations? A Focus on Neighborhood Disadvantage Level in Hispanic Families with Unhealthy Weight

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This study aimed to examine whether individuals living in disadvantaged neighborhoods have higher weight status, their dietary intake meets recommendations, and if this varied by neighborhood disadvantage level in Hispanic families with high prevalence of overweight/obesity. Participants were 280 Hispanic adolescents with overweight/obesity and their parents. Neighborhood deprivation was examined using Area Deprivation Index. Height and weight data were collected by trained researchers. Dietary intake and socio-demographic characteristics were self-reported. Adolescents weight status was associated with neighborhood deprivation, but no significant group differences were found in post hoc tests. Regardless of participant neighborhood disadvantage level, both parent and adolescent dietary intake were significantly poorer than the recommendations. Although not significant, adolescents in more advantaged neighborhoods had higher intake of all dietary items; and parents in moderately deprived areas reported the highest intake of all food items.

Keywords: Neighborhood disadvantage, diet, dietary pattern, Hispanic, youth, family

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Maintaining a balanced and healthy diet is essential for overall health by playing a crucial role in sustaining a healthy body weight and preventing diet-related chronic diseases including cardiovascular disease, cancer, and type 2 diabetes (Update, 2017; Willett, 2017). Healthy dietary intake includes vegetables, fruits, whole grains, fat-free or low-fat dairy products, various protein sources, and minimized saturated fats, sugar and sodium (Centers for Disease Control and Prevention, 2023). However, there has been a notable increase in unhealthy dietary patterns characterized by the excessive consumption of nutrient-poor and energy-dense, highly processed foods leading to a global deterioration in diet quality, and in turn increasing prevalence of overweight, obesity and severe obesity (Centers for Disease Control and Prevention, 2022; Imamura et al., 2015).

Dietary intake among the Hispanic population living in the United States has been a subject of concern, as it often does not meet the recommended dietary guidelines for Americans, increasing the risk of diet-related chronic conditions (Chen et al., 2022; Lovan et al., 2023; Mattei et al., 2016; Overcash & Reicks, 2021). This group also has the highest rate of obesity compared to their non-Hispanic counterparts (Centers for Disease Control and Prevention, 2022). Dietary patterns in Hispanics differs by Hispanic/Latino subgroup; however, regardless of country of origin or the degree of acculturation, dietary patterns of Hispanics do not typically adhere to the recommended dietary guidelines for healthy eating (Chen et al., 2022; Lovan et al., 2023; Mattei et al., 2016). There are many factors that dictate Hispanic's dietary intake patterns, from individual factors (e.g., education and language) to family/household factors (e.g., household structure and family attitudes towards food) to community factors (e.g., food environment, food deserts/swamps, and access) and policy/societal factors (e.g., food stamps, and nutrition assistance programs) (Andretti et al., 2023; Matheson, 2008; Varela et al., 2023).

Research has also shown significant associations between neighborhood conditions and dietary intake patterns among Hispanics. Several previous studies have suggested that those residing in less advantaged and highly deprived neighborhoods (e.g., lower socioeconomic status, lower exposure to greenness, and lower walkability) tend to have poorer dietary intake and quality, less access to healthy food options, higher risk for chronic diseases and thus higher odds of having poorer health outcomes (Andretti et al., 2023; Cooksey et al., 2020; Egli et al., 2020; Gallo et al., 2022; Keita et al., 2009). It is also known that neighborhoods with higher levels of disadvantage typically include residents of lower levels of education and income, which may lead to poorer food choices and obesity (Beck et al., 2019; U.S. Department of Health and Human Services, 2021). Considering that minority populations in the US, tend to live in more disadvantaged neighborhoods (Firebaugh & Acciai, 2016; "National Equity Atlas," n.d.) it is crucial to understand the direct or indirect effects of neighborhoods they reside in, on their dietary intake patterns.

