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Effect of Spiritual Care Program on Resilience in Patients with Heart Failure: A Randomized Controlled Clinical Trial

Abstract

Background: Heart Failure (HF) is a chronic disease that appears to affect resilience. One of the important programs that may affect resilience is a spiritual care program. As a result, the present study was conducted to determine the effect of a spiritual care program on the resilience of patients with HF. **Materials and Methods:** This randomized clinical trial study was performed at Rajaie Cardiovascular Medical and Research Center in Tehran, Iran in 2020. Eighty-four patients were selected by convenience sampling method and randomly divided into two groups using a block size of 6. Connor-Davidson Scale and Parsian and Dunning Spirituality Questionnaire were completed by both groups before and after the intervention. For the experimental group, two educational sessions were carried out in one hour and thirty minutes and then continued three times a week for 1 month in order to practice spiritual care via WhatsApp. The control group did not receive the intervention that is done for the experimental group during performing intervention. In the end, the data related to 74 patients in each group ($n = 37$) were analyzed using Multivariate Analysis of Covariance (MANCOVA). **Results:** Dimensions of individual competence ($F = 12.85, p = 0.001$) and negative emotion tolerance of resilience ($F = 8.71, p = 0.005$) increased significantly in the experimental group compared to the control group and caused a significant increase in the total resilience score of the patients ($F = 7.78, p = 0.007$). **Conclusions:** Results of the study showed that a spiritual care program has a great role in improving the total resilience score and can be considered as a part of the holistic treatment program.

Keywords: Heart failure, resilience, spirituality

Introduction

Heart Failure (HF) is a clinical syndrome characterized by typical symptoms (breathlessness, ankle swelling, and fatigue) that may be accompanied by signs (elevated jugular venous pressure, pulmonary crackles, and peripheral edema) caused by a structural and/or functional cardiac abnormality, resulting in reduced cardiac output and/or elevated intracardiac pressures at rest or during stress.^[1] HF is the common end result of the most heart disorders. The prevalence and incidence of HF increase with age^[2] and nearly 26 million people worldwide have the disease.^[3] This disease is the most common reason for the hospitalization of people over 65 years of age and the second most common reason for visiting a doctor's office.^[4] Therefore, it needs to receive more attention.^[5]

According to the literature, coping strategies play a pivotal role in the management

of different diseases.^[6] Cardiovascular patients have low resilience; resilience is the ability of a person to establish psychological bio-balance in stressful situations.^[7,8] Resilience acts as a protective agent and resistant to chronic diseases such as cardiovascular problems and diabetes as well as nerve diseases and defects in the immune system.^[9] Studies have shown that high resilience is associated with less anxiety and depression as well as faster recovery.^[10] Resilience maintains positive emotions, promotes effective adaptation mechanisms, and reduces complications of the disease in patients with various diseases.^[11]

Resilience is closely correlated with religious and spirituality.^[12] Spirituality teaches self-control to individuals and high levels of self-control help increase resilience and reduce the effects of life stressors.^[13] Resilience can be fostered by Spiritual care,

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which is strengthening health behaviors, promoting family relationships and social support, helping to accept harm, feeling valued, hoping for peace and comfort, and finding meaning and purpose in life.^[14] Spiritual care is an integral part of the nursing care process and refers to a set of activities that help people better cope with a crisis. This care is necessary when a person experiences doubt, anxiety, crisis, and loss and also answers basic human questions concerning the meaning of life, pain, suffering, and death.^[15] The results of Karimi and Shariatnia's study in 2018 showed that spirituality therapy had increased the resilience of breast cancer patients.^[16] The study by Rahimi *et al.*^[17] in 2015 showed that positive psychological interventions increased the resilience of female patients with Multiple Sclerosis (MS). In one study, Fathi *et al.*^[18] claimed that improved resilience in cardiovascular patients resulted in higher satisfaction and quality of life in these individuals. Also, the results of Besharat and Ramesh study showed a positive correlation between resilience and severity of cardiovascular diseases, i.e., with increasing resilience, the severity of cardiovascular diseases decrease.^[19] In another study by Razaghpour and Rafiei in 2021, the results showed levels of resilience have a strong relationship with spiritual wellbeing among patients with HF.^[20]

According to the above results, improving resilience decreases the severity of cardiovascular diseases and leads to a better life.^[19] However, no study has been conducted regarding the effect of spiritual care program on resilience in cardiovascular patients, especially HF, and research done in this field are mostly descriptive and analytical in nature, including the study of Razaghpour and Rafiei in 2021.^[18-20] This study indicated that there is a need for interventional programs that aim to improve the resilience of these patients. As a result, the authors of the present study aimed to investigate the effect of spiritual care program on the resilience of patients with HF.

