Beyond Imaging: The Silent Impact of Depression on Coronary Artery Disease

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Short editorial related to the article: Major Depressive Disorder and Quality of Life in Patients With Coronary Artery Disease Assessed by Myocardial Perfusion Imaging

Coronary artery disease (CAD) remains the leading cause of global morbidity and mortality, and its intersection with mental health has received prominent attention in contemporary cardiology discussions. In 2025, the European Society of Cardiology published a guideline specifically addressing the multidirectional association between mental health and cardiovascular disease.[1] Key issues were highlighted, including healthcare professionals' limited awareness regarding the prevalence of mental disorders and their direct impacts on cardiovascular health, as well as inadequate recognition of severe mental illness and the stigmas associated with these conditions.

Mental disorders play a detrimental role in cardiovascular prevention, affecting treatment adherence and management of acute decompensations. The overlapping symptoms of the two conditions and the difficulties in monitoring chronic disease negatively impact patient prognosis.[2]

A recent study conducted at a Brazilian federal university hospital revealed an alarming scenario: among 120 patients undergoing myocardial perfusion imaging, 48.3% presented symptoms consistent with moderately severe to severe depression, and 12.5% reported suicidal ideation. This prevalence is almost five times higher than that observed in the general Brazilian population,[3] reinforcing these patients' psychosocial vulnerability. The study did not demonstrate a statistically significant association between the severity of depressive symptoms and the presence of ischemia detected by conventional myocardial perfusion imaging, suggesting that psychological distress may be independent of immediate anatomical severity.

This apparent lack of association further complicates the clinical scenario. Although previous studies, such as the one by Fotopoulos et al.,[4] have attempted to correlate perfusion findings with depression and anxiety, outpatient settings have shown that traditional risk factors for CAD also predispose to mental disorders in a bidirectional cycle. For example, obesity and smoking are closely linked to depressive symptoms through reward mechanisms and chronic inflammation. The impact on quality of life is drastic, with 88.3% of patients reporting poor perception of their physical health.[5]

Symptoms such as frustration, sadness, anxiety, sleep disturbances, and intense fear of death have been reported as post-myocardial infarction experiences; however, persistent or disabling distress may also indicate an associated psychiatric disorder. [6]

Studies such as the one by Barbirato et al.[7] have demonstrated that mental stress testing can induce myocardial perfusion defects in up to 40% of asymptomatic patients, highlighting the complexity of the neuro-humoral mechanisms linking the mind to the heart. Given the shortage of mental health specialists in Brazil (with only 6.69 psychiatrists per 100,000 inhabitants and an uneven geographical distribution),[8] it is imperative that the diagnosis and initial management of mental health disorders be integrated into the routine practice of primary care physicians and cardiologists.

In this context, the formation of a multidisciplinary cardiology and mental health team is strongly recommended, operating analogously to the well-established heart team for highly complex cases.[9] A stepwise implementation of this multidisciplinary team following the ACTIVE principles has been proposed for team development (Figure 1). The acronym stands for Acknowledge, Check, (use validated) Tools, Implement, Venture, and Evaluate, thereby allowing better process control and adaptation to the realities of individual health settings.

The implementation of brief, validated screening tools, such as the PHQ-2 or PHQ-9, as part of routine cardiological assessment, represents a "golden opportunity." These measures enable early interventions and a truly patient-centered approach. In conclusion, modern cardiology requires us to look beyond. Ignoring the heart–mind connection results in incomplete care. Clinical practice must evolve to incorporate structured mental health screening, thereby ensuring better clinical outcomes and quality of life for patients.