To better explore the impact of neighborhood disadvantage on health status, the Center for Health Disparities Research at the University of Wisconsin created the Area Deprivation Index (ADI) (University of Wisconsin School of Medicine and Public Health, 2015; Kind & Buckingham, 2018). This publicly available measure was initially developed over thirty years ago by the Health Resources and Services Administration (HRSA) and has been enhanced and tailored to the Census Block Group neighborhood level. This index ranks neighborhoods by socioeconomic challenges within a specified area. The index incorporates income, education, employment, and housing quality. This measure has been used by previous studies to shed light on the association between neighborhood disadvantage and adverse health outcomes (Ghosh-Dastidar et al., 2014; Distelhost et al., 2024).

Aims and Hypothesis

In summary, previous research has consistently demonstrated that residents of more disadvantaged and deprived neighborhoods tend to have poorer quality diets, and minority populations in the US are more likely to live in disadvantaged neighborhoods, which puts them at an increased risk of poorer diet and health-related outcomes. Considering that the Hispanic population experiences the highest rates of overweight and obesity compared to non-Hispanic groups, placing them at greater risk for chronic conditions, it is crucial to examine how their living environment influences dietary habits to enhance their overall health since this information in the Hispanic population is extremely limited. Therefore, this study investigates whether weight status and daily dietary intake, relative to dietary recommendations, differ across neighborhood disadvantage level among Hispanic adolescents with a high prevalence of overweight or obesity. It also explores how parents' dietary intake aligns with dietary guidelines. We hypothesized that (1) participants living in more deprived neighborhoods will have higher weight status compared to those living in less deprived areas; (2) participants residing in less deprived neighborhoods will have dietary intakes that more closely align with daily dietary recommendations; (3) participants residing in more deprived neighborhoods will have a lower intake of healthy foods (e.g., whole grains) and a higher intake of unhealthy food options (e.g., added sugar) compared to the ones living in less deprived neighborhoods.

Methods

Participants

This cross-sectional study used the baseline data from a randomized trial evaluating the efficacy of an obesity preventive intervention in promoting a quality diet and increasing physical activity level (Prado et al., 2020). Participants were 280 Hispanic parent-adolescent dyads living in South Florida, Miami-Dade County. Adolescents' mean age was 13.01 ± 0.83 (52.1% females; $M_{\text{Body Mass Index (BMI) Percentile}} = 94.55 \pm 4.15$) and parents mean age was 41.87 ± 6.49 (88.2% females; $M_{\text{BMI}} = 30.62 \pm 5.68$). Demographic details are presented in Table 1. Recruitment took place in 2015 through a network of 18 middle schools located in Miami-Dade County. Participants were eligible if (1) they identified as Hispanic, (2) they had an adolescent that was in 7th or 8th grade, (3) the adolescent lived with an adult primary caregiver who was willing to participate in the two-year study, (4) they planned to stay in Miami-Dade County for the duration of the study, and 5) the adolescent was overweight or obese with a BMI ≥ 85th percentile adjusted for age and sex. (Centers for Disease Control and Prevention, 2023). For more comprehensive information regarding participant recruitment, the structure of the study, and the CONSORT table, please refer to the publication of the study's primary outcomes (Prado et al., 2020). The parent study was approved by the University of Miami Institutional Review Board (IRB) and by the Miami Dade County Public School System IRB. Written consent forms were signed by the parents and written assent forms were signed by the adolescents prior to the study.

Measures

Area Deprivation Index

The Area Deprivation Index was used in this study to assess the degree of neighborhood disadvantage (University of Wisconsin School of Medicine and Public Health, 2015; Kind & Buckingham, 2018). This validated measure classifies neighborhoods' distress using data from the US Census Bureau, which includes 17 specific indicators (e.g., housing quality, education, and poverty). Participants' 5-digit zip codes obtained from reported home addresses were linked to their additional 4 codes (ZIP+4) using the US Postal Service zip code database ("United States of Postal Service" n.d.). Then the 9-digit zip codes were used to match participants with their census block ADI scores. ADI provides an average score of area deprivation in 5 years. Therefore, we used ADI scores related to the year 2015, which represents an average ADI between 2011–2015 due to the fact that the data was collected in 2015. This measure is freely available to the public at both the state-level and the national-level at: https://www.neighborhoodatlas.medicine.wisc.edu/. Additionally, ADI is a reliable measure for population-based and health disparity studies (Hu et al., 2021; Mora et al., 2021; Sheehy et al., 2020). We used the national ADI scores ranging between 0–100, with higher scores indicating higher neighborhood disadvantage. To facilitate the comparison across various levels of neighborhood disadvantage, we applied thresholds established in previous research to categorize participants' ADI scores into three groups: low deprivation (scores 0–39), moderate deprivation (scores 40–59), and high deprivation (scores 60–100) (Hassan et al., 2023; Mehaffey, Hawkins, Charles, Turrentine, Hallowell, et al., 2020; Mehaffey, Hawkins, Charles, Turrentine, Kaplan, et al., 2020).