Materials and Methods

The current study was a clinical trial with the code of IRCT20201014049021N1 without blinding with experimental and control groups, which was performed at Rajaie Cardiovascular Medical and Research Center in Tehran, Iran in 2020. Eighty-four patients with HF who met the inclusion criteria were selected using convenience sampling. The sample size was determined according to $\alpha = 0.05$, $\beta = 0.20$, $\sigma_1 = 8.01$ (estimation of standard deviation of QoL score after intervention in patients with permanent pacemaker receiving spiritual intervention), $\sigma_2 = 6.68$ (estimation of the standard deviation of QoL score after intervention in patients with permanent pacemaker receiving nursing routine care), $\Delta = 5$ (the least difference in the mean score of QoL after the intervention in patients with permanent pacemaker receiving spiritual intervention and patients receiving routine nursing care that

is clinically important).^[21] Therefore, the required sample size was calculated 42 individuals in each group.

Inclusion criteria were suffering from HF referring to HF clinic based on clinical signs and echocardiography showing ejection fraction less than 40% based on patient records approved by a cardiologist, and also HF with Class (II and III) based on classification of New York Heart Association (NYHA), being in the age group of 18 to 65 years old, being Shiite, having awareness of time and place, being able to communicate verbally, and lacking hearing as well as visual and cognitive impairment. The exclusion criteria included being unwilling to continue participation in the study, not attending training sessions of the spiritual care program, critical and emergency situations such as hospitalization, surgery and death, as well as lack of access through the telephone (several times per week) to the patient during the study.

After obtaining consent for participating, 84 patients were selected based on inclusion criteria and then were allocated to experimental and control groups randomly using a block size of 6, with 14 blocks and closed envelopes with letter A (experimental group) and letter B (control group) in them based on random permutation table by the researcher. The design protocol of the study is shown in Figure 1. Two questionnaires and demographic information form were used in this study.

Demographic information form included: age, gender, level of education, marital status, etc., as well as disease information such as history of diabetes, hypertension, hyperlipidemia, etc.

Connor and Davidson Resilience Scale (CD-RIS) (2003) consists of 25 questions designed to measure resilience and the statements are based on Likert's scale from 0 to 4 (completely false = 0, rarely right = 1, usually right = 2, often right = 3 and completely right = 4). The obtained score is the algebraic sum of scores of all statements (0–100); therefore, the higher the score, the higher the resilience and vice versa. Its subscales include

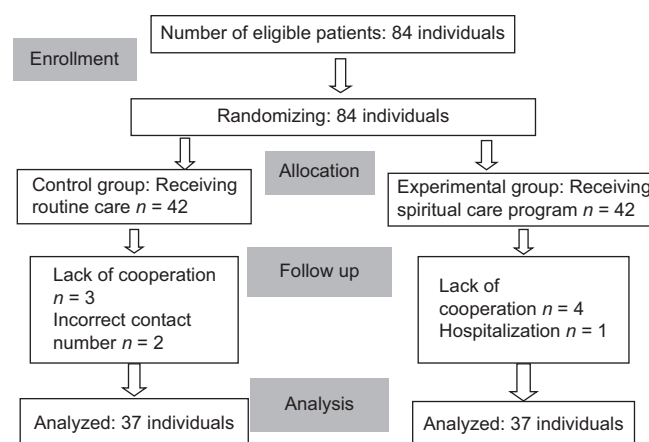


Figure 1: Consort flow diagram of the participants

perception of individual competence (10, 11, 12, 16, 17, 23, 24, 25), trust in individual instinct tolerance of negative emotion (6, 7, 14, 15, 18, 19, 20), positive changes and secure relationships (1, 2, 4, 5, 8), control (13, 21, 22), and spiritual effects (3, 9). Reliability was calculated by Cronbach's alpha method and the reliability coefficient was 0.89; also, test-retest reliability was assessed and demonstrated a high level of agreement, with a correlation coefficient of 0.87.^[22] This scale has been standardized in Iran by Mohammadi *et al* (2005).^[23] They used Cronbach's alpha method to determine the reliability of the Connor and Davidson resilience scale and reported a reliability coefficient of 0.89.^[23] Cronbach's alpha for the overall questionnaire in this study was equal to 0.91.

