

Impact Anxiety on Quality of Life and Clinical Outcomes of Patients with Acute Coronary Syndrome

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ABSTRACT

Acute coronary syndromes (ACS) are a common ischemic heart disease (IHD) with high morbidity and mortality. Anxiety is common among cardiac patients, has potentially serious consequences if untreated, and is infrequently assessed or managed appropriately. The co-occurrence of anxiety symptoms and ACS is responsible for decreasing the quality of life (QoL) of patients with ACS. Anxiety is a common emotional response among acute coronary syndrome (ACS) patients. Anxiety is frequently encountered in ACS. It is believed that the prevalence of anxiety among cardiac patients is between 15 and 50%. Patients with ACS often experience anxiety due to the sudden onset of symptoms, the potential severity of their condition, and the uncertainty of their prognosis. Anxiety can also be a risk factor for adverse cardiac events and may interfere with treatment adherence and rehabilitation efforts. Therefore, it is important for healthcare providers to recognize and address anxiety in patients with ACS. This can involve a combination of pharmacological interventions, such as benzodiazepines or selective serotonin reuptake inhibitors (SSRIs), and non-pharmacological interventions, such as cognitive behavioural therapy, relaxation techniques, and stress management strategies. Additionally, healthcare providers can provide education and support to help patients better understand their condition and manage their symptoms. The importance of increased awareness and treatment of anxiety among patients with cardiac disease is stressed.

Keywords: Cardiac Patients, Anxiety, Acute Coronary Syndrome

Introduction

Anxiety is a common mental health condition that affects millions of people worldwide. It is known to significantly impact an individual's quality of life and can cause a range of physical symptoms that affect overall health. For patients experiencing acute coronary syndrome, anxiety can have even greater consequences. Studies have shown that anxiety can impact a patient's clinical outcomes, leading to poorer recovery rates and a higher risk of developing additional health problems. Understanding the relationship between anxiety and acute coronary syndrome is crucial in improving patient outcomes and providing comprehensive care [1].

Cardiovascular disease, especially ischemic heart disease (IHD), is the leading cause of death and disability globally. Acute coronary syndromes (ACS) are a common IHD with high morbidity and mortality. Although reperfusion interventions have improved mortality associated with ACS, acute ACS is a life-threatening disease worldwide. Many factors affect the outcomes of ACS, such as age, sex, prior ACS, hypertension, smoking, dyslipidemia, diabetes, and prior stroke. In recent years, numerous studies have shown that emotional distress, especially depression and anxiety, plays an adverse role in the prognosis of ACS [2].

Acute coronary syndromes (ACS) are one of the life-threatening cardiovascular diseases. The incidence of ACS is increasing

throughout the world. In the year 2020, the incidence rate is expected to increase by 120% for women and 137% for men in developing countries compared with 30-60% in developed countries (World Health Organization [WHO]). ACS, popularly called a heart attack, is the necrosis of heart muscle resulting from ischemia [3]. Anxiety can significantly impact the quality of life of patients with ACS. An acute coronary syndrome is a serious medical condition that can cause fear and uncertainty about the future, and anxiety can exacerbate these feelings. Anxiety can lead to physical symptoms such as chest pain, palpitations, and shortness of breath, further increasing anxiety and decreasing quality of life. Patients with ACS who experience anxiety may also be more likely to avoid activities that they perceive as stressful or risky, which can limit their ability to participate in activities they enjoy and have a negative impact on their overall quality of life [4]. This article explores the significant impact of anxiety on the quality of life and clinical outcomes of acute coronary syndrome patients.

Pathophysiology

Cardiovascular disease is the number one cause of death in the world. Among patients with cardiovascular disease, unstable angina (UA) and myocardial infarction (MI) are severe, life-threatening conditions that represent sudden myocardial ischemia (loss of blood flow to the heart muscle, with loss of oxygen to cardiac cells). Both UA and MI are generally captured under the umbrella term ACS; this term represents a wide clinical spectrum of myocardial ischemia severity, ranging

from UA (by definition, ischemia without myocardial injury) to MI, representing ischemia with resultant cell death (Figure 1). Pathophysiologically, the most common cause for an ACS is the disruption of a previously non-severe atherosclerotic plaque. Indeed, it is now recognized that most coronary atherosclerotic plaques that lead to ACS are typically relatively nonobstructive before the ACS, with a predisposition to rupture that is determined more by their intrinsic biology than the degree of protrusion into the coronary lumen [5].