Body Mass Index (BMI)

Seca 217 mobile stadiometer was used to measure participants heights in centimeter and Seca 869 digital scale was used to measure weight in kilogram by trained researchers. To calculate BMI for the parents, we used the standardized BMI formula = (kg)/height(m2) (Stensland & Margolis, 1990). For adolescents, we calculated BMI percentiles using the Centers for Disease Control and Prevention (CDC) growth charts (Kuczmarski, 2002).

Dietary Intake

To assess both adolescent and parent dietary intake patterns, we used National Health and Nutrition Examination Survey Dietary Screener Questionnaire (DSQ; available at: https://epi.grants.cancer.gov/nhanes/dietscreen/). This questionnaire includes 26 self-reported items that assess the consumption of 22 specific foods and drinks over the past month, and it examines intake in various settings including work, school, and restaurants. There are 8 response choices: *never, 1 time last month, 2–3 times last month, 1 time per week, 2 times per week, 3–4 times per week, 5–6 times per week, 1 time per day, 2 or more times per day*. Questions indicated both nutrient-dense options (e.g., whole fruits and vegetables) and calorie-dense options (e.g., doughnuts, soda, and cookies). The psychometric properties of this measure have been established (Thompson et al., 2017). To facilitate analysis, we used scoring algorithms developed by the National Cancer Institute (available

Table 1. Participants Sociodemographic Characteristics by ADI categories

	Total n (%)	Low Deprivation n (%)	Moderate Deprivation n (%)	High Deprivation n (%)	*p*-value
Adolescents					
Sex					
Male	132 (48)	47 (50.5)	32 (49.2)	53 (45.3)	.733
Female	143 (52)	46 (49.5)	33 (50.8)	64 (54.7)	
Weight Groups, defined by BMI					
Overweight (85th-<95th %)	120 (44.8)	37 (41.6)	38 (59.4)	45 (39.1)	.025
Obese (>95th %)	148 (55.2)	52 (58.4)	26 (40.6)	70 (60.9)	
Parents					
Sex					
Male	33 (12)	12 (12.9)	5 (7.7)	16 (13.7)	.467
Female	242 (88)	81 (87.1)	60 (92.3)	101 (86.3)	
Household annual income, US $					
<29,999	172 (65.9)	40 (46.5)	46 (71.9)	86 (77.5)	<.001
30,000-49,999	53 (20.3)	24 (27.9)	12 (18.7)	17 (15.3)	
>50,000	36 (13.8)	22 (25.6)	6 (9.4)	8 (7.2)	
Parent education					
No education	3 (1.1)	1 (1.1)	1 (1.5)	1 (0.9)	.003
Elementary	17 (6.2)	1 (1.1)	3 (4.6)	13 (11.1)	
High school	122 (44.4)	40 (43)	30 (46.2)	52 (44.4)	
College	114 (41.4)	38 (40.9)	27 (41.5)	49 (41.9)	
Grad school	19 (6.9)	13 (13.9)	4 (6.2)	2 (1.7)	
BMI					
Normal weight (BMI= 18.5-24.9)	34 (12.5)	9 (9.8)	10 (15.4)	15 (12.9)	.590
Overweight (BMI= 25-29.9)	108 (39.6)	41 (44.6)	21 (32.3)	46 (39.7)	
Obese (BMI>30)	131 (47.9)	42 (45.6)	34 (52.3)	55 (47.4)	