Spirituality Questionnaire: The Spirituality Questionnaire was created in 2009 by Parsian and Dunning to assess the importance of spirituality in people's lives and to measure its various dimensions. This scale is a 29-item self-report tool, and each question is scored as a Likert's scale from 1 to 4 (completely disagree = 1, disagree = 2, agree = 3, completely agree = 4). The various dimensions of this questionnaire include self-awareness (10 questions), the importance of spiritual beliefs in life (4 questions), spiritual activities (6 questions), and spiritual needs (9 questions). Parsian and Dunning obtained the overall alpha coefficient of the questionnaire as 0.94 and the alpha coefficient of the subscales as 0.80 to 0.91, which indicates the overall internal consistency of the questionnaire. Its reliability was equal to 0.82.^[24] In the study of Aminayi *et al.*,^[24] in 2015, with confirmatory factor analysis, 4 factors (self-awareness, the importance of spiritual beliefs, spiritual activity, and spiritual need) were extracted. Cronbach's alpha values of self-awareness, the importance of spiritual beliefs, spiritual activity, and spiritual need, respectively, were 0.84, 0.90, 0.77, and 0.82 and the overall alpha coefficient of the questionnaire was 0.90, confirming the reliability of this questionnaire. Cronbach's alpha (value) for the overall questionnaire in this study was equal to 0.93. This questionnaire was completed in order to match two groups regarding spirituality score and have exact randomization and also omitted bias before starting intervention.

Demographic information form and (CD-RIS) and spirituality questionnaire were completed by the experimental and control groups as a self-report. Educating booklet and two CDs were provided to the experimental group before teaching. Every 5–7 patients in the experimental group were allocated to one group, and a part of the spiritual care program, which included 2 sessions of virtual education for one-hour and thirty minutes, was held through group discussion and asking questions for the experimental group via WhatsApp. Another part of the spiritual care program was 1-month follow-up for one-hour three times a week in order to practice spiritual care in a distinct time via WhatsApp, including prayers related to the

discussion and listening to the CD of Mozart music and the CD with nature sound.

Spiritual interventions in this study include: improving and correction of the four dimensions of human communication (with God, others, self, and creation). Improving communication with God was through praying and supplication, reading Quran, thanksgiving for the blessings, trusting in God in enduring disease and problems; improving communication with self was through making realize the importance of self-esteem and reinforcing it, making understand the importance of patience, reading prayers related to patience; improving communication with others was through forgiveness, charity, and goodness to develop relationships with people; and reinforcing relation with nature was through looking at the water and trees, listening to the song of birds, using bright and joyous colors, kindness to animals, growing plants, and using perfume.^[26] We also used prayer therapy in improving self-esteem, forgiveness, nature, thanksgiving, based on meditation through a praying book. The content of one of the CDs was Mozart music, which the patient listened to every night for 1 month.^[27] The content of another CD was the voice of nature, which the patient listened to for 1 month in the morning or afternoon for 15 minutes.^[28]

The first educating session was about the importance of relation with God and oneself and listening to a section of each CDs at the end of the session, and the second session was on the importance of relation to others and nature and listening to a part of each of the CDs at the end of the session. Educating sessions were supervised by Dr. Mosavizadeh, a trainer of spiritual care who was present in all groups formed to teach and practice spiritual care program and cooperated in presenting educational discussion and also providing spiritual booklet. After finishing 1-month follow-up, CD-RIS and spirituality questionnaire were completed by phone calls; also, spiritual care program was done for the control group, and booklet and two CDs were also provided to them. The control group did not receive the spiritual care program that is done for the experimental group during the educational discussion as well as 1-month follow-up. After finishing the 1-month follow-up, the spiritual care program was carried out in two one-hour and thirty minutes educational sessions and then 1-month follow-up in one-hour session three times a week in order to practice spiritual care for the control group via WhatsApp.

