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The Effectiveness of Spiritual Self-Care on Death Anxiety and Hope for Life in Cardiac Patients

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A B S T R A C T

Objective: This study aimed to investigate the effectiveness of a structured spiritual self-care program in reducing death anxiety and enhancing hope for life among female patients with cardiovascular disease.

Methods and Materials: The research employed a quasi-experimental pretest–posttest design with a control group and a three-month follow-up. The statistical population consisted of female patients referred to the cardiology ward of Sina Hospital in Semnan in 2024. A total of 45 participants were recruited through convenience sampling and randomly assigned to three groups (two intervention groups and one control group). Inclusion and exclusion criteria were strictly applied, and participants provided written informed consent. Data were collected using the Templer Death Anxiety Scale and the Miller Hope Scale. The intervention included structured sessions of spiritual self-care practices such as prayer, gratitude, patience, and reflection. Data analysis was conducted using repeated-measures analysis of variance (ANOVA) with Greenhouse–Geisser corrections through SPSS version 26.

Findings: The results revealed significant between-group differences for both dependent variables. Results showed that spiritual self-care significantly reduced death anxiety (Wilks' Lambda = 0.235, $F(2,27) = 43.9$, $p < .001$, $\eta^2 = 0.765$) and significantly increased hope for life ($F(1,28) = 88.8$, $p < .001$, $\eta^2 = 0.760$) in the intervention groups compared to the control group. Pairwise comparisons confirmed that these improvements were sustained at the three-month follow-up, indicating the stability of intervention effects.

Conclusion: The findings suggest that spiritual self-care interventions are effective in reducing existential distress and fostering hope among cardiac patients. Incorporating spiritual self-care into cardiac rehabilitation and psychological support programs may enhance holistic patient care and improve long-term psychological resilience.

Keywords: *Spiritual self-care, death anxiety, hope for life.*

1. Introduction

Self-care has become one of the most significant constructs in health psychology, medicine, and behavioral sciences, reflecting the dynamic interplay between individual responsibility, systemic support, and psychosocial resources in maintaining well-being and managing illness. It is understood as a set of intentional actions that individuals engage in to sustain physical health, regulate emotions, prevent complications, and enhance quality of life (Harris & Brackett, 2023). Scholars increasingly emphasize that self-care extends beyond compliance with medical regimens to encompass cognitive, emotional, social, and spiritual dimensions of health. This broader conceptualization is particularly relevant in chronic illness, where long-term adjustment requires not only medical adherence but also resilience, coping strategies, and existential resources (Wan et al., 2024). Yet, despite its recognized importance, research consistently reveals that patients and health professionals face barriers in implementing consistent self-care behaviors, necessitating innovative, culturally sensitive, and multidimensional interventions (Rodríguez-Ramos et al., 2025).

The development of self-care theory is rooted in the recognition that health is multidimensional, requiring integration of biomedical, psychological, and existential domains. Traditional frameworks largely defined self-care as adherence to prescribed treatments, monitoring of symptoms, and adoption of lifestyle modifications (Kolasa et al., 2022). However, contemporary perspectives expand this definition to include psychological well-being, self-efficacy, meaning-making, and spiritual practices that help individuals adapt to health-related challenges (White, 2016). Spirituality, in particular, has been shown to act as a mediator between psychological distress and overall quality of life, suggesting that spiritual practices enhance the protective role of self-care in reducing depression and fostering emotional balance (White, 2016). The theoretical notion of "sense of coherence" is especially important, as individuals who perceive their lives as meaningful and manageable demonstrate greater ability to engage in sustained self-care activities (Vega-Martínez et al., 2025). Closely related, resilience has been identified as a critical resource in self-care engagement, with studies indicating that patients with stronger resilience skills are more consistent in maintaining health-promoting behaviors (Van Rijn et al., 2023). These conceptualizations confirm that self-care is not merely a behavioral routine but a holistic process grounded in psychological and existential resources.