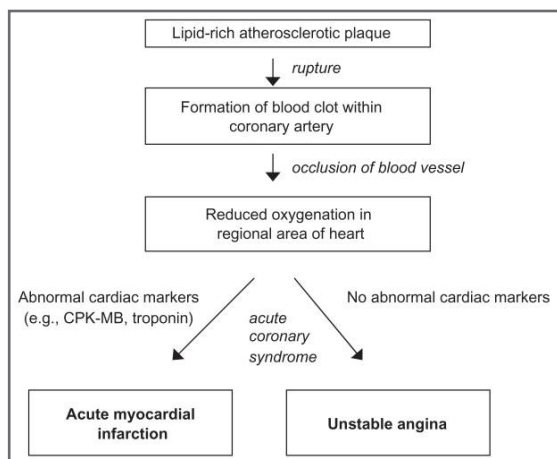


Figure 1: Pathophysiology of an Acute Coronary Syndrome

If impaired blood flow to the heart lasts long enough, it triggers an ischemic cascade; the heart cells die (chiefly through necrosis) and do not grow back. A collagen scar forms in its place. Recent studies indicate that another form of cell death called apoptosis also plays a role in the process of tissue damage subsequent to myocardial infarction. As a result, the patient's heart will be permanently damaged. This scar tissue also puts the patient at risk for potentially life-threatening arrhythmias and may result in the formation of a ventricular aneurysm that can rupture with catastrophic consequences [6].

Injured heart tissue conducts electrical impulses more slowly than normal heart tissue. The difference in conduction velocity between injured and uninjured tissue can trigger re-entry or a feedback loop that is believed to cause many lethal arrhythmias. The most serious of these arrhythmias is ventricular fibrillation (V-Fib/VF), an extremely fast and chaotic heart rhythm that is the leading cause of sudden cardiac death. Another life-threatening arrhythmia is ventricular tachycardia (V-Tach/VT), which may or may not cause sudden cardiac death. However, ventricular tachycardia usually results in rapid heart rates that prevent the heart from pumping blood effectively. Cardiac output and blood pressure may fall to dangerous levels, leading to further coronary ischemia and extension of the infarct [7].

Less research has focused on the role of anxiety. A recent meta-analysis showed that anxiety symptoms were associated with a 26% increased risk of incident coronary heart disease. Anxiety disorders have been associated with the development of coronary heart disease in younger men and with all-cause mortality in an older male population. The results for generalized anxiety disorder are inconsistent. Generalized anxiety disorder has been shown to be related to all-cause mortality in the veteran population. However, in a community sample of older persons, generalized anxiety disorder did not increase the risk of death [8].

It is a known fact that somatic disorders, in a certain percentage, are associated with a mental health problem, whether in the form of two co-existent diseases or whether psychological problems are only associated with symptoms and/or responses to somatic disease. Several studies have demonstrated an increased risk of sudden cardiac death in patients with phobic, generalized anxiety, and panic disorders. Anxiety increases the mortality rate in patients with heart diseases by increasing the risk of ventricular arrhythmias and sudden cardiac death. The continuation of exhibiting a high level of anxiety after the diagnosis of coronary artery disease is a significant risk factor for developing myocardial infarction or death in these individuals [9]. Studies have shown that anxiety and depressive symptoms after ACS are associated with poorer cardiac and all-cause mortality outcomes. Patients with depression have also been reported to have a higher rate of coronary interventions. Interestingly report that symptoms of depression and anxiety predicted neither cardiac nor all-cause mortality. Depression in patients with ACS also leads to poor medication adherence and may indirectly alter outcomes [4].

Concept of Anxiety

The conceptual view of anxiety is a multidimensional phenomenon with different definitions. According to Freud, anxiety needs no description; everyone has personally experienced anxiety at some time or other, and it is defined as something that felt a fundamental, unpleasant affective state or condition. American Psychological Association [APA] defines anxiety as apprehension, tension, or uneasiness, which stems from the anticipation of danger, the source of which is largely unknown or unrecognized. Spielberger defined anxiety as an unpleasant emotional state or condition which is characterized by subjective feelings of tension, apprehension, and worry and by activation or arousal of the autonomic nervous system. When the autonomic nervous system is stimulated, physical signs such as increased heart rate, pulse rate, blood pressure, and dilated pupils can be measured objectively [10].