Data were statistically analyzed by SPSS software, version 22 (IBM Corp, Armonk, NY, USA). The results were reported as mean (SD) for quantitative variables and as number (percentage) for qualitative variables. Independent two-sample t-test was used in order to compare the mean of quantitative variables in experimental and control groups. Chi-square test or Fisher's exact test was used to compare the frequency of qualitative

variables across the two groups. Also, multivariate analysis of covariance (MANCOVA) was employed in order to compare the mean scores of resilience dimensions after 1-month follow-up in the experimental and control groups after controlling (adjusting for) the effect of variables of resilience dimension scores and spirituality scores before the intervention. The significance level in the tests was set at 0.05.

Ethical considerations

Ethical considerations included sampling after obtaining the ethics code (IR.RHC.REC.1399.042) in coordination with the relevant authorities, describing the objectives of the research to the patients, and obtaining their informed consent to participate in the research and leave the study without restriction.

Results

Ten patients left the study for different reasons; 5 patients from the experimental group and 5 patients from the control group were excluded from the analysis as shown in Figure 1. The mean (SD) of age of the experimental and control groups were 46.27 (11.24) and 51.11 (10.49) years old, respectively ($t_{72} = -1.91$, $p = 0.060$).

Content of two educational sessions performed for the experimental group is shown in Table 1. The comparison of demographic characteristics of the patients with HF in the experimental and control groups is shown in Table 2.

Accordingly, Chi-square and Fisher's exact tests showed the frequency distribution of qualitative demographic variables was not significantly different between the experimental and control groups ($p > 0.05$). Disease history and smoking and drug use history were also compared between the experimental and control groups and were not statistically different ($p > 0.05$). Independent two-sample t-test showed that ejection fraction did not differ significantly between the experimental and control groups ($t_{72} = 0.92$, $p = 0.359$).

The mean (SD) of spirituality score before the intervention was 91.76 (10.29) in the experimental group and was 90.05 (11.84) in the control group. Independent two-sample t-test did not show a statistically significant difference in spirituality score between the two groups before the intervention ($t_{72} = 0.66$, $p = 0.511$). After the intervention, the mean (SD) of spirituality score in the experimental group was 10.18 (94.08) and in the control group was 89.35 (11.40). Independent two-sample t-test did not indicate a statistically significant difference in spirituality score between the two groups after the intervention ($t_{72} = 1.88$, $p = 0.064$). Also, mean (SD) of changes in spirituality scores before and after the intervention was 2.32 (2.33) in the experimental group, while it was -0.70 (1.54) in the control group. Independent two-sample t-test revealed a statistically significant difference in spirituality score changes between the two groups ($t_{72} = 6.58$, $p < 0.001$). Thus, the spirituality score in the experimental group showed an increase after the intervention, while in the

Table 1: Content of two educational sessions performed for experimental group

Sessions	Objectives	Summary of educational content	Time
1	Improving and correction communication with God	Explaining spiritual care and spirituality Praying and supplication Reading Quran Thanksgiving for the blessings Practicing and reading prayers related to thanksgiving Trusting in God in enduring disease and problems Listening to the sound of Mozart music Group discussion and sharing experiences Question and answer	45 min
1	Improving and correction communication with self	Explaining importance of self-esteem and how to reinforce it Explaining importance of patience Reading prayers related to increase patience and self-esteem	45 min
2	Improving and correction communication with others	Forgiveness Control anger Reading prayers related to controlling anger Charity, goodness to develop relationships with people	45 min
2	Improving and correction communication with nature	Looking at the water and trees, Listening to the song of birds Using bright and joyous colors, Kindness to animals, growing plants, perfume use Listening to the sound of water with repeating positive sentences Group discussion and sharing experiences Question and answer	45 min

Table 2: Demographic characteristics and disease information in patients with HF* in experimental and control groups