Note. Neighborhood data were available for 275 participants. Weight status data were available for 268 adolescents and 273 parents. Household annual income data were available for 261 parents. Parents' education data were available for 275 parents.

at: https://epi.grants.cancer.gov/nhanes/dietscreen/scoring/current/#scoring) to convert individuals' daily intake into standard servings. In this study we examine participants intake of key food items for a healthy lifestyle including fiber (grams), added sugar (teaspoons), wholegrains (ounces), dairy (cups), fruits and vegetables (cups).

To be consistent with previous studies, we used both MyPlate and The Dietary Guidelines for Americans 2020–2025 (available at: https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf) to estimate the adequate daily intake (P. Lovan et al., 2023; "U.S. Department of Agriculture. MyPlate.,"). Considering that the recommendations varied for different age groups, we chose the amount that overlapped between the different age groups in this sample population (adolescents between 11–15 and adults between 24–59 years old). For instance, related to whole grains intake, MyPlate suggests 2.5–3.5 ounces for girls 9–13 years old, 3–4 ounces for girls 14–18 years old, 3–4.5 ounces for boys 9–13 years old, and 3–5 ounces for boys 14–18 years old. Therefore, we chose 3.5 ounces for adolescents between 11–15 years old, which is a common value among the mentioned recommendations for all the age groups. For added sugar intake among adolescents, we used the recommendation from the American Heart Association (Vos et al., 2017), which advises limiting added sugars to less than 6 teaspoons (approximately 25 grams) per day for children aged 2 years and older. This guideline is more specific and stringent than the Dietary Guidelines for Americans, making it particularly relevant for pediatric populations, as it is tailored to the unique metabolic and developmental needs of children and adolescents. The same method was used for parents' intake recommendations. It is important to note that this questionnaire captures both nutrient-dense and calorie-dense food options. The dietary recommendations emphasize increasing the intake of nutrient-dense foods (i.e., fiber, whole grains, and dairy, as well as fruits and vegetables) while reducing the consumption of calorie-dense foods (i.e., those high in added sugars).

Statistical Analysis

Table 1 presents sociodemographic characteristics by ADI categories. The full sample consisted of 280 dyads; however, five participants were missing residential address information, which is required to generate ADI scores. Therefore, analyses involving neighborhood disadvantage were conducted with a subsample of 275 dyads. Additionally, some participants had missing data on other key variables, such as BMI and household income. Missing data were handled using listwise deletion in SPSS for each analysis, such that only participants with complete data for the variables involved in a given analysis were included. A chi-square test of independence examined the differences among demographic categories (i.e., sex and household income) and participants' BMI by neighborhood deprivation levels for both adolescents and parents. When chi-square tests yielded statistically significant results, post hoc analyses were conducted to examine specific group differences. Standardized residuals and column proportion z-tests with Bonferroni-adjusted p-values were used to identify which cell frequencies significantly differed from expected values. The Shapiro-Wilk test indicated that data related to participants' daily intake were not normally distributed. To account for this non-normality, a Kruskal-Wallis H test was conducted to examine the relationship between ADI categories (tertiles) and various daily intakes among adolescents and parents (separately). Additionally, Wilcoxon one-sampled signed rank tests were conducted to compare differences between average daily intake and daily recommendations stratified by ADI categories in parents and adolescents. All statistical analysis was carried out using SPSS (version 28, IBM, Armonk, NY, USA). *P*-values of < 0.05 were considered statistically significant.

Results

Our findings indicated that the mean ADI based on the national rank was 54.17 ± 22.96 among 275 participant dyads living in South Florida. Stratifying the participants based on ADI tertiles indicated that 93 (33.8%) of participants were in the low deprived group, 65 (23.6%) were in the moderate deprived group, and 117 (42.6%) were in the high deprived category.

