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Comparing the Effectiveness of Cognitive Behavioral Therapy and Compassion-Focused Therapy on Quality of Life among Cardiac Patients

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Abstract

Objective: Improving quality of life in patients with coronary artery disease is crucial due to the substantial impact of cardiovascular conditions on patients and their families. This study aimed to compare the effectiveness of cognitive behavioral therapy (CBT) and compassion-focused therapy (CFT) in enhancing quality of life among cardiac patients.

Method: A quasi-experimental design with pre-test, post-test, and three-month follow-up was employed. Forty-five patients with coronary artery disease attending hospitals, clinics, and specialized heart centers in Shiraz during mid-2023 were recruited via convenience sampling and randomly assigned to three groups (CBT, CFT, and control; n=15 each). The WHOQOL-BREF questionnaire was used to assess quality of life. CBT was administered based on the protocol by Rezaian et al. (2014), while CFT followed Gilbert's (2009) compassion-focused therapy framework. Data were analyzed using repeated measures ANCOVA with SPSS v26.

Results: Both CBT and CFT significantly improved quality of life scores compared to controls ($p < 0.01$). Notably, CFT showed a significantly greater effect than CBT across multiple quality of life domains.

Conclusion: These findings suggest that compassion-focused therapy may be a particularly effective intervention to enhance mental health and overall quality of life in patients with coronary artery disease.

Keywords: Cognitive-behavioral therapy, Compassion-focused therapy, Quality of life, Cardiac patients

Introduction

Cardiovascular diseases are strongly influenced by psychological factors, with substantial evidence showing that emotional distress, anxiety, and depression significantly contribute to disease progression, functional decline, and mortality in cardiac patients (Celano et al., 2016; Tully et al., 2016; Garcia et al., 2024). These psychological difficulties not only intensify the physical burden of heart conditions but also place patients at elevated risk of persistent distress and reduced quality of life. Despite these challenges, many individuals with heart disease successfully adapt by drawing on positive psychological resources—such as resilience, optimism, and social support—which are associated with better adjustment and improved well-being (DuBois et al., 2021).

Quality of life is a central outcome in cardiac populations, as heart disease affects physical functioning, emotional well-being, interpersonal relationships, and social participation (Cilli et al., 2022). Defined as individuals' subjective evaluation of their physical, psychological, social, and environmental circumstances, quality of life plays a critical role in disease management and long-term recovery (Guillen et al., 2021; Bell et al., 2018). Because cardiac patients often face chronic pain, shortness of breath, depressive symptoms, and anxiety, addressing quality of life requires a multidimensional approach that includes medical, behavioral, and psychological interventions (Abrantes et al., 2022).

Psychological interventions have shown increasing promise in improving emotional functioning and quality of life among cardiac patients. Among these, cognitive-behavioral therapy (CBT) is one of the most widely supported approaches. CBT aims to modify maladaptive cognitions and behaviors that contribute to emotional distress, using techniques such as cognitive restructuring, behavioral activation, and problem-solving skills (Gregory, 2021; Kenny, 2021). In cardiac settings, CBT may improve patient outcomes by reducing catastrophic interpretations of bodily sensations, decreasing autonomic arousal, enhancing adherence to medical recommendations, and strengthening self-management behaviors (Davidson et al., 2018; Huffman et al., 2021; Wakelin et al., 2022). Research consistently indicates that CBT can reduce anxiety and depression while improving social functioning and overall quality of life in cardiac populations.

More recently, compassion focused therapy (CFT) has emerged as a therapeutic model particularly relevant for patients managing chronic health conditions. CFT focuses on cultivating compassion, emotional warmth, and self acceptance to reduce shame, self criticism, and emotional avoidance—factors that are commonly elevated in individuals with chronic illnesses (Latorre et al., 2023). By strengthening compassionate self regulation systems, CFT enhances emotional resilience, promotes balanced emotional responses, and supports individuals in approaching suffering with acceptance rather than fear or avoidance (Magalhães et al., 2020). Evidence from recent studies suggests that CFT can reduce psychological distress, improve emotional well being, and enhance social connectedness, which in turn may lead to improvements in quality of life in cardiac patients (Thurston et al., 2021; Millard et al., 2023; Ski et al., 2025).

