

The Role of Economic Stability in the Development of Cardiovascular Disease
Gargi Ghuge
Mechanicsburg, Pennsylvania

ABSTRACT:

Background

Cardiovascular disease (CVD) is a prominent cause of death worldwide, and research suggests that economic stability can play an important role in cardiovascular health. This review focuses on how factors such as income level, financial stress, and job strain may affect the risk of developing CVD.

Methods

This review used the database PubMed. Keywords that were used are poverty, “economic stability,” “socioeconomic factors,” income, unemployment, “social class,” “financial stress,” and “cardiovascular diseases.”

Results

Five studies were included in this review. Overall, the studies found that lower income, greater financial stress, and high job strain were associated with an increased risk of CVD or its risk factor. Each study measured economic stability in a different way.

Discussion

Overall, economic stability is an important factor to consider in relation to CVD risk. The results showed a relationship between economic stability and cardiovascular health, showing the need for a greater amount of research on this topic.

INTRODUCTION:

An individual’s social and economic circumstances, or in other words, their economic stability, affect their health and the risk of developing a cardiovascular disease. In fact, individuals who experience financial troubles, such as having an unstable income or financial stress face a higher risk of developing CVD [1]. Social and economic risk factors, including low income, lower education, limited access to healthcare, as well as many social obstacles, have been linked to lower quality heart health, such as both fatal and nonfatal coronary disease [1]. Additionally, CVD refers to conditions that affect the heart and blood vessels, while economic stability refers to an individual's ability to have a steady income, afford basic needs, and handle unexpected financial troubles, which can be measured through factors such as income stability and financial

security [2]. This shows that a greater change in income has a long-term effect on an individual's health.

This paper will review how economic stability affects the risk of developing cardiovascular disease, and specifically at how income, financial stress, and job related stress can influence heart health. Having an unstable income increases the risk of developing CVD and dying [3]. In relation to unstable income, research has also shown that adults who did not have enough money saved for emergencies had a higher risk of getting CVD and death as well. This shows the significance of income status and its important role in cardiovascular health [4]. Furthermore, women with high levels of job stress were more likely to develop cardiovascular disease than women with less stressful jobs [5]. These past studies show the numerous factors in economic stability, showing the importance of considering it when trying to prevent CVD.

METHODS:

This study aims to review the impact of economic stability in relation to the presence of cardiovascular diseases. This narrative review searched the PubMed database using the keywords, poverty, "economic stability," "socioeconomic factors," income, unemployment, "social class," "financial stress," and "cardiovascular diseases." For this study, only papers that focused on human subjects and were written in the English language were included. Animal studies and review papers were excluded.

RESULTS:

Table 1. Summary of studies examining the relationship between economic stability and CVD risk.

Study	Focus	Key Findings	Relevance to Research Question
Cross-sectional analysis of U.S. adults using the poverty-income ratio (PIR) to measure income level [6].	The association between family income level and cardiovascular risk factors and the prevalence of disease.	Low family income levels are associated with a higher number of cardiovascular risk factors and disease.	Illustrates levels of financial stress and connection to the risk of developing coronary heart disease.
Longitudinal cohort study of African American adults in Jackson, Mississippi	Looked at whether financial stress was linked to the development of	Financial stress measured using the Jackson Heart Study Weekly Stress	Measurable financial stress and how the different levels may be connected to the

from 2000 through December 2012 [7].	coronary heart disease over time.	Inventory with four levels: no financial stress, no stress, mild stress, and moderate-to-high stress.	development of CVD.
Prospective cohort study with Mendelian randomization analysis using data from the UK Biobank. Included 399,998 participants who did not have CVD before the study began [8].	Examined whether long-term stress caused by financial troubles was connected to the development of CVD.	Financial stress was linked to an increased risk of stroke (OR = 1.86, 95% CI: 1.10–3.14), coronary heart disease (OR = 1.05, 95% CI: 1.02–1.07), myocardial infarction (OR = 1.03, 95% CI: 1.02–1.05), and heart failure (OR = 5.02, 95% CI: 2.60–9.71).	Economic stability association to different types of CVD, and financial troubles in relation to long-term effect on heart health.
Meta-analysis of individual participant data from 13 European cohort studies (1985-2006), both employed men and women [9].	Association between job strain and coronary heart disease.	The hazard ratio for job strain vs. no job strain was 1.23 (95% CI 1.10-1.37). The population attribution risk for job strain was 3.4%.	Provides a hazard ratio.
Meta-analysis of individual-participant , cross-sectional data from 8 studies, 47,045 participants [10].	Association between job stress and specific CVD risk factors (diabetes, blood pressure, smoking, alcohol use, Framingham Risk Score).	Job stress associated with a higher Framingham risk score (1.13; 95% CI 1.03-1.25).	Connection of job stress to measurable factors that impact CVD risk.