Group Variable	Control (n=37) n(%)	Experimental (n=37) n (%)	p
Gender			0.469
Female	12 (32.43)	15 (40.54)	
Male	25 (67.61)	22 (59.45)	
Marital Status			0.107
Married	31 (83.78)	36 (97.30)	
Single	6 (16.22)	1 (2.70)	
Education			0.552
Primary School	5 (13.51)	3 (8.11)	
Guidance school	9 (24.32)	5 (13.51)	
High school	13 (35.14)	17 (45.95)	
College education	10 (27.03)	12 (32.43)	
Living with			0.052
wife and children	24 (64.86)	25 (67.57)	
Wife	6 (16.22)	11 (29.73)	
Others	7 (18.92)	1 (2.70)	
Residence			1.000
Tehran	18 (48.65)	18 (48.65)	
Town	19 (51.41)	19 (51.41)	
Occupation			0.764
Employed	15 (40.54)	13 (35.14)	
Housewife	9 (24.32)	13 (35.14)	
Retired	8 (21.62)	6 (16.22)	
Unemployed	5 (13.51)	5 (13.51)	
Diabetes	3 (8.11)	4 (10.81)	0.099
High blood pressure	9 (24.32)	11 (29.73)	0.601
Hyperlipidemia	8 (21.62)	9 (24.32)	0.782
Cigarette smoking history	10 (27.03)	7 (18.92)	0.407
History of drug use	5 (13.51)	4 (10.81)	0.999
Ejection fraction (%)	(4.85) 24.73	(5.21) 25.81	0.359

* Heart Failure

control group showed a decrease. In Table 3, the mean scores (SD) of resilience and its dimensions are reported in both experimental and control groups.

Before analyzing the data by MANCOVA, the test assumptions were evaluated. Results of the Shapiro-Wilk test showed the frequency distribution of resilience score and its dimensions in the experimental and control groups, before and after 1-month follow-up, had a normal distribution ($p > 0.05$). Also, Box's M test showed the assumption of the equality of covariance matrices in the studied groups was established ($F = 0.90$, $p = 0.690$). Moreover, Levene's test represented the assumption of the equality of covariance of resilience score and its dimensions were established in the studied groups ($p > 0.05$).

The results of Pillai's trace test, Wilks' Lambda test, Hotelling's trace test, and Roy's Largest Root demonstrated

that the experimental and control groups significantly differ in resilience dimensions in the patients with HF ($p < 0.001$). Also, the amounts of Eta squared showed about 70% of difference (changes) in the scores of resilience dimensions in the experimental and control groups, after 1 month of follow-up, was due to the intervention effect (spiritual care program).

The results of MANCOVA show the effect of the spiritual care program on the score of resilience dimensions after 1 month of follow-up in the patients with HF in the experimental and control groups [Table 4]. After controlling the scores before the resilience intervention and the spirituality intervention, group effects on the perception dimensions of individual competence and trust in individual instinct tolerance of negative emotion as well as the total resilience score was statistically significant ($p < 0.05$). This means that the spiritual care program significantly improved the dimensions of individual competence and tolerance of negative emotional resilience and also the total resilience score [Table 4].

Discussion

This study aimed to determine the effect of spiritual care program on the resilience of patients with HF. The mean scores of resilience dimensions after the end of 1-month follow-up of the spiritual care program in two dimensions of individual competence and negative emotion tolerance in the experimental group were statistically significant compared to the control group; this caused a significant increase in the total score of resilience.

Regarding the perception dimensions of individual competence, questions of this dimension were related to making the most effort to achieve the goal without worrying about the outcome, which was aligned with the concept of trust of spirituality therapy that was explained in the training sessions and implemented for 1 month; this issue caused a promotion in this dimension. Regarding the dimension of trust in individual instincts and tolerance of negative emotions, the questions related to this dimension were in the field of stress management and stress control by the individual and without the help of others, as well as being optimistic and seeing the positive side of everything. The topics of changing attitudes and positive thinking and performing the appropriate prayer therapy technique, as well as the topic of thanksgiving and listening to the voice of nature by repeating positive sentences and listening to Mozart music, which was explained in the training sessions and implemented for 1 month, were appropriate in reducing the patients' stress and causing this dimension to be upgraded. Other dimensions of resilience did not change statistically.