Despite the demonstrated benefits of both CBT and CFT, there remain important limitations in current psychological care for cardiac patients. Many existing approaches—such as general supportive counseling, psychoeducation, or stress management

programs—often yield short-term benefits and may insufficiently address deeper emotional mechanisms such as shame, self criticism, or chronic avoidance (Huffman et al., 2021). While CBT is effective in modifying dysfunctional thinking patterns, it may be less suited to patients with high levels of self criticism. Conversely, although CFT directly targets these mechanisms, it has not been extensively compared to CBT in cardiac populations.

A review of the literature indicates that, although both CBT and CFT have independently shown promising outcomes, no study to date has conducted a direct comparison of these two interventions on quality of life among patients with coronary artery disease. Given that these therapies target distinct psychological mechanisms—cognitive restructuring in CBT versus compassion cultivation in CFT—such comparisons may provide clinically meaningful insights for treatment selection (Garcia et al., 2024; Cilli et al., 2022).

Therefore, the present study aims to compare the effectiveness of cognitive behavioral therapy and compassion focused therapy on the quality of life among patients with coronary artery disease, addressing a critical gap in the literature and contributing to the development of evidence based psychological interventions for this population.

Method

Study Design:This study employed a quasi experimental pretest–posttest design with a control group and a three month follow up. The study population consisted of patients diagnosed with coronary artery disease (CAD) who attended hospitals, clinics, and specialized cardiac centers in Shiraz, Iran, during the third quarter of 2024. Using convenience sampling, 45 eligible participants were recruited. After enrollment, participants were randomly assigned to one of three groups: cognitive behavioral therapy (CBT), compassion focused therapy (CFT), or a control group, with 15 participants in each group.

Inclusion Criteria: Participants were eligible if they met the following criteria: (a) a confirmed diagnosis of coronary artery disease by a cardiologist based on clinical and paraclinical assessments such as angiography, electrocardiography, and echocardiography; (b) age between 30 and 65 years; © sufficient literacy to understand and complete the study questionnaires; (d) absence of severe psychiatric disorders such as psychosis or bipolar disorder, as determined through clinical screening and review of medical records; (e) reduced quality of life associated with cardiac disease, indicated by scores below the normative mean on the MacNew Heart Disease Quality of Life Questionnaire; and (f) willingness to participate in the intervention sessions and follow up assessments.

Exclusion Criteria: Participants were excluded if they had received structured psychological therapy within the previous six months; had severe medical comorbidities such as metastatic cancer or advanced renal failure; experienced major traumatic life events during the study period (e.g., death of a close family member); missed more than two intervention sessions; or experienced a significant deterioration in cardiac condition requiring hospitalization during the study.

Eligibility criteria were verified through clinical interviews, medical record reviews, and participant self reports.

Ethical Considerations: The study protocol was approved by the institutional ethics committee. All participants were informed about the objectives and procedures of the study and were assured of the confidentiality of their information. Written informed consent was obtained from all participants prior to data collection, and participation was entirely voluntary.

Quality of Life: Quality of life was assessed using the World Health Organization Quality of Life Questionnaire (WHOQOL BREF), a widely used 24 item self report instrument developed by the WHOQOL Group (1993) to evaluate individuals' subjective perception of their quality of life. The questionnaire assesses four domains: physical health, psychological well being, social relationships, and environmental health. Each item is rated on a 5 point Likert scale ranging from 1 to 5. Three items (1, 2, and 24) are reverse scored. The total score ranges from 24 to 120, with higher scores indicating a better perceived quality of life. Higher scores in each domain similarly reflect better functioning and well being. The Persian version of the WHOQOL BREF has demonstrated acceptable psychometric properties in Iranian populations. Nejat et al. (2007) reported Cronbach's alpha coefficients above 0.70 for most domains, while the social relationships domain showed a somewhat lower reliability coefficient (approximately 0.55), likely due to the limited number of items. Overall, the instrument has demonstrated satisfactory validity and reliability for use in both clinical and non clinical samples.

