

IMPACT OF SOCIOECONOMIC STATUS ON PSYCHOLOGICAL HEALTH AND CARDIOVASCULAR DISEASE RISK: A NARRATIVE REVIEW

Original Article

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ABSTRACT

Background: Socioeconomic status (SES) plays a critical role in shaping health outcomes, particularly psychological well-being and cardiovascular disease (CVD) risk. Understanding the mechanisms linking SES, mental health, and CVD is essential to addressing health disparities.

Objectives: This review aims to synthesize recent findings on the relationships between SES, psychological health, and CVD risk, emphasizing global disparities, gender-specific vulnerabilities, and the implications of these findings for public health strategies.

Methods: A narrative review of recent literature was conducted, focusing on studies exploring SES, mental health, and CVD risk factors, along with interventions targeting these disparities.

Results: Lower SES is strongly associated with higher CVD risk, driven by limited access to healthcare, unhealthy lifestyle behaviors, and psychosocial stressors like depression. Global disparities reveal that SES influences health outcomes differently across income settings, with gender-specific differences exacerbating vulnerabilities. Emerging evidence highlights the potential of incorporating SES into risk prediction models and the need for equity-focused public health interventions.

Conclusions: Addressing SES disparities in health requires integrated, tailored interventions targeting both physical and psychological factors. Future research should explore the long-term effects of SES mobility, regional nuances, and biological mechanisms to advance health equity and inform policy development.

Keywords: Socioeconomic Status, Cardiovascular Diseases, Health Disparities, Psychological Health, Risk Factors, Public Health Interventions.

INTRODUCTION

Socioeconomic status (SES) is a critical determinant of health outcomes globally, influencing both psychological well-being and the risk of developing cardiovascular diseases (CVD). The relationship between SES and health has long been established, but recent studies underscore its multifaceted impact, highlighting both direct and indirect mechanisms through which SES shapes physical and mental health outcomes. For instance, lower SES is associated with poorer access to healthcare, increased exposure to stress, and limited resources for maintaining a healthy lifestyle. This narrative review aims to explore the intricate interplay between SES, psychological health, and CVD risk, emphasizing the most recent findings in the field.

In contemporary society, economic disparities continue to widen, exacerbating health inequities. Evidence suggests that SES influences cardiovascular health not only through traditional risk factors such as obesity, smoking, and hypertension but also via psychosocial pathways, including stress, depression, and lack of social support (1). Furthermore, these effects are not uniform across populations but vary based on sex, age, and geographic location, complicating the development of targeted interventions (2). This review seeks to elucidate these nuances by synthesizing the latest research.

The intersection of SES, psychological health, and CVD risk is particularly pertinent in the current era, where economic recessions, global pandemics, and rising living costs amplify social vulnerabilities. For example, the COVID-19 pandemic disproportionately affected low-SES groups, exacerbating both mental health challenges and cardiovascular risks (3). Psychological stressors such as job insecurity and social isolation are especially salient among disadvantaged groups, further linking SES to health inequities. Moreover, studies have highlighted that SES-related disparities are not confined to physical health but extend to psychological health, where lower SES individuals report higher rates of depression and anxiety, both of which are independent risk factors for CVD (4).

Emerging evidence underscores the importance of addressing SES disparities as a public health priority. Recent findings suggest that incorporating SES into risk prediction models for CVD can improve disease prevention and management outcomes (5). Additionally, policies targeting structural inequities, such as improving access to quality education, healthcare, and employment opportunities, could mitigate the health impacts of socioeconomic deprivation (6).

This review not only highlights the multifactorial impacts of SES on psychological and cardiovascular health but also aims to inform future research and public health strategies. By synthesizing the latest findings, it contributes to a growing body of evidence that underscores the urgency of addressing socioeconomic disparities in health. In doing so, it sets the stage for a holistic understanding of how SES influences health and what measures can be taken to reduce these inequities.

