Original Research Article

The Influence of Cardiovascular Diseases on the Diagnosis and Treatment of Anxiety Disorders: A Retrospective Study

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Abstract

Background: Anxiety and heart disease are now known to be related to health problems. On the other hand, more study needs to be done to fully understand how cardiovascular diseases affect and how anxiety disorders are found and treated. Such understanding is necessary to enhance patient care and outcomes.

Objectives: Anxiety disorder diagnosis and therapy may be affected by heart disease and other cardiovascular risk factors, making a retrospective study essential. The primary objective of this research was to assess the impact of co-occurring anxiety disorders on cardiovascular and medical outcomes. Secondary objectives included estimating the prevalence of anxiety disorders among people with cardiovascular diseases and identifying potential risk factors related to comorbidity.

Method: This retrospective study used electronic health data to look at the medical histories of 200 persons who had been diagnosed with cardiovascular disease. By looking at diagnosis codes and patient medical records, we were able to calculate the prevalence of anxiety disorders in the population we were studying. Logistic regression analysis was used to identify demographic and clinical characteristics associated with the development of co-occurring anxiety disorders. The effect of comorbid anxiety disorders on hospitalisation rates and other cardiology-related outcomes was also examined using chi-square analyses.

Results: The study revealed that nearly 60% of individuals with cardiovascular issues also have anxiety disorders. Age (p 0.05), comorbid disorders (p 0.05), and gender (p > 0.05) were all associated with an increased likelihood of co-occurring anxiety disorders, according to logistic regression analysis. 75% of participants with concurrent anxiety disorders were hospitalised, compared to 25% of participants without anxiety disorders (p 0.05).

Conclusion: This retrospective study demonstrates how substantially cardiovascular issues affect the identification and treatment of anxiety disorders. The prevalence of anxiety disorders among individuals with cardiovascular diseases reflects the importance of mental health screening in this population. According to the findings, age and co-occurring conditions play a significant influence in the development of comorbid anxiety disorders. Higher hospitalisation rates among individuals with both forms of anxiety disorders indicate the need for interdisciplinary treatment approaches. To enhance outcomes for this group, researchers must investigate the underlying causes and determine how to treat them.

Keywords: Anxiety Disorders, Cardiovascular Diseases, Comorbidity, Hospitalisation Rates, Mental Health Screening

Introduction

The prevalence of cardiovascular diseases such as coronary artery disease, hypertension, and heart failure constitutes a global health crisis. These disorders are a leading cause of illness and mortality on a worldwide scale. Nonetheless, anxiety disorders such as Social Anxiety Disorder, Panic Disorder, Generalized Anxiety Disorder, Phobic Anxiety Disorder affect a sizeable portion of the population and can severely delay one's ability to engage in daily activities and social interactions [1].

The correlation between cardiovascular disease and mental health conditions, such as anxiety disorders, has gathered increased attention in recent years. Multiple analyses have discovered evidence of a

bidirectional relationship between these states [2]. Cardiovascular disease stress, adverse drug reactions, and the difficulty of managing a chronic illness all contribute to an elevated risk of developing anxiety disorders. However, it has been suggested that anxiety disorders, through mechanisms such as chronic stress, unhealthy lifestyle choices, and autonomic dysregulation, may contribute to the beginning and progression of cardiovascular disease [3].

Figure 1: Anxiety depression and stroke heart failure (Source: [4])

There are several reasons why it is essential to understand how cardiac disease influences the evaluation and treatment of anxiety disorders. Initially, it can help in the early detection of cardiovascular disease patients at risk for developing anxiety disorders, thereby facilitating the implementation of preventative treatments [5]. Second, it can focus on how cardiovascular problems may influence the manifestation and progression of anxiety disorders, thereby influencing treatment options and eventual outcomes. The significance of integrated approaches to healthcare delivery can be comprehended because of research into the relationship between these diseases.

Figure 2: Anxiety disorder and its Symptoms (source: [6])

This study has significant implications for cardiovascular medicine and mental health disciplines. The complex relationship between a person's physical and mental health can be better comprehended by examining the correlation between cardiovascular disease and anxiety disorders. Comorbidity between cardiovascular disease and anxiety disorders is common, and the findings of this study may contribute to the development of more comprehensive, patient-centred healthcare strategies that enhance outcomes for these patients. In addition, by highlighting the significance of mental health screening and treatment in cardiovascular care settings, the findings may encourage the administration of comprehensive and integrated healthcare.

Objectives

- To determine the effect of cardiovascular diseases on the diagnosis and treatment of anxiety disorders.
- To determine whether those with heart conditions are more prone to anxiety disorders.

- To recognise the potential risks associated with anxiety disorders and cardiovascular disease co-occurrence.
- To determine how co-morbid anxiety disorders influence cardiovascular outcomes such as the onset of illness, the need for hospitalisation, and mortality.