Protocol for Cognitive Behavioral Therapy (CBT): The cognitive behavioral therapy intervention was implemented in a group format based on the protocol proposed by Rezaian et al. (2015). The sessions were conducted by the principal researcher, who had received formal training in cognitive behavioral therapy and worked under the supervision of a licensed clinical psychologist. The intervention was delivered in a counseling room at a specialized cardiac care center in Shiraz. The program consisted of eight sessions, each lasting approximately 60 minutes, conducted twice per week over a four week period. The sessions included psychoeducation, identification and modification of dysfunctional thoughts, behavioral activation strategies, stress management techniques, and group discussion aimed at improving coping skills and psychological adjustment in patients with coronary artery disease. A summary of the session content is presented in Table 1.

Table 1 Cognitive Behavioral Therapy Implementation Protocol

Sessions	Title	Explanations
First session	Introduction and familiarization with the group rules	Introduction session and familiarization with the rules, structures, and goals of the group, conducting a pre-test, teaching deep diaphragmatic breathing, presenting assignments and receiving feedback.
Second session	Teaching cognitive-behavioral therapy methods	A summary review of the previous session's content and completed assignments, introduction to cognitive-behavioral therapy and training the cycle of thinking, feeling, body, and behavior,

		guided imagery training, presenting assignments, and receiving feedback.
Third session	Introduction to therapeutic practice	Reviewing previous session assignments, explaining how cognitive therapy works and introducing the A-B-C model, teaching how to use a negative thought recording sheet and setting a time to address negative thoughts, presenting assignments, and providing feedback.
Fourth session	Teaching cognitive layers	Reviewing previous session assignments, introducing the layers of cognition and types of cognitive errors, teaching the thought-stopping and thought-sampling techniques, and evaluating thoughts to determine whether they are helpful or harmful.
Fifth session	Teaching cognitive restructuring techniques	Reviewing previous session assignments, transforming rigid life rules into preferences, and teaching cognitive restructuring techniques, the river surface leaves (cognitive defusion) technique, and positive self-talk with calming sentences. Presenting new assignments and providing feedback.
Sixth session	Training to keep the mind busy	Reviewing previous session assignments, teaching the downward arrow technique, engaging in activities to keep the mind busy, and creating a list of favorite activities, foods, and places from childhood and the present. Presenting assignments and providing feedback.
Seventh session	Teaching assertive behavior	Reviewing all previous session assignments and training, teaching assertive behavior, presenting new assignments, and providing feedback.
Eighth session	Examining the effects of trainings on people's lives	Reviewing the previous session's assignments, problem-solving techniques, gathering feedback on how the training has impacted participants' lifestyles, and distributing and collecting post-test questionnaires.

Protocol for Compassion Focused Therapy (CFT): The compassion focused therapy intervention was conducted according to the model developed by Gilbert (2009). Similar to the CBT program, the intervention was delivered in a group format by the principal researcher under the supervision of a licensed clinical psychologist.

The sessions were held in the same counseling setting and consisted of eight weekly sessions lasting approximately 60 minutes each. The intervention focused on developing self compassion, reducing self criticism, enhancing emotional regulation, and

strengthening compassionate coping responses through guided exercises, mindfulness practices, and group discussion. A summary of the session structure is presented in Table 2.

Table 2 Summary of the Compassion-Focused Therapy Protocol

Sessions	Title	Session content
First session	Introducing and reviewing the group's structure and rules	Explanatory session including an overview of session structure and group rules, session number and duration, and discussing participants' expectations. Activities included introductions, sharing experiences about coronary heart disease with group member cooperation, reviewing members' concerns, and conducting a pre-test.
Second session	Examining the thoughts and feelings of the members	Exploring group members' positive and negative thoughts and feelings about coronary heart disease and related psychological issues. Practicing physical exercises and breathing techniques, introducing brain systems related to compassion, teaching empathy, and explaining the concept of compassion.
Third session	Getting to know the characteristics of compassionate people	Introducing the traits of compassionate individuals, fostering compassion for others, nurturing warmth and kindness towards oneself, and understanding that others have flaws and struggles, especially in relation to self-destructive feelings.
Fourth session	Encouraging self-knowledge and compassionate character exploration	Reviewing assignments, promoting self-awareness, and assessing whether participants see themselves as compassionate or unkind based on educational topics. Identifying and practicing exercises to cultivate a compassionate mindset. Focusing on empathy and sympathy for oneself and others and teaching forgiveness.
Fifth session	Teaching forgiveness and tolerance	Review of the previous session's assignments, familiarization and application of compassionate mind-building exercises (forgiveness, non-judgmental acceptance, and tolerance training)
Sixth session	Practical exercises in creating compassionate imagery, and teaching methods of expressing compassion	Review of the previous session's assignments, practical practice of creating images with compassion, teaching styles and methods of expressing compassion (verbal, practical, intermittent and continuous compassion),