Similarly, Lazarus and Folkman considered anxiety an emotion triggered by the threat appraisal. Lewis defined anxiety as an emotional state with the subjectively experienced quality of fear as a closely related emotion and pointed out that the emotion is unpleasant, negative, out of proportion to the threat, is future-directed and involves both subjective aspects and manifest bodily disturbances. Therefore, anxiety is a subjective experience of the individual appraised as a negative emotion that occurs in response to perceived threats that occur from internal or external sources and can be real or imagined [3].

Anxiety Phenomenon

Anxiety is a negative emotion that occurs in response to perceived threats that can come from internal or external sources and can be real or imagined. Anxiety is characterized by a perceived inability to predict, control, or gain the preferred results when confronted with a threat. Like all emotions, anxiety has cognitive, neurobiological, and behavioural components. Although anxiety often is comorbid with depression, it is a distinct emotion. Usually characterized as a detrimental emotion, anxiety can be protective when it triggers coping responses that protect an individual from threats. In this way, anxiety may be adaptive, but it becomes maladaptive when it increases or persists to such a degree that

the individual can no longer function effectively in everyday life. At this stage, anxiety can have negative consequences for the individual [11].

Anxiety exists from normal to pathological, and several anxiety disorders exist (panic disorder, phobic anxiety, generalized anxiety, anxiety reactions, and chronic anxiety). Despite the variety of manifestations of anxiety, evidence indicates that anxiety reactions at all stages along the continuum have similar cognitive, neurobiological, and behavioural components, and clinically diagnosed anxiety and subclinical anxiety are not fundamentally different phenomena. Thus, the potential link between anxiety and risk for cardiovascular disease events has implications for persons who have signs or symptoms of anxiety, and not just patients in whom a clinical anxiety disorder has been diagnosed [12].

Prevalence of Anxiety Among Acute Coronary Syndrome Patients

Anxiety can have a significant impact on the quality of life of ACS patients. In a study conducted by Oppedal and, colleagues anxiety was found to be associated with poorer physical function, lower vitality, and poorer mental health. Moreover, it can affect patients' ability to adhere to treatment regimens and participate in rehabilitation programs, ultimately affecting their overall health outcomes. Anxiety can also lead to sleep disturbances, which can cause fatigue, irritability, and difficulty concentrating, further impairing patients' quality of life and recovery [13].

Anxiety can also affect the clinical outcomes of ACS patients. In a systematic review conducted by Davidson and, colleagues anxiety was found to be associated with an increased risk of adverse cardiovascular events, including recurrent ACS, stroke, and mortality. This may be because anxiety triggers a physiological "fight or flight" response, increasing adrenaline and cortisol levels, which can cause inflammation and cardiac instability, ultimately increasing the risk of adverse events.

Acute Coronary Syndromes and Anxiety

Anxiety is more common than depression among persons with chronic cardiovascular disease and those coping with recovery from acute cardiac events or interventions. The prevalence of anxiety is high; research findings consistently have indicated that between 18.5% and 31% of patients report anxiety shortly after the ACS, with a high incidence rate at approximately 70%-80% among patients with previous experience of an acute cardiac event; anxiety persists over the long term in about 20% to 25% of patients with cardiovascular disease. Even among patients with diagnosed cardiovascular disease who have not experienced an acute event or required intervention, the prevalence of anxiety is about 20% to 25%. Anxiety can hinder psychosocial adjustment to the chronicity of cardiovascular disease and physical recovery after an acute event. Higher anxiety predicts a worse quality of life among patients with cardiovascular disease. Anxiety hinders patients' self-care abilities; overly anxious patients often cannot learn or act on information about lifestyle changes and have difficulties adhering to prescriptions for medication, activity, and diet [12].

Anxious patients experience problems coping with challenges; they perceive challenges as insurmountable barriers. Persistent

anxiety predicts disability, increased physical signs and symptoms, and worse functional status. Anxious patients with cardiovascular disease return to work at a slower rate or not at all compared with non-anxious patients. Anxiety also interferes with patients' return to sexual activity after an acute cardiovascular event. Patients with sustained anxiety may experience "cardiac invalidism," a term that has fallen out of common use but that effectively describes a subset of patients with a cardiovascular disease whose level of debilitation or disability after a diagnosis of cardiovascular disease or an acute event is unexplained by the severity of their physical condition [14].

