

Enhancing Life Satisfaction in Cardiac Patients: Evidence-Based Psychological Interventions and Outcomes - A Systematic Review

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Abstract— Patients with coronary artery disease (CAD) and hypertension often experience reduced life satisfaction due to the chronic stress and health challenges associated with these conditions. Psychological interventions have been proposed to improve mental well-being and life satisfaction in this population. This systematic review examines studies from 2012 to 2025 on the effectiveness of various psychological interventions – including Cognitive Behavioral Therapy (CBT), mindfulness-based interventions, positive psychology strategies, stress management techniques, and supportive therapy – in enhancing life satisfaction among patients with CAD and hypertension. Relevant literature was identified from international and Indian journals, focusing on randomized controlled trials and observational studies that reported outcomes related to life satisfaction or quality of life. A total of 35 studies met inclusion criteria. Findings indicate that CBT and mindfulness interventions consistently alleviate depression and anxiety and improve quality of life in cardiac patients. Positive psychology interventions show promising gains in life satisfaction and optimism, while stress management training yields reductions in stress and even cardiovascular event risk. Supportive therapy and group support tend to enhance coping and adjustment, though evidence for life satisfaction improvement is mixed. Overall, psychological interventions are effective adjuncts for improving psychological well-being and potentially life satisfaction in CAD and hypertensive patients. However, gaps remain regarding long-term effects, optimal intervention formats, and cultural adaptations. Future research should target these gaps and explore integrated intervention approaches.

Keywords: Life Satisfaction, Coronary Artery Disease, Hypertension, Cognitive Behavioral Therapy, Mindfulness, Positive Psychology, Stress Management, Supportive Therapy

I. INTRODUCTION

Coronary artery disease (CAD) and hypertension are common cardiovascular ailments that impact both physical and psychological well-being. CAD is one of the prime causes of death globally, as well as in India (Chandar et al., 2023), whereas hypertension, which affects more than a billion individuals, is a key determinant of heart disease and stroke (Das et al., 2024). Aside from physical effects, these conditions also lead to stress, depression, and anxiety, reducing life satisfaction (Li et al., 2021; Savio & Hariharan, 2020). Patients tend to have compromised quality of life through symptoms, disability, and changes in lifestyle (Jalali et al., 2019). Hypertension is even said to "steal life satisfaction" if left unchecked (Fauladivanda et al., 2018). As positive psychological well-being, such as optimism and life satisfaction, is associated with improved cardiovascular outcomes (Zuccarella-Hackl et al., 2024), psychological interventions play a central role. Quality of life is now an important determinant of CAD management, impacting treatment and therapeutic strategies.

Life satisfaction, a fundamental component of well-being, is defined as a person's general evaluation of the quality of their life. It differs from the absence of negative feelings and is related to healthier health behaviors and greater medical regimen compliance. Greater life satisfaction in CAD and hypertension can assist in reducing stress, coping, and enhanced clinical outcomes. Yet, conventional cardiac care has focused on physical well-being and adverse psychological states (e.g., depression, anxiety) rather than positive well-being. This is changing with the emergence of psychosocial interventions in cardiology. Several psychological interventions have been investigated for heart disease and hypertension, such as:

- Cognitive Behavioral Therapy (CBT) – challenging negative thoughts and behaviors.
- Mindfulness-based interventions (MBSR, meditation) – promoting present-moment awareness.
- Positive psychology strategies – increasing optimism, gratitude, and meaning.

- Stress management techniques – for example, relaxation training and biofeedback.
- Supportive therapy – for instance, counseling and support groups for social and emotional support.

All the methods work on different components of well-being. CBT lowers negative thinking, positive psychology enhances happiness and meaning, and mindfulness improves resilience to stress. Evidence indicates these interventions reduce quality of life modestly in cardiac patients (Reid et al., 2013), and additional research on their effects on life satisfaction in CAD and hypertension is necessary. With the trend in healthcare toward more holistic, patient-focused care, knowing the most effective interventions and areas of research needed is important. This systematic review will critically appraise studies over the last decade on psychological interventions promoting life satisfaction among cardiac patients, considering international and Indian contexts, to guide future practice and research.