		applying these methods in daily life for friends and acquaintances, etc.
Seventh session	Teaching to write compassionate letters	Review of the previous session's assignments, teaching how to write compassionate letters to yourself and others, teaching how to record and write daily notes about real situations based on compassion and the person's performance in that situation.
Eighth session	Summary review of contents, questions and answers	Summary, review of previous sessions, questions and answers to resolve questions, providing solutions to maintain and apply this therapeutic method in daily life, and conducting a post-test.

Procedure: After eligibility screening and obtaining informed consent, participants completed the baseline (pretest) assessment. They were then randomly assigned to the CBT group, the CFT group, or the control group. The intervention groups participated in their respective therapy sessions, while the control group received no psychological intervention during the study period. All participants completed the posttest assessment immediately after the intervention and a follow-up assessment three months later.

Results

The final sample consisted of 45 patients with coronary artery disease who were randomly assigned to three groups (n = 15 per group): cognitive-behavioral therapy (CBT), compassion-focused therapy (CFT), and a control group. The gender distribution differed across groups. In the control group, 73.33% of participants were women and 26.67% were men, whereas in the CBT group 20% were women and 80% were men. In the CFT group, 40% were women and 60% were men. Regarding the duration of illness, 33.33% of participants in the control group reported living with the disease for approximately one year, while 26.67% reported more than five years. In the CBT group, 40% had a disease duration of one year and 33.33% had experienced the disease for more than five years. These demographic characteristics indicate adequate variability across the sample. Descriptive statistics for quality of life and its components—including physical health, mental health, social relationships, and environmental health—across the pretest, posttest, and follow-up assessments in the three groups are presented in Table 3.

Table 3 Descriptive statistics of quality-of-life variable scores by pre-test, post-test, and follow-up in the control and experimental groups

Group	Variable source	N	Min	Max	Mean	Standard deviation
Control	Quality of life pre-test	15	41	74	56.87	9.96
	Quality of Life Post-Test	15	38	76	57.53	11.53
	Quality of Life Follow-up	15	35	64	50	7.95
	Physical health pre-test	15	9	25	17.73	5.38
	Physical Health Post-Test	15	9	27	19.47	6.58
	Physical Health Follow-up	15	9	24	15.93	4.56
	Mental Health Pre-Test	15	8	19	13.07	3.90
	Mental Health Post-Test	15	7	18	11.80	3.53
	Mental Health Follow-Up	15	7	17	12.27	3.51
	Social Relations Pretest	15	4	9	6.80	1.86
	Social Relations Posttest	15	4	9	7.00	1.25
	Social Relations Follow-up	15	4	8	5.73	1.39
	Environmental Health Pre-Test	15	9	26	19.27	5.28
	Environmental Health Post-Test	15	10	26	19.27	6.34
	Environmental Health Follow-Up	15	9	24	16.07	5.06
Cognitive behavioral therapy	Quality of life pre-test	15	40	66	54.33	7.24
	Quality of Life Post-Test	15	51	73	63.40	5.96
	Quality of Life Follow-up	15	54	69	60.27	4.73
	Physical health pre-test	15	9	25	16.73	6.05
	Physical Health Post-Test	15	15	26	20.47	3.91