Literature Review

There is some research in medical literature that connects anxiety disorders and cardiovascular disease. Several studies [7] have demonstrated that patients with cardiovascular disease have significantly greater rates of anxiety disorders than the general population. Anxiety disorders have been associated with cardiovascular disease. Chronic cardiovascular illness-related stress has been associated with a rise of anxiety disorders.

This involves managing symptoms, treatments, and uncertain outcomes [8]. There may be a correlation between the presence of multiple anxiety disorders and weakening cardiac outcomes. People with comorbid anxiety disorders and cardiovascular disease may have a higher hospitalisation rate, lesser treatment care, and greater mortality rates than individuals without anxiety disorders. Multiple studies [9] have demonstrated a link between anxiety disorders and cardiovascular disease. Changes in the hypothalamic-pituitary-adrenal axis, inflammation, and autonomic nervous system dysregulation have been suggested as mechanisms linking these disorders. Cardiovascular disease and anxiety disorders are associated with psychological factors, such as chronic stress, anxiety sensitivity, and ineffectual coping mechanisms [10].

It has been discovered that integrating treatment for cardiovascular and mental health issues improves patient outcomes. For example, stress and anxiety management cognitive-behavioural therapy has been demonstrated to be beneficial for patients with both anxiety and cardiovascular problems. According to the research [11], screening for mental health issues and providing suitable therapy within cardiovascular care settings have also enhanced patient outcomes. It has been demonstrated that cardiologists and mental health professionals working together to manage patients with comorbid cardiovascular disease and anxiety disorders are influential. However, some studies [12] have reported mixed findings regarding the impact of anxiety disorders on cardiovascular outcomes, indicating the need for further research to clarify the relations. The existing literature shows the complex relationship between cardiovascular diseases and anxiety disorders, emphasising the need to consider physical and mental health in clinical practice and research. More research is required into the mechanisms at play, effective treatments for those with comorbid diseases must be developed.

Methodology

Study Design

A retrospective study design was utilised to examine how cardiac problems can influence the identification and treatment of anxiety disorders. A retrospective examination of the electronic health records of 200 individuals previously diagnosed with cardiovascular disease was conducted.

Data Collection

Electronic health record systems contributed to the information utilised in this investigation. Diagnoses of cardiovascular disease, anxiety disorders, comorbidities, and clinical measures were extracted from the medical records.

Variables Assessed

- By analysing diagnostic codes and patient medical records, we determined the prevalence of anxiety disorders among individuals with cardiovascular conditions.
- The risk variables for the co-occurrence of cardiovascular diseases and anxiety disorders were identified using logistic regression analysis. Age, gender, and comorbidities constitute potential risk factors.
- The effect of co-occurring anxiety disorders was determined by analysing hospitalisation, mortality rates, and other cardiovascular events.

Statistical Analysis

Descriptive data were used to summarise the prevalence of anxiety disorders among individuals with cardiovascular diseases. Using logistic regression, potential risk variables related to the comorbidity were identified. Using chi-square testing, comorbid anxiety disorders and cardiovascular outcomes were analysed.

Limitations

There may be a selection bias because of the study's retrospective design, which uses previously collected data. Because of variations in the accuracy and completeness of the data contained in the electronic health record systems, there is also the possibility of information bias or the incorrect classification of diagnoses.

Results

Table 1: Prevalence of Anxiety Disorders among Individuals with Cardiovascular Diseases

	Participants (n)	Prevalence Rate (%)
Anxiety Disorders	120	60
No Anxiety Disorders	80	40

The data in the table above illustrates the frequency with which patients with cardiac problems also suffer from anxiety disorders. 60% of those diagnosed with cardiovascular disease also suffered

from an anxiety disorder, whereas 40% exhibited no anxiety in their daily activities. These findings indicate that many individuals with cardiovascular disorders also have anxiety issues.

Table 2: Impact of Co-morbid Anxiety Disorders on Hospitalization Rates

	Hospitalisations (n)	Hospitalisation Rate (%)
With Anxiety Disorders	90	75
Without Anxiety Disorders	30	25

The following table illustrates that individuals with anxiety and cardiovascular disease are significantly more likely to be hospitalised. 75% of those with anxiety disorders were admitted to the hospital, compared to 25% of those without anxiety disorders. The rise in hospitalisation rates for individuals with anxiety disorders supports the belief that these conditions may affect cardiovascular health results.

Comorbid anxiety disorders have been shown to increase hospitalisation rates and cardiovascular outcomes.

Discussion

Analysing historical data, this study demonstrates that cardiovascular disease influences the clinical diagnosis and treatment of anxiety disorders. Moreover, sixty percent of the people with cardiovascular diseases also had anxiety disorders. This indicates that comorbid anxiety disorders are prevalent in this population. This investigation identified age, the presence of other medical conditions (comorbidities), and gender as potential risk factors for the development of comorbid anxiety disorders. In addition, the hospitalisation rate for those with comorbid anxiety disorders was substantially higher than that for those without anxiety disorders.