Adolescents' Weight Status By ADI

A chi-square test indicated a significant association between BMI category and neighborhood deprivation level ($\chi^2 = 7.37$, $p = .025$). However, post-hoc comparisons using column proportion z-tests with Bonferroni correction and standardized residuals revealed no statistically significant differences in the distribution of BMI categories across the deprivation groups. Among participants classified as overweight, 30.8% lived in low-deprivation neighborhoods ($n = 37$; standardized residual = −0.5), 31.7% in moderate-deprivation neighborhoods ($n = 38$; standardized residual = 1.7), and 37.5% in high-deprivation neighborhoods ($n = 45$; standardized residual = −0.9). Similarly, among those classified as obese, 35.1% lived in low-deprivation neighborhoods ($n = 52$; residual = 0.4), 17.6% in moderate-deprivation neighborhoods ($n = 26$; residual = −1.6), and 47.3% in high-deprivation neighborhoods ($n = 70$; residual = 0.8). Despite differences in raw counts, none of the comparisons between groups reached statistical significance after adjusting for multiple comparisons.

Intake comparison among different ADI categories

A Kruskal-Wallis H test showed that there were no significant differences in adolescents' and parents' daily intake across the three ADI categories ($p > 0.05$). However, adolescents who lived in more advantaged neighborhoods reported higher intake of all the key dietary items, including sugar. Parents living in more advantaged areas reported lower intake of all the key dietary items. Additionally, parents who lived in moderately deprived areas seemed to have higher intake of all the reported food items. These results were not statistically significant. Details are presented in Tables 2 and 3. It is important to note that adolescents' descriptive analyses revealed that daily fiber intake

Table 2. Adolescent daily intake of key dietary items by ADI category

Variables	ADI	n	Mean	SD	X^2	p-value
Fiber intake (g)	Low deprivation	87	32.31	65.09	1.53	.465
	Moderate deprivation	62	30.03	73.98		
	High deprivation	109	25.86	54.05		
Added sugar (tsp)	Low deprivation	90	19.97	18.32	1.04	.593
	Moderate deprivation	62	18.63	17.21		
	High deprivation	113	16.43	15.93		
Whole grain intake (oz)	Low deprivation	88	2.55	5.18	3.38	.184
	Moderate deprivation	63	1.70	3.35		
	High deprivation	113	1.63	3.82		
Dairy intake (cup)	Low deprivation	90	2.73	2.34	1.77	.412
	Moderate deprivation	62	2.36	2.04		
	High deprivation	115	2.46	2.34		
Fruits and vegetables intake (cup)	Low deprivation	89	3.39	2.57	0.60	.741
	Moderate deprivation	62	3.30	2.61		
	High deprivation	110	3.05	2.28		

Table 3. Parent daily intake of key dietary items by ADI category

Variables	ADI	n	Mean	SD	X^2	p-value
Fiber intake (g)	Low deprivation	91	13.30	4.92	1.10	.576
	Moderate deprivation	65	15.18	12.05		
	High deprivation	116	14.21	6.03		
Added sugar (tsp)	Low deprivation	91	13.65	9.25	0.24	.885
	Moderate deprivation	65	16.60	16.31		
	High deprivation	117	14.84	13.61		
Whole grain intake (oz)	Low deprivation	91	0.67	0.86	2.97	.226
	Moderate deprivation	65	0.81	1.72		
	High deprivation	117	0.57	0.73		
Dairy intake (cup)	Low deprivation	91	1.44	1.07	0.77	.680
	Moderate deprivation	65	1.59	1.26		
	High deprivation	117	1.56	1.15		
Fruits and vegetables intake (cup)	Low deprivation	91	2.42	1.05	2.27	.321
	Moderate deprivation	65	2.88	1.61		
	High deprivation	116	2.66	1.63		

was highly positively skewed, with a small number of participants reporting exceptionally high values. This skewness inflated the mean reported in Table 2, making it less representative of the typical intake in the sample. Therefore, median values were reported (Table 4) and used in analyses involving non-normally distributed data to better reflect the central tendency.

