

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

UCARE Research Products

UCARE: Undergraduate Creative Activities &
Research Experiences

4-2020

Racial-Ethnic Disparities in Prediabetes and Diabetes Among US Adults

Carly Selleck

University of Nebraska - Lincoln, carlyselleck76@gmail.com

Jennifer R. McAtee

University of Nebraska-Lincoln, jennifer.mcatee@huskers.unl.edu

Weiwen Chai

University of Nebraska - Lincoln, wchai2@unl.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/ucareresearch>



Part of the [Nutrition Commons](#)

Selleck, Carly; McAtee, Jennifer R.; and Chai, Weiwen, "Racial-Ethnic Disparities in Prediabetes and Diabetes Among US Adults" (2020). *UCARE Research Products*. 253.

<https://digitalcommons.unl.edu/ucareresearch/253>

This Poster is brought to you for free and open access by the UCARE: Undergraduate Creative Activities & Research Experiences at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in UCARE Research Products by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.



Racial-Ethnic Disparities in Prediabetes and Diabetes Among US Adults

Carly Selleck, Jennifer McAtee, & Weiwen Chai

Department of Nutrition at the University of Nebraska-Lincoln

Introduction

Type-2 diabetes is a chronic metabolic disease affecting more than 34 million Americans or 10.5% of the population [1]. While almost 90% of people are not aware of their prediabetes status, around 88 million adults are considered to be prediabetic [2]. Without any prevention methods, 70% of prediabetes cases will eventually develop into diabetes [3]. While the development of type-2 diabetes is multifactorial, lifestyle factors such as diet and physical activity as well as socioeconomic (SES) factors such as poverty and education can be main contributors [4]. This study aimed to assess racial-ethnic differences in SES, lifestyle factors and prevalence of prediabetes and type-2 diabetes.

Methods

Data for this study was obtained from 2001-2010 waves of the National Health and Nutrition Examination Survey (NHANES). NHANES surveys about 5,000 people per year from a nationally represented sample. All data sets can be found on the website from the Center for Disease Control and Prevention [5].

Results

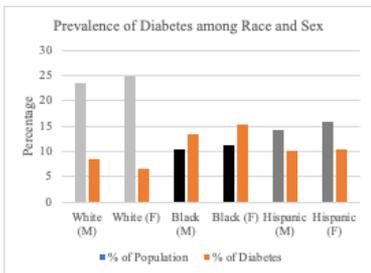


Figure 1. Non-Hispanic white males and females account for the highest percentage of participants but the lowest percentage of diabetes. Non-Hispanic blacks contain the highest percentage of diabetes.

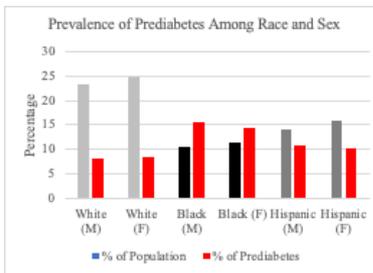


Figure 2. Non-Hispanic black males have the highest percentage of prediabetes while non-Hispanic white males have the lowest.

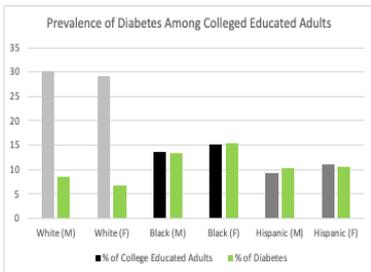


Figure 3. Non-Hispanic whites account for 59.6% of all of the college educated adults and the lowest percentage of diabetes. Non-Hispanic blacks have the highest percentage of diabetes while Hispanics have the least amount of college educated adults.

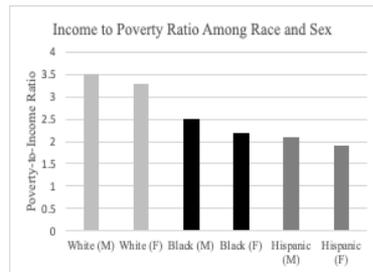


Figure 4. All groups are above an income to poverty ratio of 1, but there is a 1.6 difference between the highest ratio, white males, and lowest, Hispanic females. Females consistently have a lower ratio in regards to their same race male counterparts.

Main Findings

- ❖ Whites overall have the lowest rates of diabetes and prediabetes.
- ❖ Blacks consistently have the highest rates of diabetes and prediabetes while contributing the smallest percentage of the population.
- ❖ College education is associated with lower rates of diabetes
- ❖ Whites have the highest income to poverty ratio and the highest percentage of college graduates (30% vs. 14% and 18%) compared to blacks and Hispanics.

Conclusion and Implications

Less college education and higher poverty rates may in part contribute to the higher prevalence of type 2 diabetes and prediabetes among ethnic minority groups such as Blacks and Hispanics. Educational and preventive efforts and resources should be directed and allocated towards people who are most affected by diabetes, particularly socioeconomically disadvantaged minority populations.

Resources

- [1] Type 2 Diabetes. (2019, May 30). Retrieved from <https://www.cdc.gov/diabetes/basics/type2.html>
- [2] National Diabetes Statistics Report. (2020, February 14). Retrieved from <https://www.cdc.gov/diabetes/data/statistics/statistics.html>
- [3] Hostalko, U. (2019). Global epidemiology of prediabetes - present and future perspectives. *Clinical Diabetes and Endocrinology*, 5(1). doi: 10.1186/s40842-019-0080-0
- [4] Volacek, A., Cavallanti, A. M., Filho, R. P., & Precoma, D. B. (2018). Socioeconomic Status: The Missing Link Between Obesity and Diabetes Mellitus? *Current Diabetes Reviews*, 14(4), 321-326. doi: 10.2174/1573399813666170621123227
- [5] NHANES - National Health and Nutrition Examination Survey Homepage. (2020, April 24). Retrieved from <https://www.cdc.gov/nchs/nhanes/index.html>