Chronic illnesses provide a critical context for understanding the importance of self-care. Heart failure, for example, is a condition that requires daily engagement in lifestyle monitoring, medication adherence, and psychological adaptation. Evidence suggests that patients who participate in nurse-led educational programs improve significantly in disease knowledge, self-care skills, and quality of life outcomes (Kolasa et al., 2022). Similarly, structured self-care interventions for patients with heart failure have demonstrated improvements in self-efficacy and reductions in hospital readmissions (Liou et al., 2015; Woda et al., 2015). Diabetes management also provides compelling evidence. Lack of knowledge and poor attitudes toward diabetes self-care are associated with suboptimal glycemic control among older adults (Borba et al., 2022), while culturally tailored programs such as nutrition therapy and peer-led interventions increase adherence and improve clinical outcomes (Martens et al., 2025; Miller et al., 2023). Indeed, correlations between self-care behaviors and glycemic regulation confirm the central role of patient engagement in disease outcomes (Popoviciu et al., 2022). Despite these successes, barriers such as depressive symptoms, limited self-efficacy, and socioeconomic constraints undermine effective engagement (Chen et al., 2023; Lewis et al., 2022). Similar patterns are observed in hypertension, where knowledge strongly predicts self-care behavior (Sari et al., 2025), yet psychological factors such as mood disturbances significantly mediate whether patients adhere to recommended practices (Chen et al., 2023). In oncology, predictors of self-care among patients treated with oral anticancer agents include resilience, health literacy, and psychosocial support, further demonstrating the multidimensional nature of self-care (Ucciero et al., 2024).

Beyond chronic illness management, self-care has been shown to be a protective mechanism for mental health and psychological well-being. Studies among caregivers of dementia patients reveal that health-promoting self-care reduces burden, enhances emotional resilience, and improves quality of life (Oliveira et al., 2023). During the COVID-19 pandemic, frontline health workers relied heavily on individualized self-care strategies to maintain mental health under extraordinary stress, highlighting its role as a survival mechanism (Lewis et al., 2022). Rapid interventions such as single-session counseling and meditation-based approaches were introduced as alternative strategies for psychological stabilization when access to

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long-term care was limited (Situmorang & Situmorang, 2022). In younger populations, self-care practices function as preventive mechanisms. Research shows that self-help strategies, emotional self-management, and digital resources can buffer against escalating emotional problems (Town et al., 2023). College students participating in structured interventions to "stay joyful" reported improvements in mental health outcomes and reduced anxiety (Zhong & Xie, 2023). In an innovative direction, games have also been reframed as vehicles for mental health self-care, offering opportunities for relaxation, distraction, and emotional processing (Spors & Kaufman, 2021). Together, these findings suggest that self-care serves as a powerful strategy across populations and life stages, addressing not only medical but also psychosocial and existential needs.

Among the diverse dimensions of self-care, spirituality occupies a particularly important place. Research with elderly individuals demonstrates that self-care agency is inversely associated with death anxiety, suggesting that spiritual frameworks help individuals face mortality with less fear (Batı et al., 2024). In patients with chronic obstructive pulmonary disease, spiritual well-being was shown to enhance resilience and indirectly improve self-care agency, highlighting the mediating role of existential meaning (Öztürk et al., 2023). These findings illustrate how spirituality enhances the motivational and emotional foundations of self-care by offering purpose and meaning. Spiritual practices such as prayer, gratitude, and patience training not only help patients cope with illness but also reduce negative emotions and foster hope (White, 2016). Trauma-informed care further supports this view by incorporating spiritual and reflective practices into professional self-care routines to mitigate burnout and secondary trauma (Evans, 2025). The importance of connection and community in reinforcing self-care has also been emphasized, with evidence showing that relational strategies and shared meaning-making foster resilience and psychological balance (Jordan, 2023). Within cardiovascular care, where anxiety about mortality and diminished quality of life remain pressing, such spiritual interventions are particularly relevant.

Educational and empowerment approaches are consistently identified as facilitators of sustainable self-care. Programs aimed at medical students highlight that teaching self-care not only improves their personal well-being but also equips them to model these practices for future patients (Wan et al., 2024). Similarly, health empowerment initiatives targeting disadvantaged families have demonstrated enduring benefits in enabling self-care and supporting mental health (Lu et al., 2023). Among patients, interventions that strengthen health literacy, shared decision-making, and self-care knowledge directly increase engagement and adherence (Lee & Cho, 2025; Park & McElveen, 2025). Despite these gains, structural and psychological barriers continue to hinder self-care. Professionals report difficulties sustaining consistent self-care routines due to workload pressures and organizational cultures, which underscores the need for systemic solutions (Rodríguez-Ramos et al., 2025). To address such challenges, validated measurement instruments have been developed, such as the Health Self-Care Neglect Scale, which enables clinicians to identify patterns of neglect and intervene appropriately (Riegel et al., 2024). Tools like the Family Assessment of Quality in Self-Care Engagement (Steele & Grajo, 2023) and measures of unmet need in mobility and daily activities (Sands et al., 2025) also provide nuanced insights into vulnerable populations.