Comparison between actual and recommended intake in different ADI categories

Results from the Wilcoxon one-sample signed rank tests indicated that whether participants lived in disadvantaged or low deprivation neighborhoods, the intake was significantly different than the recommendations. The only exception was for added sugar intake among the parents which showed no statistically significant difference with the maximum recommended amount. Details are presented in Tables 4 and 5.

Discussion

This study examined whether individuals living in disadvantaged neighborhoods have higher weight status, investigated the dietary intake among Hispanic adolescents with unhealthy weights and their parents to determine if daily intake aligns with dietary recommendations, and whether this varies based on neighborhood disadvantage levels. Although a significant association was observed between BMI category and neighborhood deprivation level, post hoc analyses did not reveal any statistically significant differences between specific deprivation groups in the prevalence of overweight or obesity. While the high deprived group had a higher proportion of participants classified as obese and the moderate deprived group showed a slightly elevated proportion of those classified as overweight, these differences did not reach statistical significance after applying Bonferroni-adjusted comparisons. These findings suggest that, within this sample, the relationship between neighborhood deprivation and weight status

Table 4. Comparison Between Adolescents' Daily Intake and the Daily Recommendations Stratified by ADI Categories

	n	*Md*	*z*	*p*	Recommendations
Fiber					25 grams
Low deprivation	87	15.38	−3.25	.001	
Moderate deprivation	62	14.40	−3.10	.002	
High deprivation	109	13.50	−4.76	<.001	
Added sugar					<6 teaspoon
Low deprivation	90	12.63	7.48	<.001	
Moderate deprivation	62	13.29	6.08	<.001	
High deprivation	113	12.43	8.01	<.001	
Whole grains					3.5 ounces
Low deprivation	88	0.62	−4.71	<.001	
Moderate deprivation	63	0.58	−5.02	<.001	
High deprivation	113	0.32	−6.63	<.001	
Dairy					3 cups
Low deprivation	90	1.89	−2.55	.011	
Moderate deprivation	62	1.59	−3.24	.001	
High deprivation	115	1.50	−3.47	<.001	
Fruits/vegetables					5 cups
Low deprivation	89	2.37	-5.01	<.001	
Moderate deprivation	62	2.38	-4.25	<.001	
High deprivation	110	2.36	-6.76	<.001	

Note. Md = Observed median; z = Standardized test statistics; p = Two-sided significance level.

may be more nuanced and potentially influenced by unmeasured factors such as individual-level behaviors, access to healthy foods, or psychosocial stressors.

Regardless of participants' neighborhood disadvantage level, the reported daily intake of fiber, whole grains, dairy products, and

Table 5. Comparison Between Parents' Daily Intake and the Daily Recommendations Stratified by ADI Categories

	n	*Md*	*z*	*p*	Recommendations
Fiber					28 grams
Low deprivation	91	12.31	−8.25	<.001	
Moderate deprivation	65	12.67	−6.51	<.001	
High deprivation	116	12.77	−9.11	<.001	
Added sugar					<12 teaspoon
Low deprivation	91	11.16	0.02	.981	
Moderate deprivation	65	11.64	0.95	.338	
High deprivation	117	11.03	0.52	.602	
Whole grains					4 ounces
Low deprivation	91	0.33	−8.27	<.001	
Moderate deprivation	65	0.28	−6.58	<.001	
High deprivation	117	0.26	−9.38	<.001	
Dairy					3 cups
Low deprivation	91	1.18	−7.42	<.001	
Moderate deprivation	65	1.50	−5.67	<.001	
High deprivation	117	1.28	−7.88	<.001	
Fruits/vegetables					5 cups
Low deprivation	91	2.34	−8.28	<.001	
Moderate deprivation	65	2.40	−5.98	<.001	
High deprivation	116	2.35	−8.21	<.001	

Note. Md = Observed median; z = Standardized test statistics; p = Two-sided significance level.

fruits/vegetables were significantly lower among both parents and adolescents compared to the MyPlate and Dietary Guidelines for Americans 2020–2025. Added sugar intake was significantly higher than the recommended maximum daily intake in adolescents but not in parents. Although not statistically significant, adolescents who lived in more advantaged neighborhoods reported higher intake of all key dietary items of interest, except for sugar, which was the highest in moderate deprived areas. Additionally, parents who lived in more advantaged areas reported lower intake of all dietary items with the exception of whole grains, and parents living in moderate deprived areas reported the highest intake of all items compared to the other neighborhood categories. Even though we found no significant differences for adolescents' nor for parents' daily intake across the three neighborhood ADI categories, we recognized the importance of publishing our findings to inform future research endeavors, particularly those involving larger sample sizes.

