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The Effectiveness of Spiritual Therapy Training and Life Skills Group Training on Reducing the Feeling of Loneliness and Anxiety Symptoms of Veterans with Post-Traumatic Stress Disorder

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Abstract

Introduction: War is a contributing factor to the occurrence and progression of mental disorders, including Post-Traumatic Stress Disorder (PTSD), which is a common psychological outcome for individuals who have experienced war. This study aims to assess the impact of spiritual therapy training and life skills group training on alleviating feelings of loneliness and anxiety symptoms in veterans with PTSD, while also examining how social support may influence these effects.
Method: The current study was an applied research involving a randomized clinical trial with a pre-test-post-test and follow-up (3 months) design conducted in Tehran during the summer and fall in 2023. The sample size for this study was 60 veterans who were selected through convenience sampling. The research included a control group and two experimental groups consisting of veterans with PTSD. The experimental group received spirituality therapy sessions twice a week for eight sessions, each session lasting for 45 minutes, while the life skills experimental group attended eight sessions twice a week for 45 minutes each. The research utilized the Beck Anxiety Inventory (BAI), UCLA Loneliness Scales, and Multidimensional Scale of Perceived Social Support (MSPSS) as assessment tools. Data analysis was performed using repeated measures analysis of variance and Kruskal-Wallis H in SPSS software version 27 and JASP software version 18.1.0 at a significance level of 0.05.
Results: The findings of this study showed that the anxiety variable was significantly different between the teaching spiritual therapy and teaching life skills in a group way groups and the control group ($P<0.05$). According to the results, the teaching life skills in a group way method was more effective than the teaching spiritual therapy method. Similarly, the loneliness variable was significantly different between the teaching spiritual therapy and teaching life skills in a group way groups and the control group ($P<0.001$). According to the results, teaching spiritual therapy was a more effective method for reducing loneliness than teaching life skills in a group way.
Conclusion: According to the findings of the current study, both life skills training and spiritual therapy training have shown effectiveness in decreasing anxiety and loneliness in PTSD veterans. To enhance their effectiveness, life skills training can be conducted in group settings to alleviate anxiety levels, while spiritual therapy training can target reducing feelings of loneliness among veterans. Additionally, identifying PTSD veterans and providing them with spiritual therapy combined with developing social support can also help in reducing their anxiety levels.

Keywords: Spiritual Therapy, Life Skills Group Training, Loneliness, Anxiety, Veterans, Social Support, Post-Traumatic Stress Disorder (PTSD)

Introduction

Post-Traumatic Stress Disorder (PTSD) is a mental health issue that can occur in individuals who have gone through or witnessed a traumatic event like a natural disaster, a serious accident, an act of terrorism, sexual assault, or war [1]. Approximately 30% of individuals exposed to traumatic events are estimated to develop PTSD. Among veterans of the Iran-Iraq chemical war, the prevalence of PTSD has been reported at around 40%, even 35 years

after the cessation of hostilities, highlighting PTSD as a significant cause of hospitalization within this population [2]. PTSD is characterized by alterations in behavior and functioning, categorized into four symptom clusters: re-experiencing, avoidance, negative alterations in cognition and mood, and hyperarousal [3]. Studies suggest that PTSD leads to substantial costs to society, particularly among military personnel, but having a strong social support system may alleviate PTSD symptoms [4]. Additionally, research has indicated that factors like explosions, combat, and chemical exposure may be connected to the development of PTSD and could impact the risk of dementia [5].