Regarding the increase of the total score of resilience after performing spiritual and religious interventions, the results of several studies are in line with those of the present study, some of which are mentioned. For example, the

Table 3: Mean score (SD)* of resilience and its dimensions in patients with HF according to experimental and control groups**

Group Time Variable	Control		Experimental	
	Before	After 1-month follow-up	Before	After 1-month follow-up
Dimensions of resilience				
Notion of competence	(7.79) 20.46	(7.69) 20.30	(5.89) 23.54	(5.84) 23.97
Tolerating negative emotions	(6.08) 15.86	(6.12) 15.73	(3.91) 17.14	(3.88) 17.62
Positive Acceptance	(4.19) 12.70	(4.17) 12.54	(3.56) 14.46	(3.66) 14.51
Control	(3.07) 8.05	(2.92) 7.86	(2.61) 8.81	(2.63) 8.89
Spiritual effects	(1.60) 6.81	(1.63) 6.70	(1.34) 6.92	(1.30) 6.92
Total resilience score	(16.20) 63.89	(20.06) 63.14	(13.51) 70.86	(13.91) 71.92

*Standard Deviation, **Heart Failure

Table 4: Results of Multivariate Analysis of Covariance experimental and control groups

Dimensions of resilience	Source of effect	Total squares	Degrees of freedom	Average squares	F	p	Eta squared	Test power
Notion of competence	Group	3.81	1	3.81	12.85	0.001	0.58	0.94
	Before intervention	441.28	1	441.28	148.94	<0.001	0.96	1.000
	Spirituality Score	0.15	1	0.15	0.51	0.477	0.18	0.11
	Error	17.83	60	0.30				
	Total	19.93	74					
Tolerating negative emotions	Group	4.40	1	4.40	8.71	0.005	0.63	0.83
	Before intervention	350.27	1	350.27	693.84	<0.001	0.92	1.000
	Spirituality score	0.49	1	0.49	0.98	0.327	0.16	0.16
	Error	30.29	60	0.50				
	Total	11.27	74					
Positive acceptance	Group	0.78	1	0.78	1.21	0.274	0.20	0.19
	Before intervention	170.64	1	170.64	266.22	<0.001	0.82	1.000
	Spirituality score	0.01	1	0.01	0.28	0.868	0.15	0.21
	Error	38.46	60	0.64				
	Total	7360.51	74					
Control	Group	0.51	1	0.51	1.07	0.304	0.11	0.17
	Before intervention	70.94	1	70.94	150.34	<0.001	0.72	1.000
	Spirituality score	0.12	1	0.12	0.26	0.612	0.26	0.35
	Error	28.31	60	0.47				
	Total	2.89	74					
Spiritual effects	Group	0.04	1	0.04	0.96	0.331	0.11	0.16
	Before intervention	43.01	1	43.01	861.83	<0.001	0.94	1.000
	Spirituality score	0.01	1	0.01	0.04	0.833	0.10	0.85
	Error	2.99	60	0.05				
	Total	1.79	74					
Total resilience score	Group	31.95	1	31.95	7.79	0.007	0.50	0.79
	Before intervention	5334.64	1	5334.64	129.73	<0.001	0.95	1.000
	Spirituality score	4.48	1	4.48	1.09	0.300	0.12	0.18
	Error	283.21	60	4.10				
	Total	180156.50	74					

results of a study by Pandya^[29] (2020) showed that spiritual posts delivered via WhatsApp reduced stress and increased resilience, self-confidence, and self-efficacy among mothers

of children with autism. The intervention was planned as 50-weekly posts and recommended homework posts to be done once a week. Weekly posts were based on focusing

on the present and acceptance of self and difference, centering and meditation, relational consciousness, mindful dealing with difficult feelings. The total duration of weekly posts was 50 weeks for mothers of children with autism that is longer than the current study; so is better to consider individual tolerance that is low in HF than mothers of children with autism. Patients with HF are often impatient and exhausted. In this study, there was no active control condition as the findings of the intervention group were compared to the usual group. This makes it difficult to ascertain and conclude that the reported changes in the intervention group were only due to the WhatsApp-based spiritual posts alone or other interventions. In the present study, in order to ascertain and conclude that the reported changes in the intervention group were only due to the spiritual care program alone, spirituality score is measured before and after the intervention. The results of Yousefian *et al.* study (2020) showed spirituality therapy had reduced psychological distress and increased resilience of the patients with thalassemia after ten ninety-minute spirituality therapy intervention sessions during two-and-a-half months.^[30] Although the results of this study are consistent with those of the present study and in both studies, supportive methods were used to improve resilience, in the current study the number of intervention sessions is more than Yousefian *et al.* study, but is not in a face-to-face way as face-to-face way could not be done because of high morbidity and mortality of COVID-19. This study did not use any randomization for intervention and control groups and also had bias. The study conducted by Moradi *et al.*^[31] (2019) showed that the integrated model of spiritual and cognitive counseling increased resilience and self-efficacy of hemodialysis patients after 8 face-to-face sessions of 90 minutes. Education in a face-to-face way is better than education through social networks; however, social networks can be effective for patients with chronic diseases such as HF because sitting in a steady position for a long time is hard for them and also they can use education discussion in a later time whenever they want. This study did not have follow-up for the intervention group and it may have a negative effect on results. The results of Karimi and Shariatnia's study in 2018 showed that spirituality therapy had increased the resilience of breast cancer patients after 11 face-to-face sessions of 60 minutes.^[16] This study is consistent with the present study although this study lacked follow-up and exact randomization. In the present study, as well as Karimi and Shariatnia's study, music therapy and listening to the sound of nature via CD is used as a part of spirituality therapy.

