Social Determinants of Health and Diabetes Disparities

Ebenezer Diego*

Department of Biochemistry, Babcock University, Nigeria

Abstract

Diabetes mellitus is a complex chronic disease with significant disparities in prevalence, management, and outcomes across populations. Social determinants of health (SDOH) play a critical role in shaping these disparities, influencing individuals' access to healthcare, resources, and opportunities for health promotion and disease prevention. This comprehensive article explores the impact of social determinants on diabetes disparities, examining the underlying factors contributing to disparities in diabetes prevalence, incidence, complications, and outcomes. Through an interdisciplinary lens, we examine the role of socioeconomic status, race/ethnicity, education, employment, food insecurity, neighborhood environment, and healthcare access in shaping diabetes disparities. Furthermore, we discuss strategies for addressing social determinants and reducing diabetes disparities through policy, community-based interventions, and health system reforms.

Introduction

Diabetes mellitus represents a major public health challenge, with significant disparities in prevalence, management, and outcomes observed across populations. While genetics and individual behaviors play a role in diabetes risk, social determinants of health (SDOH) exert a profound influence on diabetes disparities. This article explores the complex interplay between social determinants and diabetes, highlighting the underlying factors contributing to disparities in diabetes prevalence, incidence, complications, and outcomes [1,2].

Methodology

Social determinants of health: Social determinants of health encompass the social, economic, and environmental factors that shape individuals' opportunities for health and wellbeing. These factors include socioeconomic status, education, employment, housing, food security, neighborhood environment, social support networks, and access to healthcare. SDOH operate at multiple levels, from individual and interpersonal factors to community and societal influences, and interact dynamically to influence health outcomes, including diabetes risk and management [3].

Socioeconomic status and diabetes disparities: Socioeconomic status (SES) is a key determinant of diabetes disparities, with individuals from lower socioeconomic backgrounds facing higher rates of diabetes prevalence, incidence, and complications. Factors such as income, education, occupation, and wealth influence access to healthcare, health-promoting resources, and opportunities for healthy behaviors. Individuals with low SES may experience barriers to accessing diabetes prevention programs, healthy foods, and quality healthcare services, leading to disparities in diabetes outcomes [4].

Race/ethnicity and diabetes disparities: Race and ethnicity are significant determinants of diabetes disparities, with racial and ethnic minority groups experiencing higher rates of diabetes prevalence, incidence, and complications compared to non-Hispanic white individuals. Structural racism, discrimination, and historical inequities contribute to disparities in diabetes risk factors, healthcare access, and quality of care among racial and ethnic minority populations. Culturally tailored interventions and community-based approaches are needed to address diabetes disparities and promote health equity among diverse populations [5].

Neighborhood environment and diabetes disparities: The neighborhood environment plays a crucial role in shaping diabetes disparities, with individuals living in socioeconomically disadvantaged neighborhoods facing higher risks of diabetes and its complications. Factors such as food insecurity, limited access to healthy foods, unsafe built environments, lack of recreational facilities, and social disorganization contribute to disparities in diabetes prevalence and outcomes. Community-level interventions, urban planning strategies, and policies aimed at improving neighborhood conditions can help address diabetes disparities and promote health equity [6].

Healthcare access and diabetes disparities: Access to healthcare is a critical determinant of diabetes disparities, with individuals lacking health insurance or access to primary care facing barriers to diabetes prevention, diagnosis, and management. Structural barriers, such as lack of insurance coverage, transportation, and language barriers, as well as cultural and provider-level factors, contribute to disparities in diabetes care and outcomes. Efforts to expand access to affordable healthcare, culturally competent care, and diabetes self-management education are essential for reducing diabetes disparities and improving health outcomes for all individuals [7].

Food insecurity and diabetes disparities: Food insecurity, defined as limited access to adequate and nutritious food, is a significant determinant of diabetes disparities. Individuals experiencing food insecurity are at higher risk of obesity, type 2 diabetes, and poor glycemic control due to reliance on low-cost, energy-dense foods that are high in sugar, fat, and calories. Community-based food assistance programs,

*Corresponding author: Ebenezer Diego, Department of Biochemistry, Babcock University, Nigeria, E-mail: diegoebenezer@yahoo.com

Citation: Diego E (2024) Social Determinants of Health and Diabetes Disparities. J Diabetes Clin Prac 7: 230.