Research has shown that addressing anxiety in patients with ACS can improve their quality of life. Cognitive-behavioural therapy, relaxation techniques, and stress management strategies can help patients manage anxiety and cope. Additionally, improving communication between healthcare providers and patients, providing education about the condition and treatment options, and addressing any concerns or misconceptions can also help to reduce anxiety and improve quality of life (QoL). Anxiety affects adherence to lifestyle modifications such as dietary behaviour changes, physical exercises, regular follow-up, proper medication as recommended by the physician, and timely return to work. Consequently, persistent anxiety after ACS has a negative effect on the prognosis of the disease and overall quality of life. Therefore, psychological responses to an ACS, such as anxiety, warrant attention [12].

On the other hand, patients with ACS themselves have to regulate their lifestyle modification. The overall management goal is to prevent acute and chronic complications while preserving a good quality of life. The co-occurrence of anxiety symptoms and ACS are responsible for decreasing the QoL of patients with ACS. When this is indeed the case, the importance of increased awareness and treatment of anxiety symptoms among patients with ACS is stressed. Anxiety may thus be an important determinant of the QoL of patients with ACS. Therefore, a study on the impact of anxiety on QoL in patients with ACS is warranted [3].

Impact of Anxiety on Cardiac Patients

The impact of anxiety on cardiac patients with ACS can be significant, including increased risk of adverse cardiac events, decreased quality of life, and reduced treatment adherence. Anxiety can also exacerbate physical symptoms associated with ACS, such as chest pain and shortness of breath, which can further increase anxiety and interfere with daily activities. Anxiety has both functionally appropriate and inappropriate consequences. Anxiety can be functionally appropriate among patients with cardiac disease when it prompts an individual to quickly seek treatment for acute cardiac signs and symptoms. But anxiety may have medical or psychological consequences when it is persistent or severe, including difficulty adhering to prescribed treatments and making recommended lifestyle changes, adoption of or failure to change risky behaviours, increased risk for acute cardiac events, and increased risk for in-hospital complications after admission for the acute coronary syndrome. Yet, because anxiety is a universal emotion that is managed without consequence by many people, its importance is often ignored by healthcare providers. The impact of psychosocial (with a major emphasis on anxiety) and behavioural variables

on biological outcomes was examined systematically [12]. Anxiety can also negatively impact the patient's quality of life, interfering with their ability to participate in daily activities and social interactions. Additionally, anxiety can interfere with treatment adherence, including medication adherence, further increasing the risk of adverse cardiac events.

In addition to elevated overall anxiety levels as measured on anxiety scales, formal anxiety disorders are more common in cardiac patients than in the general population. One cross-sectional study utilizing semi-structured diagnostic interviews found that 36% of patients met the criteria for an anxiety disorder at the time of evaluation, and 45% had a lifetime history of an anxiety disorder. Generalized anxiety disorder is present in up to 24% of patients with cardiac disease, and panic disorder also occurs at substantially elevated rates among patients with cardiovascular disease, with 5% to 50% of cardiac patients having active panic disorder [15].

Anxiety and Clinical Outcomes

The mechanisms linking anxiety and ACS outcomes are complex and multifaceted. One potential mechanism relates to the physiology of anxiety. The condition can cause the release of stress hormones that can increase heart rate, blood pressure, and inflammation. These changes can contribute to atherosclerosis and other cardiac conditions that increase the risk of ACS. Additionally, anxiety can lead to behavioral changes such as smoking, poor diet, and limited physical activity. These factors can further increase the risk of ACS and other cardiovascular conditions [16].

Anxiety is a common emotional response among patients with acute coronary syndrome and can have negative impacts on their clinical outcomes. Research has shown that anxiety can increase the risk of adverse clinical outcomes in patients with ACS, including higher mortality rates, recurrent ACS, and other cardiac events. This may be partly due to the physiological effects of anxiety, such as increased heart rate, blood pressure, and inflammation, which can exacerbate the underlying cardiac condition. Additionally, anxiety can interfere with treatment adherence and rehabilitation efforts, further increasing the risk of adverse outcomes. Patients with ACS who experience anxiety may be more likely to avoid physical activity, medication adherence, and follow-up appointments with healthcare providers [17].