BODY

Socioeconomic Status and Access to Healthcare

The disparity in healthcare access is one of the most significant ways in which SES influences health outcomes. Individuals in lower SES groups often experience financial barriers that prevent them from accessing preventive care and timely treatment. For example, a study by Rosengren et al. (2019) highlighted that in low-income countries, lack of access to essential medical interventions such as hypertension management contributes to significantly higher cardiovascular disease (CVD) incidence and mortality rates compared to high-income countries (2). Furthermore, Sung et al. (2020) demonstrated that an upward shift in SES could lower CVD mortality risks, underscoring the importance of equitable healthcare policies (6).

Psychological Health as a Mediator

Mental health serves as a critical mediator in the relationship between SES and CVD. Chronic stress, depression, and anxiety are disproportionately higher in lower SES groups and have been linked to poorer cardiovascular outcomes. Wiernik et al. (2018) found that depressive symptoms were more tightly linked to increased CVD risks among men with low SES, with occupational status acting as a key determinant (4). Similarly, Naylor-Wardle et al. (2021) highlighted the compounded effects of stress and economic challenges during the COVID-19 pandemic, which exacerbated mental health issues and further increased CVD risks in socioeconomically disadvantaged populations (3).

SES and Lifestyle-Related Risk Factors

Lower SES is often associated with lifestyle behaviors that heighten CVD risk, such as poor dietary habits, smoking, and physical inactivity. Valero-Elizondo et al. (2018) identified significant SES-based disparities in lifestyle-related cardiovascular risk factors in the U.S., with obesity and smoking rates disproportionately higher among low-income groups (9). Despite similar rates of coronary artery disease (CAD) across SES groups, Chung et al. (2024) found that individuals in lower SES groups were more likely to experience severe CVD outcomes, such as stroke or cardiac death, due to compounding lifestyle and healthcare barriers (9).

The Role of Gender in SES and CVD Risk

Gender-specific variations complicate the relationship between SES and CVD. Women with lower SES face unique challenges, including higher risks of stroke and depression-related cardiovascular events. Yang et al. (2024) noted that women with the lowest SES were 45% less likely to achieve ideal cardiovascular health compared to their higher SES counterparts, highlighting the critical need for gender-focused interventions (7). Men, on the other hand, experience greater SES-linked disparities in occupational stress, which have been shown to amplify their CVD risks (4).

Policy and Intervention Opportunities

Efforts to mitigate SES disparities in CVD outcomes should include policies that integrate socioeconomic considerations into risk prediction models. Kimenai et al. (2022) emphasized the utility of including socioeconomic deprivation in risk prediction scores, which significantly improves the identification of high-risk individuals and reduces treatment disparities (5). Furthermore, upstream interventions, such as affordable healthcare programs and community-based health promotion, have shown promise in reducing CVD incidence in socioeconomically disadvantaged populations.

Early Research: SES and Cardiovascular Risk Factors

Early studies established a clear correlation between lower SES and higher prevalence of CVD risk factors, including smoking, obesity, and hypertension. These findings formed the foundation for understanding SES as a significant determinant of cardiovascular health. For example, Djekic et al. (2018) demonstrated that individuals living in socioeconomically deprived areas had higher rates of coronary artery calcification—a marker of subclinical heart disease—due to an increased burden of cardiovascular risk factors (Djekic et al., 2018). This early focus on physiological outcomes paved the way for research into the underlying causes of these disparities.

Expanding the Lens: Psychosocial Stress and CVD

As research progressed, attention shifted to the psychosocial factors that mediate the relationship between SES and cardiovascular health. Chronic stress, depression, and lack of social support emerged as key pathways linking low SES to poor health outcomes. Studies like those by Wiernik et al. (2018) highlighted how depressive symptoms exacerbated CVD risk, especially among men in lower occupational classes (4). This shift in focus from physical to psychological health enriched the understanding of how SES influences CVD through indirect mechanisms.