	Physical Health Follow-up	15	15	25	21	2.73
	Mental Health Pre-Test	15	7	18	11.93	3.03
	Mental Health Post-Test	15	10	19	15.07	2.96
	Mental Health Follow-Up	15	10	19	14.80	2.98
	Social Relations Pretest	15	4	9	6.80	1.52
	Social Relations Posttest	15	5	9	6.93	1.49
	Social Relations Follow-up	15	5	7	5.80	0.77
	Environmental Health Pre-Test	15	13	26	18.87	4.37
	Environmental Health Post-Test	15	13	26	20.93	4.57
	Environmental Health Follow-Up	15	13	25	18.67	4.01
Compassion-focused therapy	Quality of life pre-test	15	42	73	51.73	7.98
	Quality of Life Post-Test	15	61	84	71.33	6.10
	Quality of Life Follow-up	15	62	78	70	4.96
	Physical health pre-test	15	12	27	15.80	4.18
	Physical Health Post-Test	15	20	31	23.87	3.85
	Physical Health Follow-up	15	17	27	22.80	3.05
	Mental Health Pre-Test	15	7	19	12.93	3.58
	Mental Health Post-Test	15	11	21	15.53	2.77
	Mental Health Follow-Up	15	11	19	15.27	2.84
	Social Relations Pretest	15	4	9	6.07	1.79
	Social Relations Posttest	15	7	9	7.87	0.83
	Social Relations Follow-up	15	7	8	7.47	0.52

Environmental Health Pre-Test	15	9	26	16.93	6.49
Environmental Health Post-Test	15	18	28	24.07	3.08
Environmental Health Follow-Up	15	21	27	24.47	2.03

Overall, the mean scores indicate that participants in the CBT and CFT groups showed improvements in quality of life from pretest to posttest, whereas the control group showed little change or slight decreases at follow-up.

Before conducting the repeated measures analysis of variance, the statistical assumptions were examined. The Kolmogorov–Smirnov test indicated that the distribution of scores for all variables was normal across the three groups ($p > 0.05$). In addition, Levene's test confirmed the homogeneity of variances ($F = 0.04$, $p = 0.95$), and Box's M test supported the equality of variance–covariance matrices ($M = 23.28$, $p = 0.07$). Mauchly's test of sphericity was also non-significant ($W = 0.77$, $p = 0.16$), indicating that the assumption of sphericity was satisfied for most variables. Therefore, the assumptions required for conducting repeated measures ANOVA were met. The results of the repeated measures analysis of variance are presented in Table 4.

Table 4 Results of repeated measures analysis of variance of quality of life with sphericity statistic

Variable	Group	Statistics	SS	df	MS	F	Sig	Eta
Physical health	Time Effect	Sphericity statistics	534.770	2	267.385	12.781	0.001	0.233
	Time Effect * Group	Sphericity statistics	401.941	4	100.485	4.803	0.002	0.186
Mental health	Time Effect	Sphericity statistics	65.526	2	32.763	3.569	0.033	0.078
	Time Effect * Group	Sphericity statistics	98.696	4	24.674	2.688	0.037	0.113
Social relations	Time Effect	Greenhouse-Geisser	33.911	1.647	20.587	11.957	0.001	0.222
	Time Effect * Group	Greenhouse-Geisser	28.978	3.294	8.796	5.109	0.002	0.196
Environmental health	Time Effect	Sphericity statistics	212.326	2	106.163	5.139	0.008	0.109
	Time Effect * Group	Sphericity statistics	476.296	4	119.074	5.764	0.001	0.215

The findings showed a significant effect of time on all components of quality of life. Specifically, significant time effects were observed for physical health ($F(2) = 12.78$, $p < 0.001$, $\eta^2 = 0.23$), mental health ($F(2) = 3.57$, $p = 0.033$, $\eta^2 = 0.08$), social relationships using the Greenhouse–Geisser correction ($F = 11.96$, $p < 0.001$, $\eta^2 = 0.22$), and environmental health ($F(2) = 5.14$, $p = 0.008$, $\eta^2 = 0.11$). Moreover, the interaction between time and group was significant for all components ($p < 0.05$), indicating that the pattern of change across the pretest, posttest, and follow-up measurements differed among the three groups. To further examine the differences between measurement stages, post-hoc pairwise comparisons were conducted, the results of which are shown in Table 5.