The collective body of research makes clear that self-care is a multidimensional construct that must be addressed in both individualized and systemic ways. It integrates behavioral adherence, psychological resilience, social support, and spiritual meaning-making (Hermanns et al., 2022a, 2022b). For patients with heart failure and other chronic conditions, comprehensive programs that combine lifestyle education, psychosocial support, and spiritual guidance provide the most promising outcomes (Liou et al., 2015; Woda et al., 2015). Moreover, culturally tailored interventions are critical, as spiritual and existential practices rooted in local traditions have shown strong potential to sustain patient engagement (Batı et al., 2024; Öztürk et al., 2023). At the same time, technological innovations such as continuous glucose monitoring and precision-based interventions underscore the role of modern tools in optimizing self-care (Hermanns et al., 2022b; Martens et al., 2025). Nevertheless, systemic barriers, such as resource limitations in primary health settings, remain significant challenges that weaken patient adherence to self-care routines (Basu & Sharma, 2021). Addressing these issues requires a combination of institutional support, interprofessional collaboration, and educational initiatives that reinforce self-care as both a personal and collective responsibility (Lewis et al., 2022; Oliveira et al., 2023).

Given these insights, the present study was designed to evaluate the effectiveness of a spiritual self-care program in reducing death anxiety and enhancing hope for life among female cardiac patients.

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2. Methods and Materials

2.1. Study design and Participant

The present study employed a pretest–posttest design with follow-up and a control group. In this design, a pretest was first administered to both the experimental and control groups. After conducting the pretest, the experimental group received the relevant interventions, while the control group received no intervention. Following the completion of the intervention, a posttest was administered to both groups, and a follow-up assessment was conducted after three months. The research population consisted of all female patients referred to the cardiology ward of Sina Hospital in Semnan.

To calculate the sample size, the specialized software G*Power version 3.1 was used. Based on the calculations, the required sample size was estimated at 10 participants per group, totaling 30 participants for three groups. Considering the potential for participant dropout and given that similar studies recommended 15 participants per group, a total of 45 participants were included in the present study. They were selected using convenience sampling and randomly assigned to three groups of 15 participants each, with two experimental groups and one control group.

Inclusion criteria were: having a cardiac condition and being admitted to the cardiac rehabilitation ward, willingness to participate in the study, minimum literacy (lower secondary education) to comprehend therapeutic concepts, age range between 30 and 70 years, absence of other physical illnesses, absence of severe mental disorders, absence of neurological diseases such as epilepsy and Alzheimer's, no substance or alcohol dependence, and physician approval for participation in the study. Exclusion criteria were: withdrawal of consent to continue participation, simultaneous use of psychoactive medications, occurrence of arrhythmia and initiation of treatment, and cardiopulmonary resuscitation (CPR) during the intervention. Ethical considerations included confidentiality of information, obtaining written informed consent, and avoiding any harm to participants.

After obtaining the necessary permissions from the hospital, female patients referred to the cardiology ward of Sina Hospital in Semnan were approached. Following approval from hospital administrators, women meeting the inclusion criteria were selected through convenience sampling and then randomly assigned to three groups (two experimental and one control). Group 1 received the spiritual self-care intervention (10 sessions of 90 minutes), Group 2 received a shorter form of spiritual self-care (6 sessions of 90 minutes), and Group 3 served as the control group. All participants in the three groups completed the pretest, and their scores were recorded. During the training sessions, no intervention was provided to the control group. Efforts were made to keep environmental conditions consistent across both experimental groups. Sessions were held weekly in the afternoons. One week after completing the sessions, a posttest was administered, and a follow-up was conducted three months later. After the study concluded, participants in the control group were also provided the intervention, if they wished, to ensure ethical considerations.