Integration of Global Perspectives

More recently, global studies have illuminated the stark contrasts in how SES impacts health across different income settings. For instance, the Prospective Urban Rural Epidemiologic (PURE) study by Rosengren et al. (2019) provided critical insights into how education and wealth influence CVD outcomes in low-, middle-, and high-income countries (2). While education played a significant role in reducing CVD risk in high-income countries, low-income populations faced barriers to healthcare that magnified their vulnerabilities.

Current Developments: Gender and Context-Specific Approaches

Modern research increasingly recognizes the gendered dimensions of SES and health. Yang et al. (2024) revealed that low SES women are less likely to achieve ideal cardiovascular health than their male counterparts, emphasizing the need for gender-specific interventions (7). Additionally, studies like those by Kimenai et al. (2022) advocate for the inclusion of SES metrics in risk prediction models, which would enable more equitable and personalized healthcare delivery (5).

Future Directions: Beyond Risk to Solutions

Emerging theories suggest that addressing SES-related health disparities requires systemic changes. Sung et al. (2020) argued for policies that enable upward social mobility as a strategy to mitigate CVD risks (6). Similarly, Naylor-Wardle et al. (2021) proposed upstream interventions, such as promoting affordable housing and education, to tackle the root causes of health inequities (3).

Areas of Consensus

The literature overwhelmingly agrees that low SES is a significant determinant of poor cardiovascular health, driven by factors such as inadequate access to healthcare, higher prevalence of risk factors (e.g., smoking, obesity, and hypertension), and increased psychosocial stress. For example, studies like those by Schultz et al. (2018) and Rosengren et al. (2019) have robustly established that individuals with low SES exhibit higher incidences of cardiovascular events and mortality due to compounded economic and behavioral vulnerabilities (1, 2).

There is also strong agreement on the mediating role of psychological stress and mental health conditions such as depression and anxiety in amplifying CVD risk among socioeconomically disadvantaged populations. For instance, Wiernik et al. (2018) emphasized how depressive symptoms are particularly detrimental for individuals in lower SES brackets, serving as a critical pathway for poor cardiovascular outcomes (4).

Areas of Debate

Despite these agreements, debates persist around the role of SES in predicting CVD risk in high-income versus low-income settings. Some researchers argue that educational attainment plays a greater role in reducing CVD risk in high-income countries compared to wealth, while in low-income settings, access to care and healthcare infrastructure are the dominant factors (2). This divergence raises questions about the universality of SES as a predictive marker and underscores the need for culturally and regionally specific interventions.

Another point of contention revolves around the effectiveness of risk prediction models that incorporate SES. While Kimenai et al. (2022) advocated for including SES in risk prediction models to improve CVD management, others highlight the challenge of standardizing SES metrics due to their complex and context-specific nature (5).

Gaps in Knowledge

One major gap lies in understanding the long-term impact of SES mobility on cardiovascular outcomes. While Sung et al. (2020) found that upward shifts in SES reduce CVD risk, limited research explores the mechanisms or sustainability of these improvements over time (6). Additionally, there is insufficient data on the interplay between SES, mental health, and CVD risk among adolescents and younger adults, an area that could yield critical insights for preventive interventions.

Another underexplored area is the role of environmental and neighborhood factors, such as urbanization, pollution, and community resources, in shaping the relationship between SES and cardiovascular health. Studies like those by Valero-Elizondo et al. (2018) have hinted at these connections but call for deeper investigations into how these variables interact with SES and individual behaviors (9).

Emerging Trends

Recent research has increasingly focused on the gendered dimensions of SES and health, recognizing that the impact of economic and social disadvantages differs for men and women. Yang et al. (2024) revealed that women with low SES face unique challenges, such as higher rates of stroke and mental health conditions, which require targeted interventions (7). Similarly, emerging studies are exploring genetic predispositions and how SES modifies genetic risk factors, as demonstrated by Pandya et al. (2023) in their study on polygenic risk and coronary artery disease (10).