The above results are in the same line with the current study in improving the total score of resilience but none of them have compared and analyzed the dimensions or subscales of resilience; only the total resilience score before and after the intervention has been analyzed and discussed. In the current study, the researcher did her best to present

a thorough program in order to improve resilience in HF patients and used music therapy and prayer therapy and listening to sounds of nature, which was less done in the mentioned studies. In addition, the lack of follow-up and randomization and the lack of assessing the independent variable (spirituality) that can affect in results are seen in the mentioned studies. The present study is conducted in critical condition (Covid-19 disease) that can be much more effective than usual condition. More studies are needed in the spiritual care field to promote resilience in different and more effective ways in HF patients. The limitation of this study was that we could not hold educational meetings in verbal way because of stress and high mortality of COVID-19, which was beyond the control of the researcher. More and thorough spiritual solutions are recommended in order to improve all dimensions of resilience.

Conclusion

According to the results, a spiritual care program increased the total score of resilience in the experimental group compared to the control one. Therefore, a spiritual care program use as a holistic care approach in improving the resilience of chronic diseases, especially HF, is suggested.

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Conflicts of interest

Nothing to declare.

References

1. Ponikowski P, Voors AA, Anker SD, Bueno H, Cleland JG, Coats AJ, *et al.* 2016 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure: The Task Force for the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC) developed with the special contribution of the Heart Failure Association (HFA) of the ESC. *Eur Heart J* 2016;37:2129-200.
2. Mentz RJ, Tulskey JA, Granger BB, Anstrom KJ, Adams PA, Dodson GC, *et al.* The palliative care in heart failure trial: rationale and design. *Am Heart J* 2014;168:645-51.e1.
3. Savarese G, Lund LH. Global public health burden of heart failure. *Card Fail Rev* 2017;3:7.
4. Mousavian, Z. *et al.* Effects of an orem-based self-care program on the Orem's pattern of lower-extremity edema in patients undergoing coronary artery bypass grafting. 2019. 8.
5. Danielsen R, Thorgeirsson G, Einarsson H, Ólafsson Ö, Aspelund T, Harris TB, *et al.* Prevalence of heart failure in the elderly and future projections: The AGES-Reykjavik study. *Scand Cardiovasc J* 2017;51:183-9.
6. Mazlum BN, Afkhami AM, Shams EA, Jalali M. Investigating

