



Ⓜ Sleep-disordered Breathing and Insomnia as Cardiometabolic Risk Factors among U.S. Hispanics/Latinx(s)

Health disparities or inequities are defined by the World Health Organization as “differences in health which are not only unnecessary and avoidable but are considered unfair and unjust” (1). The root causes of health disparities are numerous and relate to individual behaviors, provider knowledge and attitudes, organization of the healthcare system, and societal and cultural values. Health disparities exist in the United States (2), and a large proportion of the variance in these disparities is explained by the differential exposure to the following four modifiable risk factors: smoking, high blood pressure, excessive body fat, and high blood sugar concentrations (2). These risk factors have previously been linked to increasing risk for cardiometabolic disorders, making them ideal targetable areas of focus. Health disparities have been reported among various racial and ethnic groups (3). Recent studies have identified “sleep disparities” in the United States population, especially among individuals from minority groups and socioeconomically disadvantaged backgrounds, reporting long and short sleep and/or worse sleep quality (4). Sleep health is a well-known and important risk factor in cardiometabolic disease risk. Evidence suggests these disparities in sleep contribute to disparities observed in health conditions such as hypertension, obesity, and diabetes (5), including in ethnically diverse populations (6). The Hispanic/Latinx community is one such group in which health and sleep disparities exist.

The Hispanic/Latinx population now represents the largest minority group in the United States (7), but identification of risk factors that lead to poor health in this population has received very little attention. Identifying these risk factors is important, as Hispanics/Latinx(s) have an elevated risk for such potential health consequences of impaired sleep, such as obesity, diabetes, and hypertension (8). Understanding risk factors may help better understand the pathways linking sleep and cardiometabolic risk and help tailor treatment, as there is insufficient information currently available in this domain.

This importance was highlighted in this issue of the *Journal* by Li and colleagues (pp. 356–365) (9), providing new insights into the relations connecting sleep and several cardiometabolic risk factors. This study examined data from 16,415 (mean age, 41.1; SD, 14.9) Latinx(s) from HCHS/SOL (Hispanic Community Health Study/Study of Latinos). The authors measured sleep health using standardized questions and a validated type-3 home sleep apnea test. Sleep-disordered breathing (SDB) was defined using the AHI3

(apnea–hypopnea index calculated based on the average number of all apneas plus hypopneas associated with a 3% desaturation per hour of sleep) ≥ 5 events per hour. Insomnia was evaluated using the Women’s Health Initiative Insomnia Rating Scale and was defined as a score of 9 or greater, correlating to high risk of insomnia disorder.

The results show that SDB was associated with a 54% increased adjusted likelihood of incident hypertension and a 33% increased likelihood of incident diabetes, with no sex differences. Insomnia was associated with a 37% increased likelihood of incident hypertension, with greater association for men. Taken together, both insomnia and SDB represented unique risk factors for cardiometabolic risk in this population. This is important because sleep disorders are underrepresented, undertreated, and potentially modifiable targets for cardiometabolic disease prevention and reduction among the U.S. Hispanic/Latinx population.

There are a few important implications of these findings. First, insomnia is often overlooked as a cardiometabolic risk factor, but in this study, it was shown to increase the likelihood of development of hypertension (though not diabetes). Also, although many population-based studies show that Hispanic/Latinx adults report fewer sleep complaints in general (10, 11), this study shows that the relationship between sleep disorder symptoms and cardiometabolic risk factors is still an important consideration for this group. Several population-based studies have identified an association between insomnia and hypertension (12) and diabetes (13), though this study was unique in its application to this often understudied group.

This study also highlights the importance of better understanding the pathways linking sleep and cardiometabolic disorders across racial/ethnic groups, especially in this population. In particular, understanding what cultural or behavioral factors may exacerbate or protect against the potential effects of inadequate sleep will be important for the development of public health interventions. Mechanistic pathways may also differ. For example, previous studies have shown that the relationship between sleep and inflammation differs between Hispanics/Latinx(s) and other groups (14), as does the relationship between sleep and hypertension and hyperlipidemia (15). Understanding why physiologic associations may be different in these groups is imperative to better addressing the observed health disparities. Further studies should not only focus on these areas but discuss alternative treatment options that are modified to specifically mitigate these risks.

The study by Li and colleagues also suggests the need for developing and implementing tailored interventions to address the identified risk. There is a growing body of literature that places sleep in a social–environmental context, in which factors such as race/ethnicity, socioeconomic, home and family, school and work, neighborhood, culture, and other factors play a role. Leveraging this sociocultural role of sleep may aid in the development of tailored interventions, and future work should include community-engaged, community-derived, and community-based participatory strategies for translating the findings around sleep-related cardiometabolic risk to interventions for the members of these communities.

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Many people, especially racial/ethnic minorities and the socioeconomically disadvantaged, have difficulty achieving healthy sleep (11). The study by Li and colleagues demonstrates that among U.S. Hispanics/Latinx(s), SDB and insomnia are important cardiometabolic risk factors. Clinicians should be aware of the importance of sleep and consider including sleep assessments as part of lifestyle and preventative care assessments. Practices should be developed that recognize that racial/ethnic minorities (including Hispanics/Latinx[s]) may be more likely to present with high-risk sleep characteristics, even if sleep complaints are not always reported. A patient's environmental, social, and structural context should be considered, as these factors may present challenges in achieving healthy sleep. As information regarding pathways linking sleep and cardiometabolic disorders are identified, they should be included in evaluations of patients. ■

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