Previous studies have confirmed that depression independently predicts poor clinical outcomes in coronary artery disease (CAD) patients. However, the influence of anxiety on the prognosis of CAD patients, particularly those with ACS, is poorly understood. Although the potential prognostic efficacy of anxiety for patients with ACS has been previously evaluated, the results of these studies are inconsistent. Some studies indicated that anxiety is a risk factor for poor prognosis in patients with ACS, while others did not support this finding. Although two previous meta-analyses found that patients with ACS with anxiety may have a higher risk of mortality and other adverse outcomes compared with those without anxiety, these conclusions were mainly based on studies with univariate analyses, and one of the meta-analyses included a high risk of publication bias. However, many prospective studies with multivariable analyses have been performed to evaluate the

effect of anxiety on prognosis in patients with ACS, providing the rationale to perform an updated meta-analysis. Considering that anxiety and depression are highly correlated psychological disorders, it is important to determine the extent to which the association between anxiety and the prognosis of patients with ACS is independent of depression. Accordingly, we performed an updated meta-analysis to evaluate the potential prognostic influence of anxiety on adverse clinical outcomes in patients with ACS [17].

Furthermore, anxiety is associated with a higher risk of mortality and morbidity in acute coronary syndrome patients. Patients with anxiety are at increased risk for cardiac events such as myocardial infarction, arrhythmias, and sudden death. Anxiety triggers the release of stress hormones in the body, including cortisol and adrenaline, which can raise blood pressure and heart rate, causing increased stress on the heart. Moreover, anxiety can lead to the development of depression, which is also associated with increased mortality rates among patients with acute coronary syndrome. Treatment of anxiety in acute coronary syndrome patients is essential to improving their quality of life and clinical outcomes. A range of therapeutic interventions can help patients manage and cope with anxiety, including cognitive-behavioural therapy, counselling, and pharmacotherapy. These interventions can help reduce anxiety symptoms, improve emotional and social functioning, and enhance the patient's overall quality of life. Furthermore, anxiety treatment can reduce the risk of adverse clinical outcomes such as mortality and morbidity, significantly improving patient outcomes and long-term survival [18].

Association of Anxiety with Quality of Life in patients with ACS
One of the major impacts of anxiety on acute coronary syndrome patients is their quality of life. Anxiety is associated with significant impairments in the patient's psychological and physical functioning, reduced health-related quality of life, and poor adjustment to the disease. Patients with acute coronary syndrome who suffer from anxiety often have reduced social and work-related activities, which significantly hinder their ability to perform daily activities. This can lead to feelings of isolation, depression, and reduced self-esteem, which can contribute towards increased stress levels [19].

As evidenced above, anxiety persists for months to beyond years. It is important to find out the relationship in respect of anxiety levels to quality of life. The high level of anxiety and how far the mild and moderate levels of anxiety working on QoL should be considered. In general, most studies showed a moderate, negative association between a high anxiety level on the overall quality of life of patients with ACS. Anxiety was significantly negatively correlated to the overall quality of life and domain-specific quality of life. Anxiety symptoms were most strongly associated with role function, social function, and mental health (worse QoL) at six years to those with most anxiety or distress at one year. Anxiety hinders self-care activities, and overly anxious patients often cannot learn or act on information about lifestyle changes and have difficulties adhering to the prescription of medication, activity, and diet. Persistent anxiety predicts disability, increased physical signs and symptoms, and worse functional status. Anxious patients with myocardial infarction return to work at a slower rate or not at all compared with anxious patients [3].

Anxiety has a proven negative impact on the quality of life in ACS patients. Many individuals with ACS experience high levels of anxiety, including symptoms of worry, restlessness, and a heightened sense of danger. This can significantly impact daily life and activities, including work and social activities. Anxiety can also cause physical changes such as sweating, insomnia, a racing heart, and other symptoms that can make it challenging to carry out regular activities. As a result, patients with ACS often experience a substantial decrease in their overall quality of life, including decreased physical functioning, emotional well-being, social relationships, and general health status [20].

Anxiety can also negatively impact clinical outcomes in ACS patients, including increased risk of complications and morbidity. Several studies have shown that anxiety is a significant risk factor for major adverse cardiovascular events, including recurrent myocardial infarction, heart failure, and death. This increased risk may be due to the effects of stress hormones on the cardiovascular system, which cause increased blood pressure, inflammation, and changes in heart rate variability. Prolonged exposure to these effects can lead to the development of cardiovascular disease and other chronic health conditions, further worsening clinical outcomes in ACS patients [21].