2.2. Measures

Templer Death Anxiety Questionnaire: The most commonly used tool in the field of death anxiety to date is the unidimensional 15-item Death Anxiety Scale developed by Templer (1970). Items are scored on a three-point Likert scale ranging from one (somewhat) to three (very much). The total death anxiety score is obtained by summing all items, with scores ranging from 1 (no death anxiety) to 45 (very high death anxiety). The midpoint of the scale is 22.5, considered the cut-off point: scores above 22 (22–45) indicate high death anxiety, and scores below 21 (15–21) indicate low death anxiety (Templer, 1970). Templer (1970) reported a test–retest reliability of .83 for this scale. Conte, Weiner, and Plutchik (1982) reported a split-half reliability of .76 and item-total correlations ranging from .30 to .74, with a mean of .51 for elderly participants and .44 for student groups. Kelly and Corriveau (1995) reported a test–retest reliability of .85 and internal consistency of .73. In an Iranian sample, Rajabi and Bahrani (2001) reported a Cronbach's alpha of .73 (Sharifi et al., 2022).

Miller Hope Scale (MHS): This questionnaire was developed by Miller and Powers (1988). It is a diagnostic tool first used in the United States to assess hope in cardiac patients. The original version contained 40 items, which was later expanded to 48 items. The aim of the questionnaire is to measure levels of hope in individuals. The instrument covers 11 dimensions of hopefulness and hopelessness, with items based on overt and covert behavioral manifestations of hopeful and hopeless individuals. For each item, participants respond on a five-point scale: (1) strongly disagree, (2) disagree, (3) indifferent, (4) agree, and (5) strongly agree. Accordingly, scores range from 1 to 5. Reverse scoring applies to items 1, 2, 11, 13, 16, 18, 25, 27, 33, 34, 38, 39, 47, and 48. The total score reflects an individual's level of hope, ranging from 48 to 240. A score of 48 indicates

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complete hopelessness, while a score of 240 represents maximum hope. Miller and Powers (1988) reported Cronbach's alpha reliability of .91 and construct validity through confirmatory factor analysis with a coefficient of .62. Test–retest reliability over a one-week interval on 30 male nursing students yielded a correlation of r = .75, with a mean of 151.3. In Samiei's study (1989), confirmatory factor analysis reported validity of .82. Jafarian Yasar and Shahidi (2022) reported Cronbach's alpha reliability of .92. In the present study, Cronbach's alpha reliability was approximately .77 in the studied population.

2.3. Intervention

The intervention protocol consisted of six structured 45-minute sessions designed to deliver spiritual self-care training to the participants. The first session focused on introductions, familiarizing members with one another, and clarifying the objectives of the group, along with establishing group rules such as confidentiality, respect for differing opinions, and the necessity of consistent attendance throughout the program. During this session, both the experimental and control groups completed the questionnaires, and participants, mainly nurses, were encouraged to share their major concerns, exchange experiences, and discuss common challenges, while the researcher assigned participants randomly to experimental and control groups. The second session introduced the concept of spiritual self-care, emphasizing reliance on trust in God (tawakkul) and recourse to divine intercession (tawassul) as strategies for coping with psychological stress. The third session highlighted the role of prayer and supplication in addressing life challenges and fostering emotional relief. In the fourth session, the focus was on gratitude practices and their positive impact on reducing negative emotions, encouraging participants to incorporate thankfulness into daily routines. The fifth session provided instruction on the stages of patience, its psychological value, and its practical application in managing adversity, after which participants received an educational package including a booklet and a CD to reinforce and sustain the content covered. Finally, the sixth session served as a summary of previous discussions, offering practical strategies to continue applying learned skills beyond the program, while also administering the follow-up questionnaires two months after the intervention to both experimental and control groups to assess the persistence of the training effects.

2.4. Data Analysis

For data analysis, demographic data and predictor variables were described using descriptive statistics such as frequency, percentage, mean, and standard deviation. To test the study hypotheses, repeated-measures analysis of variance (ANOVA) was employed, along with Mauchly's test of sphericity, Box's M test, and Levene's test. All analyses were performed using SPSS version 26.