Table 1 Key Literature Findings on SES and CVD Risk

Study	Key Finding
Schultz et al., 2018	Low SES strongly linked to higher CVD mortality due to lack of access to healthcare.
Rosengren et al., 2019	Global disparities show SES influences CVD differently in high- vs low-income settings.
Wiernik et al., 2018	Depressive symptoms exacerbate CVD risks, particularly in low SES men.
Yang et al., 2024	Low SES women exhibit worse cardiovascular health compared to men of similar SES.

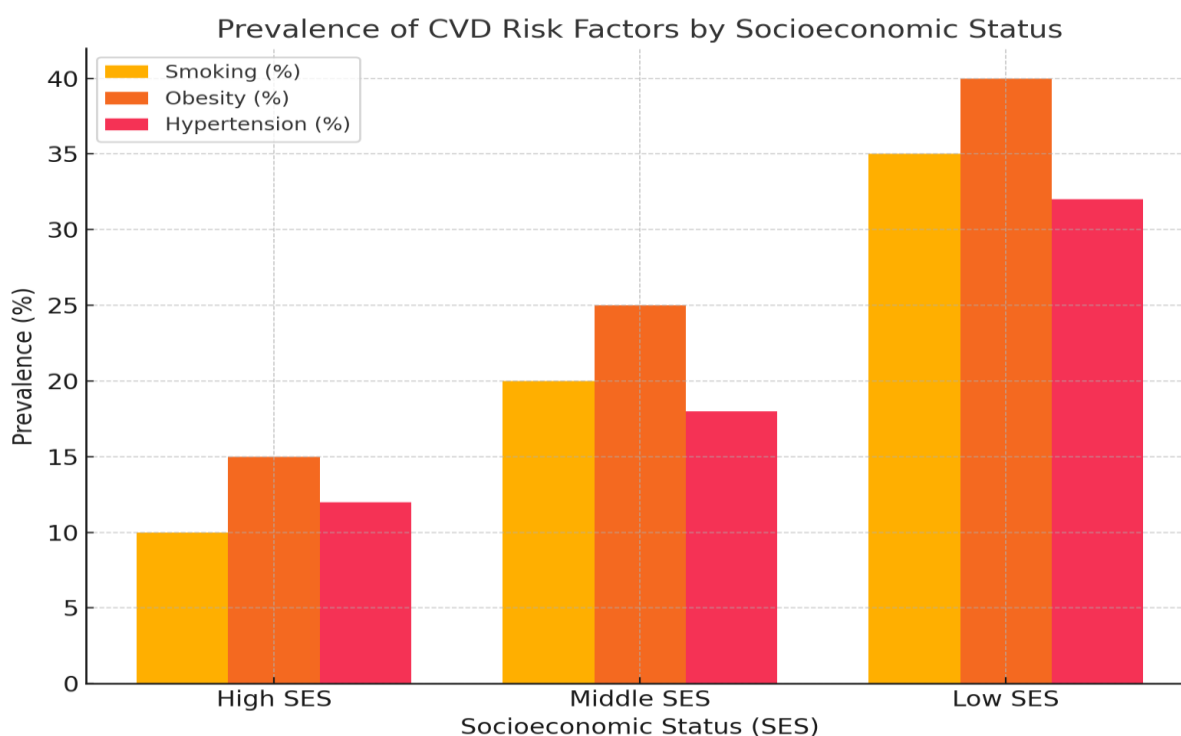


Figure 1 Prevalence of CVD Risk Factors by Socioeconomic Status

DISCUSSION

This narrative review aimed to explore the relationship between socioeconomic status (SES), psychological health, and cardiovascular disease (CVD) risk by synthesizing contemporary research findings. The overarching narrative demonstrates that SES is a critical determinant of health, with profound implications for both psychological well-being and cardiovascular outcomes. Across the reviewed studies, a consistent theme emerges: lower SES is linked to higher prevalence and poorer management of CVD risk factors, mediated through psychosocial stress, limited healthcare access, and unhealthy lifestyle behaviors. The findings reaffirm that the interplay between SES and CVD risk is multifaceted. Research by Schultz et al. (2018) showed that low SES individuals face disproportionate barriers to healthcare, exacerbating traditional risk factors such as obesity, smoking, and hypertension (1). Meanwhile, Wiernik et al. (2018) revealed the psychosocial burden of low SES, demonstrating that depressive symptoms in low-income populations amplify CVD risks, particularly among men (4).

