Psychosocial Factors and Hypertension
A Review of the Literature

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KEYWORDS

• Hypertension • Psychosocial factors • Health disparities • Race/ethnicity • Review

KEY POINTS

- Hypertension is a leading cause of cardiovascular disease and stroke and this burden falls heavily on black people (African Americans).
- This article reviews recent research on psychosocial factors and hypertension and contextualizes the findings within a health disparities framework.
- This article reveals that psychosocial factors, such as socioeconomic status, stressors (including race-related stressors), and emotional states, may contribute to hypertension risks.
- Future research should investigate how psychosocial factors accumulate over the life course to contribute to hypertension disparities.
- Further research on psychosocial factors and hypertension can enhance the effectiveness of interventions to reduce hypertension risks in ethnic minority patients and communities.

INTRODUCTION

Hypertension is a pervasive problem in the United States, with approximately a third of Americans reporting being diagnosed with hypertension by their physicians or taking antihypertensive medicine.[1] Hypertension is an important risk factor for a variety of health conditions, such as cardiovascular disease, stroke, and kidney failure.[1] Nevertheless, this burden is unevenly distributed in society, with black people having the highest prevalence of hypertension compared with their white counterparts.[1] Despite improvements in increasing the awareness and treatment of hypertension, racial/ethnic differences in hypertension persist.

Growing evidence points to multiple psychological and social factors as contributors to the onset and trajectory of hypertension. Psychosocial factors that induce emotional stress can evoke a physiologic response meditated in part by activation of the sympathetic nervous system, inflammation, and the hypothalamic-pituitary-adrenal axis.[2,3] Repeated activation of this system can result in failing to return to resting blood pressure levels. Psychosocial factors, such as hostility and job strain, have been found to be associated with higher circulating levels of catecholamines, higher cortisol levels, and increased blood pressure over time.[4]

Prior reviews have identified several psychosocial indicators as potential risk factors for the onset

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and progression of hypertension.[2,5] This article provides an overview of recent findings related to major psychosocial factors and hypertension. Because of space constraints, emerging work about psychosocial factors (eg, personality, sleep quality[5]) cannot be fully discussed. Nevertheless, in presenting the major factors, this article highlights gaps in the extant literature that contribute to the limited understanding of the social determinants of the persistent racial/ethnic hypertension disparities and discusses directions for future research.

Socioeconomic Status

Socioeconomic status (SES) has long been identified as a risk factor for hypertension. A review by Spruill[2] suggests a complex interaction of social, psychological, and behavioral factors contributing to unequal distribution of diseases. Compared with their high-SES peers, individuals of low SES are more likely to lack sociopolitical power and economic resources, thereby resulting in occupancy of educational, occupational, residential, and recreational environments that are less health enhancing.[6] These factors lead to differential exposures to stressors (eg, unemployment, crime, and violence) and fewer resources (eg, recreation and physical activity) to cope with an accumulation of stressors that combine to contribute to greater risk of hypertension.[2] In a recent meta-analysis, multiple indicators of SES (ie, income, occupation, and education) were associated with an increased risk of hypertension.[7]

SES and race/ethnicity are closely intertwined.[2] Contemporary racial/ethnic categories simultaneously capture unmeasured confounding for biological factors associated with ancestral history and geographic origins; factors linked to current and earlier psychological, social, physical, and chemical environmental exposures; as well as biological adaptation to these exposures.[8] Racial/ethnic differences in SES are large and persistent, and likely contribute to racial/ethnic differences in hypertension. Recent national data reveal that black households earn 59 cents and Hispanics households 70 cents for every dollar of income that white households receive; moreover, black people have only 6 cents and Hispanics 7 cents for every dollar of wealth that white people have.[6]

In addition, because of the persistence of a residual association between race and hypertension after controlling for modifiable risk factors and SES, other unmeasured explanatory factors likely contribute to hypertension disparities.[9] Research suggests that a life-course perspective provides insight into the prolonged impact that early SES can have on blood pressure. Although most studies taking a life-course perspective are cross-sectional studies, they suggest that the accumulation of stress caused by SES positioning likely promotes health-damaging effects later in life. For instance, low childhood SES and childhood adversity are associated with higher risk of hypertension.[10,11] Slopen and colleagues[12] found that a positive neighborhood context may modify the relationship between childhood adversity and cumulative biological risk in adulthood. Importantly, because evidence suggests that racial/ethnic minorities have higher cumulative stress than white people,[13] further research is needed to examine the extent to which race/ethnicity may moderate the association between the accumulation of stressors over the life course and hypertension.

Race-Related/Ethnicity-Related Stress

Discrimination

Growing attention is paid to the ways in which race-related/ethnicity-related aspects of social experience may adversely affect health, such as discrimination.[9] Discrimination can erode an individual's health through negative psychological and physiologic responses and untoward health maintenance and behaviors.[14] Nevertheless, the literature on discrimination and hypertension is riddled with inconsistent findings, partly caused by measurement issues and the shortage of longitudinal studies.[9,15] For example, research from the Jackson Heart Study found that lifetime discrimination and the burden of discrimination were each modestly associated with increased hypertension prevalence.[16] However, no association was observed between hypertension and a measure of current everyday discrimination. It is plausible that reports of current exposure to minor instances of discrimination might be related to short-term measured blood pressure change, whereas lifetime measures might more aptly capture the cumulative effect of discriminatory exposure on blood pressure risk over time.[16] Not surprisingly, chronic discrimination is more consistently associated with ambulatory blood pressure than with resting clinic blood pressure.[17]

Pathways through which discrimination might affect hypertension risk are multiple. Although prior research indicates that black people are more likely than white people to have a blunted blood pressure decline during sleep, emerging studies reveal that exposure to discrimination contributes to the increased levels of blood pressure and lack of blood pressure decrease among black people at night.[14] Sleep disturbances are also