The impact of anxiety on the quality of life and clinical outcomes in ACS patients is significant and cannot be overstated. Healthcare professionals must be vigilant in identifying and addressing anxiety in ACS patients, as early diagnosis and intervention can help improve overall patient well-being and reduce risk factors for adverse outcomes. Comprehensive care plans that incorporate psychological and emotional support, physical therapy, and medication management can help patients manage their anxiety and regain a sense of normalcy after an ACS event. By addressing anxiety, healthcare professionals can help improve patient-centred care and ultimately improve overall health outcomes for individuals with ACS [17].

Improving well-being After Acute Coronary Syndrome

There is a bidirectional relationship between the risk of cardiovascular disease and symptoms of depression and anxiety. Notably, this relationship can be observed following hospitalization for the ACS, whereby patients are at elevated risk for poor mental health outcomes. Increased levels of depression and anxiety post-ACS are also associated with delayed recovery, higher mortality and rehospitalization rates, reduced quality of life, and worsening coronary artery disease; for example, individuals with depression before ACS have increased mortality rates one year following the event (33%) compared to those without a pre-ACS depression (26%). Strategies for secondary prevention of ACS focused on decreasing the burden of depression [22].

The impact of anxiety on the quality of life of ACS patients can be significant, leading to the development of depression, fatigue, insomnia, and decreased social interaction. Anxiety can also hinder the patient's ability to participate in cardiac rehabilitation, leading to slower recovery and reduced physical function. Additionally, anxiety can increase the risk of adverse cardiac events, such as arrhythmia, cardiac arrest, and recurrent myocardial infarction, leading to higher morbidity and mortality rates. Several approaches have been developed

for anxiety management to mitigate the impact of anxiety on ACS patients. These include pharmacological interventions, cognitive-behavioural therapies, exercise programs, and relaxation techniques. Pharmacological interventions involve using medications such as benzodiazepines and antidepressants to manage anxiety symptoms [19]. However, these medications can have side effects, impacting ACS patients' cardiac function and recovery.

Cardiac Rehabilitation: The primary aim of cardiac rehabilitation programs is to improve long-term recovery in patients with cardiovascular disease after acute cardiovascular events, including ACS. Thus, they represent a possible integration point for secondary prevention of poor mental health outcomes. Several studies have explored modified cardiac rehabilitation programs' efficacy in improving anxiety, depression, and other quality-of-life parameters post-ACS [23].

Nurse-Based Programs: One of the purposes of cardiac rehabilitation is to support patients in the transition between the hospital and at-home recovery. Certain patients may benefit from a more thorough degree of physical and mental follow-up care; for example, a nursing intervention involving an in-hospital health education program for elderly patients significantly reduced depression and anxiety scores at a 2-week follow-up [24].

Therapy/Counseling: Cognitive-behavioral therapy (CBT) is a broadly used form of psychotherapy based on reframing maladaptive thought processes that contribute to conditions like depression and anxiety, which may benefit patients following ACS. Cognitive-behavioral therapies involve working with a mental health professional to identify and change negative thoughts and behaviours contributing to anxiety symptoms. Such therapies have been shown to effectively reduce anxiety symptoms and improve the quality of life of ACS patients [21].

Exercise: exercise programs have also been shown to effectively reduce anxiety symptoms in ACS patients, improve their cardiovascular function and reduce the risk of future cardiac events. This represents a critical component of cardiovascular disease prevention and recovery. Thus, exercise programs may improve mental health by increasing confidence, cardiovascular health, and serotonin levels, which contribute to improving mood stability and regulation. Exercise interventions may be implemented through attending in-person sessions or home-based guided programs. Relaxation techniques such as mindfulness meditation, yoga, and deep breathing have also been shown to be effective in reducing anxiety symptoms in ACS patients. These techniques aim to reduce the body's stress response, improving mental health and reducing anxiety symptoms [25].

Medications: The high prevalence of depression and anxiety following ACS may justify the prescription of specific medications or supplements at hospital discharge. Selective serotonin reuptake inhibitors (SSRIs) have been evaluated in multiple studies as they are a first-line treatment for depression outside of the context of cardiovascular care and are used in treatment-resistant anxiety disorders.