II. METHOD

II.I. DESIGN

A systematic review of literature was performed according to PRISMA guidelines on psychological interventions for increasing life satisfaction or quality of life in patients with CAD or hypertension. Definitions or theoretical framework were used only from older studies. Both Indian and international studies were included for a complete perspective.

II.II. SEARCH STRATEGY

A multi-database search was conducted using PubMed, Scopus, PsycINFO, and Google Scholar. Search terms joined keywords for the population and outcome (e.g., "coronary artery disease," "hypertension," "cardiac patients," "life satisfaction," "quality of life," "well-being") with terms for interventions (e.g., "cognitive behavioral therapy," "CBT," "mindfulness," "meditation," "positive psychology," "stress management," "supportive therapy," "counseling," "psychosocial"). The reference lists of relevant articles and previous reviews were also hand-searched to locate additional studies. The search was limited to English-language publications.

II.III. INCLUSION CRITERIA

- Included patients with CAD (post-MI, angina, angioplasty, bypass) and/or essential hypertension.
- Examined psychological/behavioral interventions (CBT, mindfulness, positive psychology, stress management, or supportive therapy) as primary or adjunctive care.
- Measured life satisfaction, happiness, or health-related quality of life.
- Included RCTs, controlled trials, and well-designed pre-post studies (individual or group format).
- Focused on studies from 2012 onward, with older seminal studies for background.

II.IV. EXCLUSION CRITERIA

- Studies that did not include a psychological intervention
- Case reports, editorials, and studies focusing solely on unrelated.
- If life satisfaction or quality of life was not measured or reported in the study, it was generally excluded unless the study was highly relevant.
- In line with the inclusion criteria, studies solely targeting patients with heart failure or stroke were beyond the scope, as were interventions like yoga or tai chi unless explicitly framed as psychological stress-reduction techniques.

II.V. DATA EXTRACTION AND SYNTHESIS

Critical information was pulled from every study: sample demographics (diagnosis, size, country), type/duration of intervention, comparison group (if applicable), outcome measures (quality-of-life questionnaires, life satisfaction scales), and psychological outcomes. Because of variation in intervention and outcomes, a narrative synthesis rather than a meta-analysis was conducted. Results were categorized by type of intervention (CBT, mindfulness, positive psychology, stress management, supportive

therapy) to compare effectiveness. Statistical significance and effect sizes were reported where available. Following, the evidence for each intervention in improving life satisfaction and well-being in CAD and hypertensive patients is discussed.

III. FINDINGS

III.I. COGNITIVE BEHAVIORAL THERAPY (CBT)

CBT is a directive psychotherapy that assists the patient in changing unhelpful cognitions and behaviors. For cardiac patients, it assists in stress, depression, and anxiety management, enhancing emotional health and coping techniques (Wells et al., 2022). Research validates the positive effects of CBT for CAD patients, improving mood, quality of life, and even physical health indicators such as heart rate variability (Carney et al., 2000). Meta-analysis of 22 studies concluded CBT substantially improved depression, anxiety, stress, and quality of life regarding health in patients with coronary heart disease (Magan et al., 2022). The best results were obtained from individual sessions of CBT involving psycho-education, cognitive restructuring, and behavioral activation (Thimm & Antonsen, 2014). In a randomized trial, post-angioplasty patients who received an 8-week CBT program reported larger decreases in depression and anxiety, and higher satisfaction scores than controls (Lv et al., 2016).

CBT is especially effective for comorbid depression in heart disease patients. A study revealed 73% remission in depressed CAD patients treated with CBT compared to 41% in stress management and 23% in usual care (Nuraeni et al., 2023). Even though life satisfaction was not explicitly measured, fewer depressive symptoms probably played a role in a better attitude. In patients undergoing CABG, CBT reduced anxiety, depression, and improved quality of life and even shortened hospitalization in some patients (Ibrahim et al., 2025). More studies are necessary to ensure long-term effects in heterogeneous populations (Selvapandiyar, Das & Singh, 2024).

CBT has also been used in hypertension patients, mainly to prevent stress-induced increases in blood pressure. Although satisfaction with life is seldom measured in hypertension research, CBT's beneficial effect on mental well-being can increase it indirectly. In a meta-analysis, CBT lowered systolic blood pressure by ~8–9 mmHg, anxiety, depression, and sleep disturbances (Agoha et al., 2020). Improved sleep and mood can add to satisfaction with daily life. Furthermore, CBT plus usual antihypertensive therapy decreased medication requirements, demonstrating that stress management can have real quality-of-life advantages (Shapiro et al., 1997).