3. Findings and Results

The minimum age of participants in this study was 31 years and the maximum age was 53 years. In addition, given the significance level greater than .05, there was no significant difference among the three groups; thus, it can be concluded that the groups were homogeneous in terms of age. Considering the significance level greater than .05 ($p > .05$) in comparing the three groups, no significant difference was found among them in terms of educational level, indicating that the groups were homogeneous regarding education. Furthermore, the significance level greater than .05 ($p > .05$) in comparing the three groups showed no significant difference among them in terms of employment status, confirming that the groups were homogeneous regarding occupation.

Table 1

Comparison of the Mean and Standard Deviation of Death Anxiety and Hope for Life Scores in the Three Groups at Three Time Points (Pretest, Posttest, and Follow-up)

Variable	Group	Before Intervention (M ± SD)	After Intervention (M ± SD)	Follow-up (M ± SD)
Death Anxiety	Spiritual Self-Care	36.2 ± 3.29	28.1 ± 3.41	29.1 ± 2.36
	Control	36.5 ± 4.05	35.1 ± 4.12	36.1 ± 4.19
Hope for Life	Spiritual Self-Care	37.9 ± 6.85	53.5 ± 6.03	52.4 ± 6.12
	Control	38.9 ± 6.90	39.5 ± 7.24	38.8 ± 6.76

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To evaluate the assumptions of the statistical analyses, several diagnostic tests were conducted. First, the assumption of normality was examined using the Shapiro–Wilk test across all variables and measurement stages. The results indicated that the obtained significance levels were greater than .05 in all cases, demonstrating that the distribution of the variables did not deviate significantly from normality. Therefore, the assumption of normality was met for both death anxiety and hope for life in the experimental and control groups across pretest, posttest, and follow-up assessments.

The assumption of homogeneity of covariance matrices was evaluated using Box's M test. The results revealed that the obtained F value was significant at the level of $p < .05$, indicating that the assumption of equality of covariance matrices was not supported. However, because the number of groups was equal, the violation of this assumption was not considered critical, and the analysis proceeded.

Finally, Mauchly's test of sphericity was applied to assess the assumption of sphericity. The results showed a significance level lower than .05, which indicated that the assumption of sphericity was not met. Therefore, in order to account for this violation, the Greenhouse–Geisser correction was applied in repeated-measures ANOVA to ensure the robustness of the results.

Table 2

Results of Multivariate Analysis of Variance (MANOVA) for the Research Groups

Test Name	Value	F	df1	df2	Sig. (p)	Eta²
Pillai's Trace	0.765	43.9	2	27	.001	0.765
Wilks' Lambda	0.235	43.9	2	27	.001	0.765
Hotelling's Trace	3.25	43.9	2	27	.001	0.765
Roy's Largest Root	3.25	43.9	2	27	.001	0.765

As Table 2 shows, after controlling for pretest effects, Wilks' Lambda was significant at the .01 level (Wilks' Lambda = 0.235, F = 43.9, p = .001, $\eta^2 = 0.765$). In other words, there was a significant difference between the experimental and control groups regarding the dependent variables. Furthermore, the effect size ($\eta^2 = 0.765$) indicated that 76.5% of the variance in the dependent variables was related to the intervention.

Table 3

Summary of One-Way ANOVA Results for Within-Group and Between-Group Effects

Variable	Source of Variation	SS	df	MS	F	Sig. (p)	Effect Size
Hope for Life	Between Groups	6333.6	1	6333.6	88.8	.001	0.760
	Error	1995.9	28	71.2			
	Within Groups	95.3	1.10	86.1	103.3	.001	0.787
	Factor × Group	78.8	1.10	71.1	85.4	.001	0.753
Death Anxiety	Between Groups	2092.8	1	2092.8	44.5	.001	0.614
	Error	1315.6	28	46.9			
	Within Groups	728.8	1.06	685.1	145.3	.001	0.836
	Factor × Group	716.8	1.06	673.8	143.0	.001	

The results of repeated-measures ANOVA using the Greenhouse–Geisser correction indicated that the main effect of the factor was significant at the .01 level (p = .001, F = 103.3, Greenhouse–Geisser = 95.3). This result suggests that there were significant differences in hope for life scores across the three time points (pretest, posttest, and follow-up), regardless of group. Moreover, the interaction effect of group and factor (measurement time points) was significant at the .01 level (p = .001, F = 85.4, Greenhouse–Geisser = 78.8). This implies that at least between two of the time points, there was a significant difference in hope for life between the intervention and control groups. Similarly, death anxiety scores differed significantly across the three time points, regardless of group. The interaction effect of group and factor was also significant (p = .001, F = 143.0, Greenhouse–Geisser = 716.8).