The narrative also highlights important nuances in the SES-health relationship. Rosengren et al. (2019) found significant differences in how SES influences CVD outcomes across income levels globally. For instance, in high-income countries, educational attainment reduces CVD risk more significantly than wealth, whereas healthcare access remains the predominant factor in low-income settings (2). Similarly, gender differences in SES impact were highlighted by Yang et al. (2024), who reported that low SES women face more significant challenges in achieving cardiovascular health compared to men of similar SES (7). The findings of this review underscore the pressing need for equity-focused public health interventions. Addressing SES disparities in healthcare access and resource distribution is essential for reducing the burden of CVD globally. For example, integrating SES into traditional risk prediction models, as advocated by Kimenai et al. (2022), could help tailor healthcare approaches for disadvantaged populations (5).

Additionally, this review contributes to existing knowledge by emphasizing the role of psychological health in mediating SES-related CVD risks. By highlighting the connections between chronic stress, depression, and cardiovascular outcomes, it calls for a more holistic approach to CVD prevention that includes mental health interventions. Policies that promote mental well-being, reduce stressors associated with poverty, and provide affordable healthcare could significantly improve outcomes. Moreover, emerging evidence on gender-specific impacts and global SES disparities highlights the need for targeted interventions. For example, empowering low-income women through education and healthcare initiatives could address their heightened vulnerabilities, while region-specific strategies could help low-income countries mitigate healthcare access barriers.

Despite its comprehensive synthesis, this review has limitations. First, the selection of literature may introduce biases, as it predominantly includes studies published in English and focuses on recent research. This limitation may exclude valuable insights from older studies or those published in non-English journals. Second, while the review aims to provide a balanced perspective, it heavily relies on studies conducted in high-income countries. Although global research is included, there is a disproportionate focus on wealthier nations, which could limit the generalizability of the findings to low- and middle-income countries.

Third, the complexity of SES as a variable presents challenges. SES encompasses multiple dimensions—income, education, occupation, and neighborhood environment—making it difficult to disentangle their individual effects on health. For instance, Rosengren et al. (2019) pointed out that educational attainment and wealth have different impacts on CVD risk in various income settings, but this review cannot fully explore such nuances due to space constraints (2). Finally, while the review integrates findings on psychological health, it lacks in-depth discussion of emerging biological mechanisms linking SES and CVD, such as inflammation and epigenetics. Future research should delve into these pathways to provide a more comprehensive understanding.

CONCLUSION

This review underscores the profound influence of socioeconomic status on psychological health and cardiovascular disease risk, highlighting key mechanisms such as healthcare access, mental health, and lifestyle disparities. The findings emphasize the urgent need for equity-focused interventions and holistic approaches that integrate mental health into cardiovascular care. Future research should explore the long-term impacts of SES mobility, regional and cultural nuances, and emerging biological pathways like inflammation and epigenetics. By addressing these gaps, the field can develop tailored strategies to reduce health disparities and foster a more equitable healthcare landscape globally. These insights have the potential to shape impactful policies and interventions.

AUTHOR CONTRIBUTIONS

Author	Contribution
Abdullah*	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Muhammad Anwar	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Ali Ahsan Mufti	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published
Muhammad Jamal	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Shahid Khan	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Talha Mazhar	Substantial Contribution to study design and Data Analysis Has given Final Approval of the version to be published
Sudhair Abbas Bangash	Contributed to study concept and Data collection Has given Final Approval of the version to be published

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