TACSM Abstract

Social, Environmental, and Racial/Ethnic Factors in Diabetes Prevalence in the U.S.

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ABSTRACT

PURPOSE: The purpose of this study was to determine the extent to which socioeconomic status, race/ethnicity, and disparities in neighborhood environmental factors affect diabetes prevalence among U.S. adults. METHODS: County-level data were collected from the 1000 U.S. counties with the highest diabetes incidence and the 1000 U.S. counties with the lowest diabetes incidence using the 2014 USDA Food Environmental Atlas. The dependent measure was diabetes prevalence. Independent measures were median household income, percentage of people with no car, percentage of population that was black, white, or Hispanic, and the number of fitness centers, fast food restaurants, farmer's markets, and grocery stores. Stepwise multiple linear regression was used to assess the relationship of these independent variables to diabetes incidence. RESULTS: Of the nine independent measures evaluated, seven explained a significant amount of the variance in diabetes prevalence (Table 1). Median household income accounted for the largest proportion of variance (38%) with the non-white population percentages collectively accounting for an additional 19%. The specific indicators of commercial entities accounted for small (≤1%) but significant proportions of variance. CONCLUSION: The results of this study indicate socioeconomic and racial/ethnic factors account for the majority of variance in prevalence of diabetes in the U.S. However, not only availability but access to healthy foods and lifestyle choices also seem to play a role in the magnitude of the incidence of diabetes. There is an apparent need for local and federal programs to focus on these high-risk areas of concentrated poverty and minority populations in order to educate communities, increase social support, and improve access to factors related to developing healthy lifestyles.

Table 1. Regression Analysis Results.

Step	Variable	R^2	Change in R^2	Adjusted R^2	F-Ratio	Significance
1	Median Household Income	0.381		0.381	1228.15	<0.001
2	%Population – Black	0.522	0.141	0.521	1087.47	<0.001
3	%Population – Hispanic	0.570	0.048	0.569	880.58	<0.001
4	# of Fitness Centers	0.580	0.010	0.579	687.22	<0.001
5	# of Grocery Stores	0.586	0.006	0.585	564.38	<0.001
6	# Farmer's Markets	0.590	0.004	0.589	477.67	<0.001
7	# Fast Food Restaurants	0.593	0.003	0.592	414.12	<0.001