These five studies focused on how different measures of economic stability, including income level, financial stress, and job strain are related to CVD [6-10]. The cross-sectional study by Wang et al., found that lower family income was linked to a greater number of cardiovascular risk factors and a higher amount of CVD among U.S. adults [6]. In the Jackson Heart Study, financial stress was measured using four categories [7]. These ranged from no financial stress to moderate-to-high financial stress, and researchers looked at how these different levels were related to the development of coronary heart disease over time [7]. Furthermore, the UK Biobank

study found that chronic financial stress were associated with a higher risk of many different cardiovascular issues, including stroke (OR = 1.86, 95% CI: 1.10-3.14) coronary heart disease (OR=1.05, 95% CI:1.02-1.07), myocardial infarction (OR = 1.03, 95% CI 1.02-1.05), and heart failure (OR = 5.02, 95% CI: 2.60-9.71) [8].

The other two studies focused on job strain as another measure of economic stability [6,7]. A meta-analysis of 13 European cohort studies found that people experiencing job strain had a higher risk of developing coronary heart disease than those without job strain, with a hazard ratio of 1.23 (95% CI 1.10-1.37) [8]. The study also reported that job strain accounted for 3.4% of coronary heart disease cases in the population [9]. Another meta-analysis, which included 47,045 participants, found that job strain was associated with a higher Framingham Risk Score (1.13; 95% CI: 1.03-1.25), along with a greater amount of diabetes, smoking, and physical inactivity [10].

DISCUSSION:

The purpose of this study was to examine how economic stability affects the risk of developing CVD. These five studies showed how different parts of economic stability, including income level, financial stress, and job strain, were all linked to CVD or its risk factors [6-10]. Even though each study measured economic stability in a different way, they all found a connection between financial conditions and heart health, showing that economic stability is an important factor to consider [6-10].

Many common patterns occurred across the studies, with three studies focusing on income and financial stress, while the other two looked at job strain [6-10]. However, they all reported similar results showing that greater financial challenges were connected to poor cardiovascular health [6-10]. The studies also measured economic stability in different ways. This included income level, income changes, financial stress, and work-related stress [6-10]. These were consistent with previous research on social determinants of health, which has shown that a person's social and economic circumstances can influence their overall health [1]. Every study found a relationship between economic stability and CVD risk, so therefore, the results matched the expectations.

These findings show that improving economic stability could be an important part of reducing the risk of CVD. Although healthy habits like having a balanced diet and staying physically active are important, the studies show that financial stress, unstable income, and stressful working conditions need to be considered when looking at an individual's risk for CVD [6-8]. This review also highlights how healthcare providers and policymakers could benefit from considering economic factors when attempting to reduce CVD [9,10]. In the bigger picture, looking at both medical and social factors can help to create a better understanding of cardiovascular health.

However, some limitations are present. First, only five studies were included, so the results may not be representative of all of the research present on economic stability and CVD. Additionally, the studies were conducted in different countries including the United States, the United Kingdom, . Because the healthcare systems, economic conditions, and populations are different from one country to another, the results cannot be compared directly [6-10]. However, despite these limitations, all the studies showed a similar relationship between economic stability and cardiovascular health.

Future research should include a larger number of studies and more recent research in order to have a greater and broader understanding. Researchers could also focus on one measure of economic stability, whether that means income changes, financial stress, or job strain, to better understand how each individual factor affects CVD risk on its own. Furthermore, healthcare organizations could include simple questions about financial stress or economic stability during annual check ups to help understand if a patient has a higher risk of developing CVD.

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