- the simple and multiple resilience and hardiness with problem-oriented and emotional-oriented coping styles in diabetes type 2 in Yazd city. *J Diabetes Nurs* Winter 12014;1. Available from: <https://www.sid.ir/en/journal/ViewPaper.aspx?id=472960>.
7. Satıcı SA. Psychological vulnerability, resilience, and subjective well-being: The mediating role of hope. *Pers Individ Dif* 2016;102:68-73.
 8. Nouri-Saeed A, Salari A, Nouri-Saeed A, Rouhi-Balasi L, Moaddab F. Resilience and the associated factors in patients with coronary artery disease. *J Nurs Midwifery Sci* 2015;2:23-8.
 9. Zautra AJ, Hall JS, Murray KE. Resilience: A new definition of health for people and communities. In: Reich JW, Zautra AJ, Hall JS, editors. *Handbook of Adult Resilience*. The Guilford Press; 2010. p. 3-29.
 10. Lee SY, Lee H, Fawcett J, Park JH. Resilience in Koreans with cancer: Scoping review. *J Hosp Palliat Nurs* 2019;21:358-64.
 11. Muthur EF, Polineni D, Sawicki GS. Overcoming psychosocial challenges in cystic fibrosis: Promoting resilience. *Pediatr Pulmonol* 2018;53:S86-92.
 12. Hosseini Ghomi T, Salami Bajestani HJR-V-D. The relationship between religious orientation and resiliency among mothers of children with diseases. 2011;4:69-82.
 13. Wills TA, Bantum EO. Social support, self-regulation, and resilience in two populations: General-population adolescents and adult cancer survivors. *J Soc Clin Psychol* 2012;31:568-92.
 14. Andrade Vinuesa MA. The role of spirituality in building up the resilience of migrant children in Central America: Bridging the gap between needs and responses. *Int J Child Spiritual* 2017;22:84-101.
 15. Adib-Hajbaghery M, Saadnejad Z. Barriers to provide patients admitted to hospitals in kashan with spiritual care: Nurses' viewpoints. *Med Ethics J* 2016;10:49-59.
 16. Mohamad Karimi M, Shariatnia K. Effect of spirituality therapy on the resilience of women with breast cancer in Tehran, Iran. *J Gorgan Univ Med Sci* 201;19:32-7.
 17. Rahimi S, Borjali A, Sohrabi F. Effectiveness of positive psychology interventions on resiliency of female patients with multiple sclerosis. *Posit Psychol Res* 2015;1:1-10. Available from: https://ppls.ui.ac.ir/article_20704_a8849f2ee763ad6a51f9ccf69a4f4ccb.pdf?lang=en.
 18. Fathi A, Kheir M, Atigh M. The relationship between self-efficacy and quality of life due to the mediating role of resiliency among patients with cardiovascular disease. *Psychol Methods Models* 2011;2:109-22.
 19. Besharat MA, Ramesh S. Prediction of severity of cardiovascular disease based on resiliency, spiritual well-being and social support. *J Med Cultiv* 2018;27:34-45.
 20. Razaghpour A, Rafiei H. Resilience and its relationship with spiritual wellbeing among patients with heart failure. *Br J Cardiac Nurs* 2021;16:1-8.
 21. Naimi E, Eilami O, Babuei A, Rezaei K, Moslemirad M. The effect of religious intervention using prayer for quality of life and psychological status of patients with permanent pacemaker. *J Relig Health* 2020;59:920-7.
 22. Connor KM, Davidson JR. Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depress Anxiety* 2003;18:76-82.
 23. Mohammadi M, Jazayeri A, Rafiei AH, Jokar B, Pourshahbaz A. Investigating the resiliency factors in people at risk of drug abuse. *Q J Adv Psychol Res* 2006;1:224-203.
 24. Parsian N, Dunning T. Developing and validating a questionnaire to measure spirituality: A psychometric process. *Glob J Health Sci* 2009;1:2-11.
 25. Aminayi M, Asghari Ebrahimabad MJ, Azadi M, Soltani Shal R. Reliability and validity of Farsi version of Parsian and dunning spirituality questionnaire. *J Fundamentals MentHealth* 2015;17:129-34.
 26. Asadi M. The effect of spiritual care based on «GHALBE SALIM» model on spiritual experiences of patients undergoing coronary artery bypass surgery. *Iran J Cardiovasc Nurs* 2013;2:30-9.
 27. Pauwels EK, Volterrani D, Mariani G, Kostkiewics M. Mozart, music and medicine. *Med Princ Pract* 2014;23:403-12.
 28. Delaney C, Barrere C, Helming M. The influence of a spirituality-based intervention on quality of life, depression, and anxiety in community-dwelling adults with cardiovascular disease: A pilot study. *J Holist Nurs* 2011;29:21-32.
 29. Pandya SP. Examining the effectiveness of WhatsApp-Based spiritual posts on mitigating stress and building resilience, maternal confidence and self-efficacy among mothers of children with ASD. *J Autism Dev Disord* 2021;51:1479-95.
 30. Yousefian Z, Ahadi H, Mojmanari AK. The effectiveness of spirituality therapy on psychological distress and resilience of thalassemia patients. *J Psychol Sci* 2020;18:2285-93.
 31. Moradi Z, Madani YA, Sadeghi MA. The effectiveness of integrative pattern of cognitive and spiritual counseling on resiliency and self-efficacy of hemodialysis patients. *J Clin Nurs Midwifery* 2019;8:423-35.