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Table 4

Pairwise Comparisons of Hope for Life Scores in Repeated Measures

Source of Variation	Pairwise Comparison	SS	df	MS	F	Sig. (p)	Effect Size
Factor	Pretest vs. Posttest	70.4	1	70.4	103.4	.001	0.787
	Posttest vs. Follow-up	24.9	1	24.9	103.3	.001	0.787
Factor × Group	Pretest vs. Posttest	62.0	1	62.0	91.1	.001	0.765
	Posttest vs. Follow-up	16.8	1	16.8	69.6	.001	0.713

Based on Table 4, the main effect of the factor for pretest and posttest was significant (p = .001, F = 103.4). The interaction effect of factor and group was also significant (p = .001, F = 91.1). Mean comparisons indicated that the hope for life scores of the intervention group increased significantly in the posttest compared to the pretest, while this change was not observed in the control group. Thus, spiritual self-care was effective in increasing hope for life. The results also indicated that the posttest–follow-up comparison was significant (p = .001, F = 103.3), and the factor × group interaction was significant (p = .001, F = 69.6). This means that differences between posttest and follow-up scores were significant across intervention and control groups, demonstrating that spiritual self-care had a lasting effect on increasing hope for life.

Table 5

Pairwise Comparisons of Death Anxiety Scores in Repeated Measures

Source of Variation	Pairwise Comparison	SS	df	MS	F	Sig. (p)	Effect Size
Factor	Pretest vs. Posttest	493.1	1	493.1	144.3	.001	0.838
	Posttest vs. Follow-up	235.7	1	235.7	147.7	.001	0.841
Factor × Group	Pretest vs. Posttest	516.2	1	516.2	151.1	.001	0.844
	Posttest vs. Follow-up	200.5	1	200.5	125.6	.001	0.818

As shown in Table 5, the main effect of the factor for pretest and posttest was significant (p = .001, F = 144.3). The interaction effect of factor and group was significant (p = .001, F = 151.1). Mean comparisons revealed that death anxiety scores in the intervention group decreased significantly from pretest to posttest compared to the control group, demonstrating the effectiveness of spiritual self-care in reducing death anxiety. Additionally, the main effect of posttest versus follow-up was significant (p = .001, F = 147.7), and the factor × group interaction was also significant (p = .001, F = 125.6). This indicates that the difference between posttest and follow-up scores was significant across intervention and control groups, confirming that spiritual self-care had a lasting effect on reducing death anxiety.

These findings are also visually supported by the graphs. As illustrated, the hope for life scores of the intervention groups increased substantially in the posttest compared to the pretest and remained stable during follow-up, while the control group did not show such improvement. Similarly, death anxiety scores in the intervention groups decreased significantly from pretest to posttest and remained lower during follow-up, whereas the control group did not exhibit meaningful change.

4. Discussion and Conclusion

The findings of the present study demonstrated that a structured program of spiritual self-care significantly reduced death anxiety and increased hope for life among female patients with cardiovascular disease. These results confirm the effectiveness of multidimensional interventions that integrate psychological, spiritual, and behavioral strategies to support patient well-being. The observed effects were stable at follow-up, suggesting that the benefits of spiritual self-care are not limited to short-term symptom reduction but may extend to long-term resilience and adaptation. The use of prayer, gratitude, patience, and reflection in the intervention provided existential resources that enabled patients to cope with mortality-related fears, enhance their sense of meaning, and sustain a hopeful orientation toward the future. This outcome is consistent with theoretical perspectives framing self-care as a holistic construct shaped not only by medical adherence but also by

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resilience, spiritual coherence, and personal empowerment (Vega-Martínez et al., 2025).