Among those who self-reported cardiovascular disease, anxiety disorders were prevalent (60% prevalence), which may have a negative impact on quality of life in study 1. The importance of incorporating mental health therapies into treatment strategies was highlighted by Study 2, which discovered that patients with comorbid anxiety disorders and cardiovascular diseases had lower medication adherence rates.

In Study 3, comorbid anxiety disorders were associated with increased mortality, highlighting the need for frequent monitoring and targeted treatments. Collectively, these findings emphasise the considerable impact of comorbid anxiety disorders on numerous aspects of cardiovascular health, underscoring the need for care that considers both physical and mental factors of a patient's condition.

Comparison with Existing Studies

In the proposed research, a retrospective analysis of electronic health information revealed a worryingly high incidence rate of 75% for anxiety disorders among patients with cardiovascular diseases.

Table 3: Comparison with existing literature

Study	Research Question/Objectives	Methodology	Findings	Conclusions
Proposed Study	Examine the influence of cardiovascular diseases on the diagnosis and treatment of anxiety disorders.	Retrospective analysis of electronic health records of 200 participants diagnosed with cardiovascular diseases	The prevalence rate of anxiety disorders: 75%	Comorbid anxiety disorders associated with increased hospitalisation rates and adverse cardiovascular outcomes
Study 1 [13]	Investigate the relationship between cardiovascular diseases and anxiety disorders.	A cross-sectional survey of 500 individuals with self-reported cardiovascular diseases	The prevalence rate of anxiety disorders: 60%	Comorbid anxiety disorders associated with decreased quality of life in cardiovascular disease patients
Study 2 [14]	Explore the impact of anxiety disorders on treatment adherence in individuals with cardiovascular diseases.	Prospective cohort study with 300 participants diagnosed with cardiovascular diseases	Anxiety disorders associated with lower medication adherence rates	Integrated mental health interventions can improve treatment adherence in individuals with comorbid anxiety disorders and cardiovascular diseases
Study 3 [15]	Assess the effect of anxiety disorders on long-term cardiovascular outcomes.	A longitudinal study with a population-based sample of 1,000 individuals with cardiovascular diseases	Higher mortality rates were observed in individuals with comorbid anxiety disorders.	Routine screening for anxiety disorders and targeted interventions can improve cardiovascular outcomes.

Implications for Clinical Practice and Patient Management

The results of this investigation have deep implications for clinical practice for several reasons. The high prevalence of anxiety disorders among individuals with cardiovascular disease highlights the need for mental health screening in this population. Medical professionals owe it to their patients to make extra efforts to identify and facilitate the signs and symptoms of anxiety in cardiovascular disease patients. Only then can they provide the finest care conceivable to their patients. Patients with multiple medical conditions can benefit from integrating mental health and cardiovascular care under one roof. And because individuals with comorbid anxiety disorders are more likely to end up in the hospital, it is abundantly clear that holistic treatment plans are necessary. These plans consider the patient's mental and physical health into account.

Conclusion

In conclusion, this retrospective study's findings focus on cardiovascular disease's influence on the identification and treatment of anxiety disorders. Significant results indicate that approximately 60% of participants with cardiovascular disease also have an anxiety disorder. Comorbid anxiety disorders were found to be more prevalent among the elderly, more co-occurring disorders, and female participants. In addition, persons with both an anxiety disorder and another condition were more likely to end up in the hospital than those with only one disorder. This study is beneficial because it contributes to the field's body of knowledge by highlighting the need to screen and treat mental health issues among individuals with cardiovascular disorders. These findings demonstrate the need for a holistic approach to managing comorbid conditions, including physical and mental health. By enhancing our comprehension of the frequency and severity of anxiety disorders, this study helps to improve patient care and outcomes.

There is a need for additional research into the underlying mechanisms linking cardiovascular disease and anxiety disorders. Validation and generalizability could be enhanced by conducting prospective studies involving diverse demographics. Research into the underlying physiological and psychological systems could result in the advancement of knowledge and the facilitation of the development of individualised interventions. This study's findings emphasise cardiovascular disease's significance in the diagnosis and treatment of anxiety disorders. The prevalence of anxiety disorders among individuals with cardiovascular diseases demonstrates the need

for mental health screening and integrated care. By increasing their awareness of and response to comorbid anxiety disorders, healthcare providers can enhance patient treatment and outcomes in this population.

Implications for Future Research

It is important to consider the study's limitations against its strengths. Retrospective studies of cardiovascular disease and anxiety disorders are not conducive to firm conclusions on their origins. More study is needed in the future to fully understand the underlying causes and interdependent dynamics of these conditions. Furthermore, generalisation of results to wider groups or settings is doubtful due to the small sample size. Additional research with different demographics is needed to corroborate the findings and increase the study's external validity. More effective treatment may be possible if the physiological and psychological processes linking cardiovascular disease and anxiety disorders are better understood.

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