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The Food Environment and its Linkage to an Increased Incidence of Chronic Illnesses in Predominantly Minority and Low-Income Neighborhoods

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Abstract:

Introduction: Health behaviors and outcomes are greatly influenced by the food environment that individuals reside in and have access to. Poorer health outcomes have been shown to be associated with communities that have a higher ratio of convenience stores and fast-food restaurants in comparison to healthier food store options. The purpose of this study is to explain how the food environment and health inequalities are linked to an increased incidence of chronic diseases in predominantly minority and/or low-income communities.

Methods: A literature review was conducted on databases such as National Institutes of Health, United States Department of Agriculture, Elsevier, American Journal of Public Health, Old Dominion University Database, Google Scholar, Centers for Disease Control and Prevention. The criteria for the inclusion of the target populations were studies within the United States.

Results: This review found that there are many barriers to healthy food resource access that impacts the eating choices of minority and low-income populations that have experienced many disadvantages. There were higher rates of chronic illnesses and poorer health outcomes in the target populations' communities as a result of greater access to convenience stores and fast-food restaurants.

Discussion: Structural bias, social inequities, and racism have created the health challenges in vulnerable populations such as minorities and low-income communities. The advocacy for environmental justice and increased implementation and regulation of zoning laws regarding the food resource environment needs to increase for change to take place. The overall health outcomes of the target populations would improve with greater access to healthier food options that are affordable. In addition, greater health promotion and education efforts on nutrition would help to close the gap and eliminate the barriers that exist.

Background

- The purpose of this study is to explain how the food environment and health inequalities are linked to an increased risk of chronic diseases (diabetes and/or hypertension) among predominantly minority and low-income communities in an effort to effect change through policy and law enactment.
- There are many social determinants and health inequities that contribute to the type of diet an individual has the ability to maintain such as the area of residence, socioeconomic status, and the accessibility to healthy and affordable food options.
- These factors have been shown to be major contributors of health outcomes such as hypertension, diabetes mellitus, obesity and cardiovascular disease.

Methods

An extensive literature review of peer reviewed articles and credible websites/databases was conducted. The requirements of the article selected had to be within 10 years from the year 2012 to present year 2022, peer-reviewed, published, English only, and restricted to the United States. 40+ Peer reviewed articles/ government websites were reviewed, 15 were selected according to the inclusion criteria, and data from the articles/websites were analyzed and compared to show similarities and differences. The study analyzed qualitative and quantitative peer-reviewed articles that studied the impacts of how structural bias, social inequities, and racism have created the health challenges in vulnerable populations such as minorities and low-income communities through the food environment.

Results

- A greater prevalence of obesity among low-income and minority populations has been associated with limited accessibility to healthy foods and to a higher density of fast-food outlets and convenience stores where individuals reside.
- Higher risks of developing obesity, diabetes, hypertension, coronary disease, stroke, cancer, and associated conditions were shown to be common among individuals who report being most food insecure.
- Low-income neighborhoods offered greater access to food sources that promote unhealthy eating. The distribution of fast-food outlets and convenience stores differed by the racial/ethnic characteristics of the neighborhood.
- An earlier study conducted by Hilmers, A., Hilmers, D. C., & Dave, J. (2012) on the entire United States reported "Higher density of fast-food outlets in zip codes falling into lower-income quintiles (IR = 1.235; 95% CI = 1.175, 1.297; $P < .001$) and African American neighborhoods (IR = 0.593; 95% CI = 0.541, 0.650; $P < .001$).". More recently, the CDC (2018) reported "three chronic conditions were most prevalent for both food-insecure and food-secure older adults: hypertension (59.7%, food insecure; 50.6% food secure), arthritis (49.5%, food insecure; 38.2% food secure), and diabetes (27.8% food insecure; 17.6%, food secure). About 61% of food-insecure older adults were either non-Hispanic black or Hispanic. Half of food-insecure older adults were living below 125% of the Federal Poverty Level and about 45% lived in the South. ".
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3482049/#bib28>
[https://www.cdc.gov/pcd/issues/2018/18_0058.htm#:~:text=Research%20suggests%20that%20from%202005,emphysema%20\(4%E2%80%938\)](https://www.cdc.gov/pcd/issues/2018/18_0058.htm#:~:text=Research%20suggests%20that%20from%202005,emphysema%20(4%E2%80%938)).