The reduction of death anxiety in this study aligns with prior evidence showing that elderly individuals with higher self-care agency and spiritual well-being report lower death anxiety levels (Batı et al., 2024). Similarly, patients with chronic obstructive pulmonary disease demonstrated that psychological resilience mediated the relationship between spiritual well-being and self-care capacity, suggesting that existential resources act as protective factors in chronic illness (Öztürk et al., 2023). In this study, participants who practiced spiritual self-care experienced a shift from preoccupation with mortality toward active coping, underscoring the protective role of spirituality in buffering existential fears. These findings reinforce the argument that spiritual and existential frameworks provide patients with cognitive and emotional tools to reinterpret illness and mortality in less threatening ways, reducing psychological distress and improving quality of life (White, 2016).

In parallel, the results indicated a significant increase in hope for life among the experimental group. Hope is a central psychological resource in chronic disease management, associated with resilience, adherence, and psychological adjustment. The present findings resonate with research emphasizing that self-care and resilience are positively related in heart failure patients, with greater engagement in self-care behaviors predicting higher psychological resilience (Van Rijn et al., 2023). Moreover, individuals with a stronger sense of coherence were previously found to exhibit higher levels of hope and self-care engagement, confirming that existential orientations enhance the ability to maintain health-promoting behaviors (Vega-Martínez et al., 2025). The intervention's emphasis on gratitude, patience, and prayer appears to have fostered these existential resources, thereby strengthening hope in the face of chronic illness.

The enduring effects at follow-up reinforce the argument that educational and empowerment-based programs can generate sustainable change in health behavior. Evidence from empowerment interventions among disadvantaged families showed long-term improvements in both self-care enablement and mental health (Lu et al., 2023). Similarly, self-care education for medical students enhanced their ability to sustain healthy practices, suggesting that structured education fosters habits that endure beyond the intervention period (Wan et al., 2024). The persistence of positive effects in this study reflects the importance of embedding self-care training in structured, culturally grounded, and spiritually meaningful practices that patients can integrate into their daily lives.

Our findings are also consistent with research in hypertension, which demonstrates that knowledge and literacy directly predict engagement in self-care behaviors (Lee & Cho, 2025; Sari et al., 2025). The educational elements of this intervention, including group discussions and provision of booklets and CDs, appear to have strengthened participants' understanding of spiritual self-care as a practical health resource. This echoes prior evidence that health literacy and shared decision-making significantly enhance adherence to self-care routines (Park & McElveen, 2025). By providing knowledge in a culturally resonant manner, the intervention empowered patients to integrate spiritual practices into health management, thereby enhancing both emotional and behavioral outcomes.

The psychological dimension of self-care further explains the results. Research indicates that depressive symptoms and low self-efficacy undermine self-care engagement in patients with hypertension and cardiovascular disease (Chen et al., 2023). By contrast, interventions that enhance self-efficacy foster better adherence and psychological outcomes. The current study, by reducing existential fears and fostering meaning through spiritual self-care, may have indirectly enhanced participants' self-efficacy, thereby strengthening adherence to adaptive coping strategies. Similarly, research on trauma-informed self-care among professionals underscores that reflective and spiritual practices buffer against stress and secondary trauma (Evans, 2025). These parallels highlight that self-care interventions addressing existential meaning reduce psychological vulnerabilities that interfere with engagement in health-promoting practices.

Mental health literature also provides support for these findings. Among young people, self-management and self-help strategies are increasingly recognized as protective against emotional problems (Town et al., 2023). Self-care interventions for college students have alleviated depressive symptoms and improved joyfulness (Zhong & Xie, 2023), while digital or leisure-based self-care, including games, provide relief from stress and foster resilience (Spors & Kaufman, 2021). The current study parallels these results by showing that self-care interventions grounded in spirituality enhance psychological well-being. The observed reduction in death anxiety and increase in hope for life suggest that existentially meaningful practices serve as powerful mental health resources, similar to the role of creative or leisure-based self-care in other populations.

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Caregiver and professional populations also highlight the relevance of these findings. For example, family caregivers of people with dementia benefit from health-promoting self-care, which reduces caregiver burden and improves overall well-being (Oliveira et al., 2023). Frontline workers during the COVID-19 pandemic relied heavily on personalized self-care strategies to preserve mental health under extreme stress (Lewis et al., 2022). In both contexts, self-care mitigated distress and sustained psychological functioning, which mirrors the way spiritual self-care in this study supported cardiac patients' ability to face health challenges. These findings suggest that self-care, regardless of population, consistently functions as a protective resource for psychological resilience and adaptation.