III.II. MINDFULNESS-BASED INTERVENTIONS

Mindfulness-based interventions (MBIs) encompass programs like Mindfulness-Based Stress Reduction (MBSR), mindfulness meditation training, and related approaches that cultivate a mindful, non-reactive awareness of one's present-moment experiences. The rationale for MBIs in cardiovascular patients is that mindfulness can reduce psychological stress and improve emotion regulation, thereby positively influencing both mental and physical health (Manan et al., 2024).

Several individual studies illustrate how MBIs can enhance patient well-being. In an RCT of MBSR for cardiovascular disease patients, researchers found that an 8-week MBSR program significantly improved participants' self-efficacy and *overall quality of life* compared to baseline and controls, with benefits sustained at 3-month follow-up. The MBSR group learned meditation, breathing exercises, and gentle yoga aimed at stress reduction. By the program's end, patients reported feeling more in control (higher self-efficacy) and experiencing better physical and emotional quality of life. These improvements suggest a trajectory toward higher life satisfaction, as patients felt better able to cope with their illness and enjoy daily activities. Another study highlighted in a cardiology journal reported that mindfulness meditation for patients undergoing CABG was *beneficial in relieving anxiety and improving self-efficacy and quality of life* (Wei et al., 2024).

Patients who practiced mindfulness techniques had less anxiety and felt more confident in managing their recovery, which likely translated to greater contentment during the difficult post-surgery period. Reductions in stress through mindfulness are particularly relevant, since high stress is associated with worse outcomes and lower perceived health status in heart disease (Scott-Sheldon et al., 2019).

Mindfulness interventions have also been applied to hypertensive patients, often focusing on stress reduction as a means to lower blood pressure. According to a recent review, mindfulness practices (such as meditation) have been proven beneficial in lowering blood pressure and enhancing mental health in hypertension patients (Babak et al., 2022).

In coronary artery disease, an emerging area is combining mindfulness with other therapeutic elements. One RCT introduced "mindfulness-based art therapy" in addition to standard MBSR for heart patients, and early results indicated enhanced

engagement and possibly greater improvements in mood (though sample sizes were small) (Jang et al., 2018). Even when mindfulness interventions do not explicitly target positive psychology variables, some studies hint at increases in positive affect or acceptance. For instance, a feasibility study of MBSR in CAD patients with depression noted that participants had reduced depressive symptoms and increased Mastery (a sense of control over life) at 12-month follow-up (Lundgren et al., 2022).

III.III. POSITIVE PSYCHOLOGY INTERVENTIONS

Positive psychology interventions (PPIs) are therapeutic activities and exercises designed to cultivate positive emotions, thoughts, and behaviors – for example, practices like gratitude journaling, identifying personal strengths, acts of kindness, optimism training, or reminiscence about positive life experiences. The goal of PPIs is to boost positive psychological well-being (PPWB), which encompasses facets such as happiness, optimism, sense of purpose, and life satisfaction (Chhajer & Hira, 2024).

Empirical evidence for PPIs specifically in heart disease patients has begun to accumulate in the last decade. One notable study was a preliminary randomized trial of PPIs in patients recovering from acute coronary procedures (CABG or PCI) (Nikrahan et al., 2016).

Beyond this trial, supportive evidence comes from observational studies and broader literature reviews. For instance, an American Heart Association scientific statement highlighted that positive psychological factors (like optimism and satisfaction) are associated with healthier behaviors and outcomes in cardiac patients, independent of negative factors like depression (Levine et al., 2021).

A mini-review by Kubzansky et al., (2018) noted that life satisfaction, along with happiness and purpose in life, significantly impacts cardiovascular health and function. The review emphasized that positive well-being is not merely the absence of distress; patients can be non-depressed yet still lack positive fulfillment.

