

Social Determinants of Health and Cardiovascular Risk among Adults with Diabetes: The Reasons for Geographic and Racial Differences in Stroke (REGARDS) Study (*Diabetes Metab J* 2024;48:1073-83)

Hyun Min Kim

Division of Endocrinology and Metabolism, Department of Internal Medicine, Chung-Ang University College of Medicine, Seoul, Korea

A recent study by Zhang et al. [1] examined the relationship between cardiovascular disease (CVD) risk and social determinants of health (SDOH) in patients with type 2 diabetes mellitus. Using the Reasons for Geographic and Racial Differences in Stroke (REGARDS) cohort, the researchers found that presence of a greater number of SDOH factors was significantly associated with increased risk of CVD and cardiovascular death. The study underscores the importance of assessing SDOH in improving patient outcomes and highlights the need for targeted interventions by healthcare professionals. With increasing socioeconomic disparities, SDOH have become a key focus in health policy. While diabetes management has traditionally focused on glycemic control and medication, this study reinforces the need to incorporate patients' social environments when assessing health outcomes.

Several methodological and interpretational aspects require further consideration. First, the researchers classified SDOH as either 'present' or 'absent,' while in reality, social determinants exist on a spectrum. Additionally, simply counting the number of adverse factors does not reflect their levels of impact. One important limitation is that the study did not use a weighted analysis, which could have provided a more accurate understanding of the effects of each SDOH.

Second, the study utilized the REGARDS cohort, which was initially designed to examine geographic and racial disparities

in stroke incidence within the United States [2]. The influence of SDOH is highly dependent on the healthcare system, economic structure, and social safety nets of a given country. Even the same SDOH may have different effects on health outcomes depending on cultural and societal contexts. While the REGARDS study provides valuable insights into regional health disparities within the United States, caution is needed when generalizing its findings to other regions, such as Asia, where social and cultural determinants may differ significantly.

Furthermore, this study focused on the impacts of SDOH on prognosis among patients with diabetes. However, it is equally important to recognize that SDOH also play a crucial role in the incidence of diabetes itself [3-5]. In the United States, factors such as socioeconomic gradients, systemic racial inequities, and neighborhood environments have been shown to influence not only diabetes outcomes but also disease onset. Therefore, the effects of SDOH on CVD may be amplified in diabetic patients, or the impact of SDOH may already affect the occurrence of diabetes, which may attenuate the effect on CVD risk.

A distinguishing feature of the Zhang et al. [1] study is its specific focus on CVD and cardiovascular mortality. Another recent study comprehensively analyzed how SDOH influence life expectancy, mortality, CVD, dementia, and cancer from a broader public health perspective [6]. In contrast, Zhang et al.

Corresponding author: Hyun Min Kim  <https://orcid.org/0000-0002-7460-9340>
Division of Endocrinology and Metabolism, Department of Internal Medicine, Chung-Ang University College of Medicine, 102 Heukseok-ro, Dongjak-gu, Seoul 06973, Korea
E-mail: kimhm@cau.ac.kr

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[1] concentrated exclusively on CVD, generating findings that may be more directly applicable to clinical decision-making and targeted interventions for specific populations. Interestingly, while the study demonstrated strong associations between SDOH and composite CVD and cardiovascular death, it did not identify a significant link between SDOH and myocardial infarction incidence. One potential explanation is that, while acute cardiovascular events are typically managed using standardized treatment protocols, long-term disease management is more susceptible to social determinants. Patients with greater social vulnerability may face higher mortality risks due to inadequate post-event care, even when they receive similar acute-phase treatment. This could account for the observed discrepancy between myocardial infarction incidence and long-term cardiovascular mortality.

With growing evidence on the impact of SDOH, professional guidelines from organizations such as the American College of Cardiology and the American Heart Association recommend that clinicians assess SDOH as an integral part of patient care [7]. Recently, standardized definitions of SDOH relevant to CVD have been introduced, categorizing these factors at individual, interpersonal, and community/societal levels. Furthermore, the integration of SDOH data into electronic health records has been emphasized, underscoring the necessity of structured strategies to incorporate social determinants into clinical documentation.

In line with these developments, assessing SDOH in diabetes management should no longer be considered optional but an essential component of comprehensive patient care. While addressing SDOH may be challenging and sensitive, it is crucial to incorporate questions related to educational attainment, financial stability, access to nutritious food, and social support networks into diabetes care. Standardizing these assessments will facilitate more effective interventions. Through these efforts, healthcare professionals and policymakers can adopt a more holistic and impactful approach to improving the overall health outcomes of individuals with diabetes.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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