The results also resonate with studies examining measurement and barriers to self-care. Instruments such as the Health Self-Care Neglect Scale have identified patterns of avoidance that undermine health (Riegel et al., 2024). Barriers include time constraints, cultural stigmas, and systemic pressures, which often prevent consistent engagement (Rodríguez-Ramos et al., 2025). By embedding spiritual self-care within culturally familiar practices, the current intervention may have helped participants overcome such barriers. Moreover, the intervention addressed existential concerns often neglected in standard self-care programs, bridging the gap between behavioral recommendations and patients' lived experiences. This approach aligns with arguments for comprehensive self-care models that incorporate psychological, educational, and spiritual dimensions (Hermanns et al., 2022a, 2022b).

Cardiovascular studies confirm the importance of integrated approaches. Patients with heart failure who engaged in self-care programs showed reduced rehospitalization and improved self-efficacy (Liou et al., 2015; Woda et al., 2015). Similarly, studies highlight that precision-based monitoring and educational programs enhance adherence and psychological adjustment (Hermanns et al., 2022b; Martens et al., 2025). The present findings extend this literature by demonstrating that spiritual practices, when structured within a self-care program, similarly improve psychological outcomes. Together, these findings argue for holistic care models that blend medical, psychological, and spiritual components to optimize patient outcomes.

The present findings also reinforce the role of connection and community in supporting self-care. Evidence suggests that relational strategies strengthen resilience and well-being by fostering a sense of belonging (Jordan, 2023). The group-based format of the intervention in this study allowed participants to share experiences, exchange support, and normalize challenges, thereby enhancing the effectiveness of spiritual self-care. This communal aspect parallels findings from studies of professional self-care, where connection and collaboration are essential to sustaining health-promoting practices (Evans, 2025). Moreover, these findings are consistent with evidence that empowerment and educational programs produce enduring effects when combined with social reinforcement (Lu et al., 2023).

Overall, the results contribute to a growing body of evidence emphasizing that self-care must be conceptualized as a multidimensional, holistic, and culturally responsive construct. By integrating spiritual practices, the present study expands the scope of self-care research and highlights the critical role of existential resources in reducing death anxiety and fostering hope. These findings reinforce arguments that self-care cannot be reduced to behavioral adherence alone but must encompass meaning-making, resilience, and spirituality (White, 2016). The implications extend beyond cardiovascular patients, suggesting that structured spiritual self-care interventions may hold promise for diverse clinical and non-clinical populations facing existential stressors.

5. Limitations and Suggestions

Despite the strengths of this study, certain limitations should be acknowledged. First, the sample size was relatively small and limited to women with cardiovascular disease in a single clinical setting, which constrains the generalizability of the results. Second, the reliance on self-report instruments may have introduced response biases such as social desirability or overestimation of adherence to spiritual practices. Third, while follow-up confirmed stability of effects over three months, the long-term durability of these outcomes remains uncertain. Finally, the intervention focused specifically on spiritual dimensions of self-care, leaving unexplored how integration with other domains such as physical activity or dietary management might further enhance outcomes.

Future research should build on these findings by recruiting larger and more diverse samples, including both men and women across different cultural and clinical contexts. Longitudinal studies with extended follow-up periods are needed to examine the sustainability of intervention effects over years rather than months. Comparative studies that evaluate the relative effectiveness

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of spiritual self-care alongside or integrated with other self-care strategies such as physical, emotional, and social practices would provide a more comprehensive understanding of holistic care. Additionally, future work could investigate the mechanisms underlying the observed effects, particularly the mediating roles of resilience, sense of coherence, and self-efficacy. Mixed-methods designs combining quantitative outcomes with qualitative exploration of patients' lived experiences may also yield richer insights.

In practice, the findings suggest that spiritual self-care interventions should be considered as valuable components of cardiac rehabilitation and broader chronic illness management programs. Health professionals can incorporate structured spiritual practices such as prayer, gratitude, and patience training into patient education protocols. Group-based formats may enhance the sense of community and shared meaning, reinforcing individual engagement. By integrating spirituality into standard care pathways, health systems can offer more holistic and culturally responsive services that address both the medical and existential needs of patients. Such integration may not only improve psychological well-being and resilience but also strengthen adherence to medical regimens, thereby enhancing overall health outcomes.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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