Anxiety may improve long-term outcomes and quality of life and, in turn, reduce strain on the healthcare system. Although

several studies have identified possible interventions to improve mental health in patients post-ACS, it remains unclear which method significantly improves patient care. Improving depressive and anxious symptoms post-ACS can potentially decrease associated adverse cardiovascular outcomes. Given the complexity of psychosocial factors potentially contributing to mental health and cardiovascular disease, prevention and intervention strategies can reduce complications.

Future Research and Clinical Practice in Anxiety and Acute Coronary Syndrome

Research on anxiety and ACS has evolved, and a growing understanding of their complex relationship exists. Recent studies have found that anxiety increases the risk of developing ACS and subsequent cardiovascular risk factors such as hypertension, diabetes, and obesity. Anxiety also increases the inflammatory response and platelet aggregation, further contributing to the development and exacerbation of ACS. Psychosocial stressors related to work, family, and relationships have also been identified as risk factors for ACS. Future directions for research and clinical practice in anxiety and ACS should focus on the impact of anxiety on the quality of life and clinical outcomes of ACS patients. First, more research is critical in developing effective prevention and treatment strategies for anxiety and its related disorders. Clinicians should also work to reduce the stigma associated with anxiety disorders. Second, mental health professionals working with cardiologists should consider integrating psychological interventions such as cognitive-behavioural therapy, stress management, and relaxation techniques into the treatment of ACS patients to help alleviate anxiety symptoms. Third, continued research into the use of pharmacological interventions for patients with anxiety and ACS is necessary. Medications such as selective serotonin reuptake inhibitors, benzodiazepines, and beta-blockers have reduced anxiety-related symptoms and improved cardiovascular outcomes. However, these medications' long-term effects and safety need to be studied further.

Conclusion

Anxiety is a common condition that affects millions of people worldwide, including those suffering from acute coronary syndrome; it has potentially serious consequences if untreated and is infrequently assessed or managed appropriately. Also, it shows that higher anxiety levels are associated with impaired quality of life in patients with ACS. Early detection and intervention are crucial to mitigate the effects of anxiety and improve the overall prognosis for patients with acute coronary syndrome. Healthcare providers should prioritize addressing the psychological needs of patients in addition to the physical ones to enhance their overall well-being and prevent further complications. Addressing anxiety is an important component of managing ACS and can positively impact the patient's quality of life and improve clinical outcomes. Therefore, anxiety screening should be integrated into the standard care of patients with ACS. Patients can experience better outcomes and a better quality of life through continuous monitoring and management of anxiety.

Recommendations

The importance of addressing anxiety in ACS patients cannot be overstated. Effective treatment options, such as cognitive-behavioural therapy, medication, and stress-reduction techniques,

can improve mental and physical health outcomes. Additionally, early interventions to manage anxiety may also help to prevent further cardiac complications and reduce the risk of future ACS events. Overall, it is clear that addressing anxiety in ACS patients is a vital component of holistic care that can promote improved overall health and wellbeing. When patients feel safe, supported, and empowered to take control of their physical and mental health, they can better manage their symptoms and achieve better outcomes.

Anxiety assessment and treatment should be a part of the care of every cardiac patient in order to enhance recovery and decrease patients' risk of recurrent cardiac events. Interventions such as cognitive-behavioural therapy, relaxation techniques, and stress management strategies can help patients manage anxiety and improve their overall well-being. Additionally, improving communication between healthcare providers and patients, providing education about the condition and treatment options, and addressing any concerns or misconceptions can also help to reduce anxiety and improve clinical outcomes.

Further research in this area should be focused on delineating the mechanisms whereby anxiety causes poorer outcomes. Hypothesize that both physiological (e.g., activation of the sympathetic nervous system) and behavioural (e.g., poor adherence) mechanisms mediate the link between anxiety and poor outcomes, and are testing this hypothesis. Research in this area is important to help clinicians and nurses determine the best ways to manage patients to decrease the adverse effects of anxiety. It is also vital to develop and test interventions that decrease anxiety and improve its adverse outcomes. In this regard, the role of nonpharmacological and pharmacological strategies must be investigated. Ultimately, the research program's goal will be realized if all clinicians and nurses realize the importance of anxiety to their patients' outcomes and seriously engage in the assessment and management of anxiety.

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