Table 5 Post-hoc test by intra-group factor for comparing lifestyle components

Variable	Group	Test	Mean	SD	Sig	Sig Lower limit	Sig Higher limit
Physical health		Post-test	**-4.733	1.106	0.000	-7.492	-1.975
		Follow up	**-3.378	0.885	0.001	-5.583	-1.172
		Follow up	1.356	0.885	0.399	-0.851	3.563
Mental health		Post-test	-1.489	0.695	0.114	-3.221	0.244
		Follow up	-1.467	0.597	0.055	-2.955	0.022
		Follow up	0.022	0.620	1	-1.525	1.569
Social relations		Post-test	-0.711	0.297	0.063	-1.451	0.029
		Follow up	0.511	0.252	0.146	-0.117	1.139
		Follow up	**1.222	0.194	0.000	0.739	1.706
Environmental health		Post-test	**-3.067	0.982	0.010	-5.516	-0.618
		Follow up	-1.378	0.996	0.522	-3.861	1.106
		Follow up	1.689	0.894	0.197	-0.539	3.917

*Significance at the 95% level **Significance at the 99% level

The findings indicated significant improvements in physical health between the pretest and posttest as well as between the pretest and follow-up assessments ($p < 0.01$), while no significant difference was found between posttest and follow-up scores. For mental health, no significant differences were observed between the measurement stages. In the

social relationships component, no significant difference was found between pretest and posttest or between pretest and follow-up; however, a significant difference was observed between posttest and follow-up scores ($p < 0.001$). Finally, for environmental health, a significant improvement was found between pretest and posttest ($p < 0.01$), while the differences between pretest and follow-up and between posttest and follow-up were not statistically significant. These findings suggest that the psychological interventions contributed to improvements in several dimensions of quality of life, particularly in the experimental groups.

Discussion

The present study aimed to compare the effectiveness of cognitive behavioral therapy and compassion-focused therapy on quality of life among heart patients. Regarding the consistency of the results of the present study in comparing the effectiveness of cognitive behavioral therapy and compassion-focused therapy on quality of life components, the studies conducted show that the effect of compassion-based therapy on quality of life was investigated in the study of Abutalebi et al. (2023) and implicitly in the study of Misurya et al. (2020), the results of which are consistent with the results of the present hypothesis. Aboutalebi et al. (2023) showed that this approach significantly improved the quality of life of women with multiple sclerosis, indicating the role of compassion in increasing patients' adaptation to chronic conditions. Furthermore, the research of Misurya et al. (2020) indirectly confirmed the effectiveness of self-compassion training in promoting psychological well-being of patients, indicating the importance of cultivating self-compassion in improving the quality of life of people with health problems.

In line with the findings of the present study, although both cognitive-behavioral therapy and compassion-focused therapy led to improvements in certain components of quality of life, the magnitude and breadth of these effects differed between the two interventions. Cognitive-behavioral therapy demonstrated a significant impact primarily on the mental health dimension of quality of life among cardiac patients. This effect can be attributed to changes in dysfunctional cognitive structures, reduction of cognitive distortions, improved emotional regulation, and enhanced coping strategies. CBT, which relies on identifying and modifying maladaptive cognitions and behaviors, enables patients to recognize negative and self-defeating thought patterns and replace them with more adaptive interpretations, thereby reducing stress and anxiety (Gregory, 2021). Given that cardiac patients are particularly vulnerable to anxiety, depressive symptoms, and reductions in psychological well-being due to the chronic nature of their illness, these cognitive and emotional shifts can meaningfully enhance their mental health (Faghanpour Ganji et al., 2023).

In comparison, compassion-focused therapy produced stronger and more comprehensive effects across multiple dimensions of quality of life, including physical health, social relationships, environmental health, and mental health. This broader impact appears to arise from increased self-acceptance, reductions in psychological stress, the enhancement of interpersonal connectedness, and the cultivation of a more positive and supportive attitude toward oneself and one's environment. CFT, with its emphasis on developing compassion towards oneself and others, assists patients in reducing self-criticism, alleviating guilt, and fostering emotional warmth—factors that are especially relevant for individuals coping with chronic medical conditions (Latorre et al., 2023).