Keywords

Coronary Artery Disease; Depression; Mental Health; Cardiology

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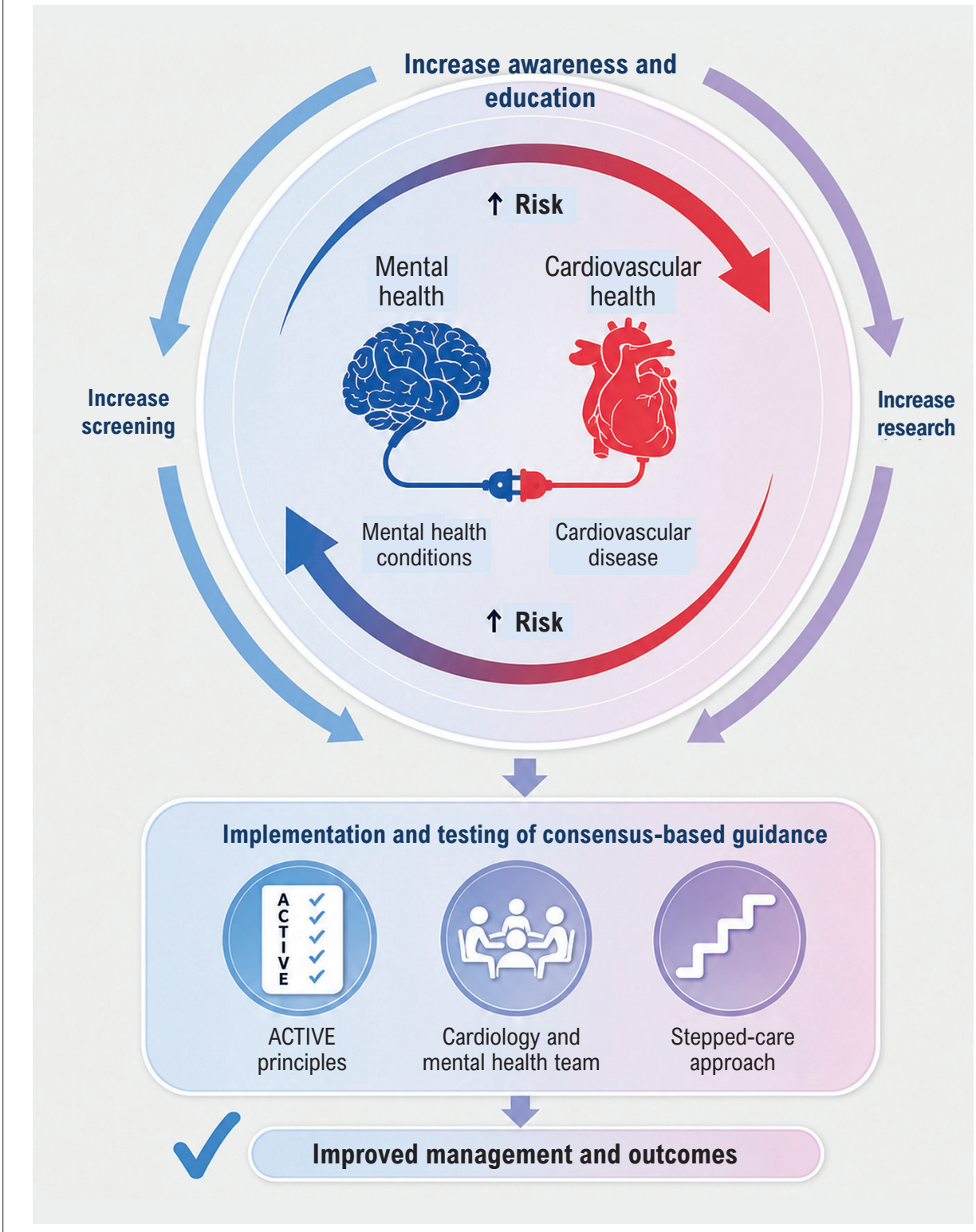

Figure 1 – *The multidirectional cycle between cardiovascular disease and mental health and the suggested ACTIVE (Acknowledge, Check, [use validated] Tools, Implement, Venture, Evaluate) principles for implementing multidisciplinary teams. Adapted from the 2025 ESC Clinical Consensus Statement on mental health and cardiovascular disease: developed under the auspices of the ESC Clinical Practice Guidelines Committee. European Heart Journal.*[1]

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