One longitudinal study found that individuals with greater life satisfaction had a 12% lower risk of stroke over time, highlighting the possible protective role of positive well-being. This kind of data provides a rationale for applying PPIs to hypertensive populations as well, to improve their outlook and possibly their cardiovascular profile. Furthermore, certain antihypertensive treatments have been observed to influence mood and satisfaction (for instance, older studies noted that patients on some medications like captopril reported *higher life satisfaction* than those on others) (Guimond et al., 2021).

III.IV. STRESS MANAGEMENT TECHNIQUES

Chronic stress is a known contributor to poor cardiovascular outcomes, and patients with CAD or hypertension often face significant stress – from the illnesses themselves and related life challenges. Stress management techniques encompass a variety of methods aimed at reducing the physiological and psychological impact of stress. These can include relaxation training (such as progressive muscle relaxation or guided imagery), deep breathing exercises, meditation, biofeedback, time management and problem-solving training, and coping skills counseling. Over the last decade, evidence has increasingly supported the integration of structured stress management into cardiac care to improve both health outcomes and patient quality of life.

A landmark study in this area is the ENHANCED trial (Enhancing Cardiac Rehabilitation with Stress Management Training), which was a randomized trial examining whether adding stress management to standard cardiac rehabilitation yields benefits. The results were compelling: patients who received stress management training (SMT) in addition to exercise-based cardiac rehab had *greater reductions in emotional stress* (particularly anxiety, distress, and perceived stress levels) compared to those in rehab alone (Blumenthal et al., 2016).

Another trial found that stress management training in patients with coronary disease improved endothelial function and reduced myocardial ischemia triggered by mental stress (Shi & Lan et al., 2021).

III.V. SUPPORTIVE THERAPY AND SOCIAL SUPPORT INTERVENTIONS

Supportive therapy for medical illness gives emotional support, empathy, and a safe environment to discuss feelings in patients. It can be in the form of individual counseling or support groups (face-to-face or virtual) where patients discuss their experiences. For patients with CAD and hypertension, supportive interventions target the essential need for social support. High social support has been associated with improved recovery and psychological functioning in heart disease, and low perceived support with poor health status and increased depression following myocardial infarction (Buchholz et al., 2014).

Cardiac support group research has produced conflicting findings with few studies. A review conducted by Song et al. (2011) indicated that psychosocial adjustment and quality of life were enhanced through support groups but not necessarily with

statistical significance. This can be attributed to small sample sizes or ethical constraints in creating control groups. Nonetheless, the review highlighted the post-cardiac event patients' high psychosocial demands such as stress management and social experiences. Unstructured supportive therapy facilitates the feelings of cardiac patients such as fear, anger, and sadness and provides validation. It is widely utilized as a control condition in psychotherapy trials (Goldin, 2021). Family-oriented interventions identify the important role of spouses and family members. A 2013 systematic review demonstrated that engaging partners in counseling enhanced patients' health-related quality of life and decreased partners' anxiety, but not mortality and morbidity. Patients appreciate being supported and informed, a very important factor in a culture such as India's, where family is key (Jeemon et al., 2021).

Getting patients involved in community groups and online forums can widen their support system. Research among older people with cardiovascular disease indicates strong associations between social connections, type of housing, and satisfaction with life. Those in supportive environments are more likely to experience greater well-being. Unstructured interventions but not systematically an advocacy group and community involvement enhance outcomes and mood (Kandapan, Pradhan, & Pradhan, 2023).

IV. DISCUSSION

This systematic review emphasizes the important contribution of psychological interventions to enhancing well-being in patients with coronary artery disease (CAD) and hypertension. A range of strategies, such as Cognitive Behavioral Therapy (CBT), mindfulness-based interventions (MBIs), positive psychology interventions (PPIs), stress management, and supportive therapy, have been shown to be effective in alleviating psychological distress, strengthening coping skills, and enhancing health-related quality of life. These results underscore the importance of incorporating psychological support into standard cardiovascular care.

CBT is one of the most successful treatments for stress, depression, and anxiety in cardiac patients. Magan et al. (2022) attested to its efficacy in enhancing psychological outcomes in CAD patients, with tailored interventions aimed at psychoeducation, cognitive restructuring, and behavioral activation providing the greatest benefit. The efficacy of CBT in treating comorbid depression, a primary mediator of lower life satisfaction, is also demonstrated through remission rates of ~73% in CBT-treated CAD patients (Nuraeni et al., 2023) versus 41% for stress management and 23% for usual care. Moreover, CBT has been promising in postoperative recovery, especially in the reduction of anxiety and depression among coronary artery bypass graft (CABG) patients and enhancing post-surgery quality of life (Ibrahim et al., 2025).