In general, the findings of the present study suggest that cognitive behavioral therapy and compassion-focused therapy improve the quality of life of cardiac patients through two distinct but complementary psychological mechanisms. Cognitive behavioral therapy primarily operates through cognitive restructuring, identification of cognitive distortions, behavioral activation, and the development of effective coping strategies. According to the cognitive model proposed by Beck, individuals' emotional responses and behavioral reactions are largely shaped by their interpretations of events rather than the events themselves. Cardiac patients often develop maladaptive beliefs such as catastrophizing about their illness, fear of physical activity, or feelings of helplessness regarding their health condition. CBT helps patients identify these dysfunctional cognitions through techniques such as the ABC model, thought monitoring, and cognitive restructuring, and replace them with more realistic and adaptive interpretations. Through these processes, patients gradually experience reduced anxiety and depressive symptoms and develop a stronger sense of perceived control and self-efficacy in managing their illness. Previous studies have similarly shown that CBT can significantly improve psychological adjustment, reduce emotional distress, and enhance mental health among individuals with cardiovascular diseases (Gregory, 2021; Faghanpour Ganji et al., 2023).

However, the results of the present study indicate that compassion-focused therapy produced broader and stronger improvements across several dimensions of quality of life, including physical health, social relationships, environmental satisfaction, and mental health. From a theoretical perspective, compassion-focused therapy, developed by Gilbert, is grounded in evolutionary psychology and affect regulation systems theory. This approach proposes that psychological well-being is influenced by the balance between three emotional regulation systems: the threat system, the drive system, and the soothing system. Patients with chronic illnesses often experience an overactivation of the threat system, which manifests as anxiety, self-criticism, shame, and fear about their health condition. Compassion-focused therapy aims to activate the soothing system by cultivating self-compassion, emotional warmth, and feelings of safety through practices such as compassionate imagery, compassionate letter writing, and mindfulness-based

compassion exercises. These processes reduce self-criticism and emotional distress while promoting psychological resilience and emotional balance. Empirical evidence has shown that cultivating self-compassion is associated with lower stress levels, improved emotional regulation, better interpersonal relationships, and higher life satisfaction (Latorre et al., 2023; Millard et al., 2023).

The stronger effect of compassion-focused therapy observed in the present study may therefore be explained by its broader influence on emotional regulation, self-relationship, and interpersonal functioning. Unlike CBT, which primarily targets maladaptive cognitions and psychological symptoms, compassion-focused therapy directly addresses shame, self-criticism, and emotional suffering that are frequently experienced by individuals coping with chronic diseases. By fostering self-acceptance, reducing psychological stress, and strengthening feelings of connectedness with others, CFT can facilitate more comprehensive improvements in patients' overall life experience and well-being.

Despite the valuable findings of this study, several limitations should be considered when interpreting the results. The relatively limited follow-up period restricted the ability to examine the long-term sustainability of the therapeutic effects. Future studies are therefore encouraged to employ longitudinal designs with extended follow-up periods in order to evaluate the stability of treatment outcomes over time. Additionally, comparing these two therapeutic approaches among cardiac patients with different clinical conditions and disease severities could provide a deeper understanding of their relative effectiveness. Future research may also explore the potential benefits of integrating cognitive behavioral therapy and compassion-focused therapy to enhance psychological adjustment and promote post-traumatic growth among patients with cardiovascular diseases.

Conclusion

In conclusion, the findings of the present study indicate that both cognitive behavioral therapy and compassion focused therapy can contribute to improving the quality of life among patients with coronary artery disease. While cognitive behavioral therapy primarily improved the mental health dimension, compassion focused therapy demonstrated broader benefits across multiple domains of quality of life. These results suggest that interventions targeting both cognitive processes and compassionate emotional regulation may play an important role in psychological rehabilitation for cardiac patients. Incorporating compassion focused interventions alongside traditional cognitive behavioral approaches may therefore provide a more comprehensive strategy for enhancing patients' psychological well being and overall quality of life.

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this study.

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