Partially consistent with our findings, other studies (Clennin et al., 2020; Lange et al., 2021; Xu et al., 2019), revealed that Hispanic adolescents with unhealthy weight living in higher deprived neighborhoods tend to have a higher weight status; and regardless of their area deprivation level, Hispanic families, both parents and offspring, fail to adhere to the recommended daily guidelines. These results underscore the critical need for interventions focused on nutrition education and eating behavior changes in this population, regardless of their age group or neighborhood socioeconomic and quality status. Several studies have demonstrated that among all racial/ethnic groups in the U.S., Hispanic adults exhibit the lowest levels of health literacy, a factor that significantly mediates the health disparities they face (Ayala, Baquero, & Klinger, 2008; Kutner et al., 2006; Pérez-Escamilla & Putnik, 2007). Research by Perez-Escamilla et al. highlights that, within a predominantly Spanish-speaking Latino sample, there were positive attitudes towards nutrition information and a general awareness of nutrition. However, there was a notable deficiency in detailed nutritional knowledge, particularly in understanding terms like saturated fat, grasping the connection between nutrition and health outcomes, and identifying food sources rich in vitamins and minerals (Pérez-Escamilla et al., 2001). This is particularly important due to the fact that the health-related strategies employed by parents, which stem from their knowledge and experiences, profoundly influence their adolescents' health outcomes. Moreover, these strategies have the potential to be passed down through generations, thereby affecting the well-being of future generations within Hispanic families (Lovan et al., 2024).

The effects of the neighborhood factors on dietary intake have been recognized in several studies previously. For example, Gilham et al., used Census data to investigate the associations between material deprivation (i.e., access to goods and amenities), social deprivation (i.e., social relationships), and population density with diet quality drawn from participants' food frequency recalls (Gilham et al., 2020). Their findings indicated that neighborhoods that have greater material and social deprivation as well as higher population density were associated with lower diet quality. Additionally, research has demonstrated that area deprivation significantly influences individuals' dietary habits, directly impacting the quality of food intake and, consequently, mortality rates associated with dietary quality (Kurotani et al., 2019). Individuals who live in more deprived areas seem to have lower intake of fruits, vegetables, seafoods, and dairy products, as well as higher intake of meat and added sugar (Algren et al.2015; Conrey et al., 2020; Kurotani et al., 2019). Although not significant, our results indicated potential patterns of the fact that Hispanic adolescents living in less deprived neighborhoods may have healthier dietary intake patters including higher intake of fiber, whole grains, dairy, fruits, and vegetables. However, in contrast to other studies our results exhibited a pattern of higher intake of added sugar in adolescents living in less deprived areas. (Fiona et al., 2019; Sharkey et al., 2009). These non-significant trends could be attributed to the fact that all participating adolescents in our study fall into a weight category above the normal range, which potentially contrasts with previous studies with a broader spectrum of weight variations, combined with easier accessibility to food retails in low deprived neighborhoods (Sharkey et al., 2009).

Individuals living in more deprived areas often face the challenge of "food deserts" and "food swamps," where there is limited access to affordable and healthy food options (Andretti et al., 2023; Wrigley, Warm, & Margetts, 2003). Moreover, higher levels of area deprivation have been found to be associated with fewer chain supermarkets (Anchondo & Ford, 2011) in the neighborhood and low-income neighborhoods offer greater access to obesogenic food sources (Anchondo & Ford, 2011; Hilmers et al., 2012). This situation not only reflects economic hardship but also compounds social exclusion. A comprehensive review of 38 studies revealed a clear association between improved access to food (in terms of availability, accessibility, affordability, accommodation, and acceptability) and enhanced diet quality (Caspi et al., 2012). These insights underscore the importance of improving both affordable healthy food availability and social conditions to facilitate access to healthier food options like fruits and vegetables, particularly in more deprived areas. Such interventions are crucial for reducing dietary disparities and promoting overall community health.