Mindfulness-based interventions have also been successful in promoting self-efficacy, stress reduction, and emotional resilience among cardiovascular patients. Manan et al. (2024) established that interventions such as Mindfulness-Based Stress Reduction (MBSR) and meditation increase patients' perceived control over their illness. Wei et al. (2024) also reported enhanced anxiety, self-efficacy, and recovery confidence in CABG patients. With the connection between stress and cardiovascular decline, stress-reducing interventions like mindfulness help improve emotional regulation and coping, ultimately leading to increased life satisfaction.

Positive psychology interventions (PPIs) present an alternative solution by promoting positive emotions, optimism, and resilience. Nikrahan et al. (2016) demonstrated that PPIs are associated with improved emotional well-being after cardiac procedures, and Kubzansky et al. (2018) emphasized that life satisfaction, optimism, and purpose are linked to improved cardiovascular health. Large-scale trials would be required to determine causal relationships, but it appears that the promotion of a positive psychological orientation can have protective cardiovascular health effects.

Stress management interventions have been found to be effective in alleviating physiological and psychological stress reactions in patients with cardiovascular disease. The ENHANCED trial by Blumenthal et al. (2016) showed that stress management training decreased emotional distress in patients with cardiac rehabilitation by a significant amount. Shi & Lan et al. (2021) also cited enhanced endothelial function and decreased myocardial ischemia evoked by mental stress. These results are in favor of incorporating structured stress management programs into routine cardiac care for improved emotional and physiological outcomes.

Supportive therapy and social support interventions are also essential in improving life satisfaction in cardiovascular patients. Song et al. (2011) established that support group participation enhanced psychosocial adjustment and quality of life, although their superiority over other interventions is still inconclusive. Family-centered interventions have also been helpful, enhancing patient satisfaction and emotional health (Jeemon et al., 2021). Aside from formal therapy, support networks in the community and advocacy groups offer vital emotional support. Supportive living conditions and strong social relationships have been linked

to increased life satisfaction (Kandapan, Pradhan, & Pradhan, 2023), highlighting the need to address social determinants of cardiovascular health.

In general, psychological interventions yield strong evidence for their inclusion in standard cardiovascular care. As primary care of the heart tends to rely heavily on medicine, these results indicate that a comprehensive approach with psychological and social health is crucial for maximum benefit in patients.

V. IMPLICATIONS

The findings of this review indicate that the incorporation of psychological interventions into standard cardiovascular care can have a profound impact on patient well-being. Cognitive Behavioral Therapy (CBT), mindfulness-based interventions (MBIs), positive psychology interventions (PPIs), and stress management are all beneficial to mental health, decrease distress, and increase life satisfaction. These interventions must be viewed as adjuncts to usual medical care, not as elective add-ons. It should be trained as healthcare professionals in identifying the psychologic needs of cardiovascular patients and incorporating these techniques into rehabilitation procedures, post-operative care, and chronic disease control.

VI. FUTURE RESEARCH DIRECTIONS

Although current studies confirm the efficacy of psychological interventions in cardiovascular patients, future research must address long-term outcomes and application in a variety of populations. Large randomized controlled trials must be conducted to determine the sustainability of these interventions over the long term. More research is also needed to investigate the interaction among psychological well-being, lifestyle change, and medication compliance in cardiovascular disease. The role of digital and telehealth-based psychological interventions also warrants further exploration, especially in improving accessibility for patients who may face barriers to in-person therapy.

VII. CONCLUSION

Psychological treatment has a key role to play in enhancing the quality of life and emotional well-being of cardiac patients with coronary artery disease and hypertension. There is strong evidence to support the inclusion of CBT, mindfulness, stress management, and social support interventions in cardiac care. Implementation challenges and long-term assessment aside, focusing on mental health as well as physical health can result in improved patient outcomes. An integrated strategy for cardiovascular treatment, one that takes into account both medical and psychological issues, will eventually enable patients not just to survive but to flourish.

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