Page 2 of 2

nutrition education initiatives, and policies aimed at improving food access and affordability can help address food insecurity and reduce diabetes risk among vulnerable populations [8].

Education, employment and diabetes disparities: Education and employment are important determinants of diabetes disparities, with higher levels of education and stable employment associated with better diabetes outcomes. Education provides individuals with knowledge and skills for self-management, health literacy, and access to higher-paying jobs with health insurance benefits. Stable employment promotes financial security, access to healthcare, and opportunities for health-promoting behaviors. Policies supporting education, workforce development, and job training programs can help address socioeconomic disparities and reduce diabetes risk [9].

Strategies for addressing diabetes disparities: Addressing diabetes disparities requires a comprehensive and multisectoral approach that addresses the root causes of health inequities. Policy interventions, community-based programs, and health system reforms are needed to promote health equity, improve access to healthcare, and address social determinants of health. Strategies may include expanding access to affordable healthcare, implementing community health programs, investing in education and workforce development, improving neighborhood environments, and addressing structural racism and discrimination [10].

Discussion

The impact of social determinants of health (SDOH) on diabetes disparities is profound and multifaceted, influencing various aspects of diabetes prevalence, management, and outcomes. Understanding and addressing these social determinants are essential steps in reducing diabetes disparities and promoting health equity. This short discussion highlights some key points regarding the relationship between social determinants of health and diabetes disparities.

Conclusion

Diabetes disparities are driven by social determinants of health, including socioeconomic status, race/ethnicity, neighborhood environment, healthcare access, food insecurity, education, and employment. Addressing these determinants requires a multifaceted approach that addresses structural inequities, promotes health equity, and empowers individuals and communities to achieve optimal health outcomes. By understanding the complex interplay between social determinants and diabetes, we can develop targeted interventions and policies to reduce disparities, improve diabetes outcomes, and promote health equity for all individuals.

References

1. Cui Y, Xu X, Bi H (2007) Expression modification of uncoupling proteins and MnSOD in retinal endothelial cells and pericytes induced by high glucose: the role of reactive oxygen species in diabetic retinopathy. Exp Eye Res 83: 807-816.

2. Stitt AW, Lois N, Medina RJ, Adamson P, Curtis TM, et al. (2013) Advances in our understanding of diabetic retinopathy. Clin Sci 125: 1-17.

3. Kim NR, Kim YJ, Chin HS, Moon YS (2009) Optical coherence tomographic patterns in diabetic macular oedema: prediction of visual outcome after focal laser photocoagulation. Br J Ophthalmol 93: 901-905.

4. Kowluru RA, Abbas SN (2003) Diabetes-induced mitochondrial dysfunction in the retina. Invest Ophthalmol Vis Sci 44: 5327-5334.

5. Abu-El-Asrar AM, Dralands L, Missotten L, Al-Jadaan IA, Geboes K, et al., (2004) Expression of apoptosis markers in the retinas of human subjects with diabetes. Invest Ophthalmol Vis Sci 45: 2760-2766.

6. Sasaki M, Ozawa Y, Kurihara T, Kubota S, Yuki K, et al., (2010) Neurodegenerative influence of oxidative stress in the retina of a murine model of diabetes. Diabetologia 53: 971-979.

7. Du Y, Miller CM, Kern TS (2003) Hyperglycemia increases mitochondrial superoxide in retina and retinal cells. Free Radic Biol Med 35: 1491-1499.

8. Tien T, Zhang J, Muto T, Kim D, Sarthy VP, et al. (2017) High glucose induces mitochondrial dysfunction in retinal muller cells: Implications for diabetic retinopathy. Invest Ophthalmol Vis Sci 58: 2915-2921.

9. Du Y, Sarthy VP, Kern TS (2004) Interaction between NO and COX pathways in retinal cells exposed to elevated glucose and retina of diabetic rats. Am J Physiol Regul Integr Comp Physiol 287: 735-741.

10. Vincent JA, Mohr S (2007) Inhibition of caspase1/interleukin-1β signaling prevents degeneration of retinal capillaries in diabetes and galactosemia. Diabetes 56: 224-230.