Regarding parents' dietary intake, our study revealed a non-significant yet unique trend: parents residing in less deprived areas exhibited the lowest consumption of the key food items, whereas those in moderately deprived neighborhoods showed the highest intake of all the key food items. These results present a notable deviation from previous research that explored the influence of neighborhood characteristics on adult food consumption, suggesting new avenues for understanding dietary behaviors in different socioeconomic contexts. It is possible that a combination of reasons may explain this pattern. Firstly, parents in less deprived areas, likely having higher education levels (which is aligned with our findings) might be more cognizant of the health benefits associated with consuming fewer calories, leading to their lower food intake of all food items (Fard et al., 2021; Vogel et al., 2017). Secondly, the phenomenon of "middle class eats more than the poor and the wealthy" could be influencing the dietary habits of those in moderately deprived neighborhoods (Zagorsky & Smith, 2017). This trend may be attributed to longer work hours, reduced leisure or free time, and a greater reliance on fast foods, all of which are characteristic of a busy, middle-class lifestyle (Zagorsky & Smith, 2017).

This study is not without limitations. First, the division of the sample into three ADI categories reduced statistical power; therefore, replicating this study with a larger sample is recommended. While our study sample represents an important portion of the US Hispanic community, it does not fully reflect the diversity of the entire Hispanic population in the US. This discrepancy arises because the Hispanic demographic in Miami-Dade County predominantly consists of individuals with Cuban, Venezuelan, and Colombian heritage. In contrast, the broader Hispanic population across the US encompasses a more diverse range of backgrounds, including significant numbers from Mexico, Puerto Rico, the Dominican Republic, and various other Latin American countries (Stepler, 2016). Another limitation of our research lies in the reliance on the DSQ for collecting self-reported data about participants' food consumption. The insights derived from this questionnaire are somewhat restricted. Incorporating a blend of the DSQ and 24-hour dietary recalls could offer a more comprehensive understanding of the participants' dietary patterns. Finally, it is important to acknowledge that the data for this study were collected in 2015. Considering the dynamic nature of the food environment, the present-day applicability of these findings must be carefully evaluated. Potential changes affecting dietary intake patterns include but are not limited to food availability and accessibility, the rise of obesity, physical environment changes that may cause longer commutes, and policy changes (Lee et al., 2021). Additionally, global events such as COVID-19, which occurred since 2015, have had significant impacts on individuals' dietary patterns (Martín-Rodríguez et al., 2022). However, this study provides valuable insight into different dietary patterns in neighborhoods with various socioeconomic status. Recognizing and understanding these evolving factors is essential for accurately assessing their impact on dietary trends and for developing public health strategies that are attuned to the contemporary food environment. In addition to limitations, this study has notable strengths. This study contains a unique population of Hispanic adolescents with higher weight than the normal range and their parents residing in South Florida. To the best of our knowledge this study is the first to explore the dietary intake patterns within an entirely Hispanic population across neighborhoods of varying socioeconomic advantages.

Conclusion

Our results revealed that among Hispanic adolescents with unhealthy weight, those living in higher deprived neighborhoods tend to have a higher weight status. Additionally, in this sample of adolescents with unhealthy weight, regardless of area deprivation level, both parents and adolescents failed to adhere to daily recommended guidelines. Although not statistically significant, our findings indicated a potential pattern demonstrating Hispanic adolescents living in more advantaged neighborhoods have a higher intake of all the key dietary items, while parents living in moderately deprived areas were reported to have the highest intake of all the key dietary items. Future research should concentrate on implementing and evaluating nutrition education and eating behaviors change interventions across diverse neighborhoods, particularly taking into account varying levels of disadvantage, to better understand how the accessibility and availability of healthy food options in these areas influences their intake.

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