The experience of combat trauma and PTSD can result in distinct internal and external challenges, leading veterans to feel socially isolated and lonely. Loneliness is a complex emotional state, typically defined as the gap between actual and desired social connections [6]. Research indicates that a significant proportion of veterans experience psychological difficulties to varying extents, including stress, depression, memory impairments, disruptions in sleep patterns, and feelings of loneliness [7]. A study revealed a strong connection between feelings of loneliness and symptoms of PTSD among veterans [8]. It was also found that loneliness is prevalent among veterans, with over half reporting occasional or frequent feelings of loneliness, and that the severity of loneliness is associated with various mental health issues, physical ailments, and suicidal thoughts [9]. The prevalence of disorders correlated to PTSD is high, with common disorders including depression, Drug-Related Problems (DRP), alcohol abuse, chronic pain, bipolar disorder, and anxiety [10]. Anxiety is a future-oriented mood state that typically helps prepare individuals for potential negative events, but in veterans with PTSD, heightened levels of anxiety can interfere with their daily lives [11]. Extensive research has identified a strong correlation between PTSD symptoms and the onset of depression, anxiety, and stress [12]. One study found that three out of 10 veterans experience symptoms of anxiety [11]. Social support is a crucial factor in protecting against PTSD, especially in military populations as compared to civilians [13]. It encompasses various resources provided by one's social network, including practical support (like transportation and money), advice, and emotional support from friends and family [14]. Research conducted on veterans in southern Iran highlighted the impact of social functions within the family and society on mental health outcomes, suggesting that increasing social support can alleviate the effects of war-related disabilities [7]. Additionally, studies have shown a negative correlation between social support and state anxiety, indicating that social support can directly and indirectly influence anxiety levels [15]. The current treatment options for PTSD include therapies like cognitive processing therapy and desensitization, as well as medication. However, recent trends show a decline in medication prescriptions for this condition. PTSD poses significant challenges in the lives of veterans, impacting their family dynamics, communication, and social interactions. This can even lead to more severe consequences like suicide, especially among individuals with a history of war experience. Therefore, it is crucial to closely monitor these individuals and provide therapeutic interventions to alleviate feelings of anxiety and loneliness in veterans [3].

One specific intervention that could help reduce psychological distress is spiritual therapy training. Spirituality is a natural aspect of human behavior that encompasses various experiences, beliefs, attitudes, and behaviors [16]. Additionally, spiritual therapy training focuses on incorporating the spiritual dimension of patients, emphasizing the importance of spirituality, religion, and morals in promoting overall health and well-being [17]. Studies have shown that spiritual therapy training has been effective in reducing both overt and covert anxiety [18], as well as decreasing feelings of loneliness [19]. Additionally, as a result of veterans' poor health, life skills training can serve as an effective short-term intervention to address various impairments and alleviate certain issues. Life skills training focuses on how individuals interact with their environment, ultimately improving their health [20]. This type of training equips individuals with information and skills that help them overcome challenges they may face in society. The World Health Organization (WHO) defines life skills as the ability to behave adaptively and positively, enabling individuals to handle everyday demands and challenges effectively [21].

These core life skills include decision-making and problem-solving, creative and critical thinking, communication and interpersonal relationships, self-awareness and empathy, and coping with emotions and stress [22]. A study revealed that life skills training can reduce feelings of loneliness [23], while another research highlighted the role of life skills training in reducing anxiety levels among individuals [24]. The well-being and health of veterans are at risk due to loneliness and anxiety, which can result in mental disorders, depression, low self-esteem, social issues, and physical symptoms [7] . Given the vulnerability and substantial population of veterans, alongside the psychological challenges they face, investigating loneliness and anxiety within this group is essential [25]. While prior research has examined various interventions for psychological distress among veterans, limited studies have specifically addressed the potential effects of spiritual therapy and life skills group training on loneliness and anxiety. This study aims to contribute to this gap by exploring the impact of these interventions on veterans with PTSD, and by examining the role of social support in symptom management.

Method

The current study was applied research with a randomized clinical trial design, including pre-test, post-test, and follow-up (three months later) assessments. The study involved a control group and two experimental groups receiving either Spiritual Therapy or Life Skills group training. The research focused on veterans with PTSD who were evaluated in Tehran during the summer and fall of 2023. The sample size included 60 individuals, with 20 participants in each experimental group and 20 in the control group, selected through convenience sampling and random assignment using the coin toss method.

Sample size adequacy was determined using G-Power software with α = 0.05, effect size = 0.25, power test = 0.95, and number of groups = 3. According to the calculation, the required sample size was 42 individuals, but to account for potential dropouts, the researcher decided on a sample size of 60 participants.

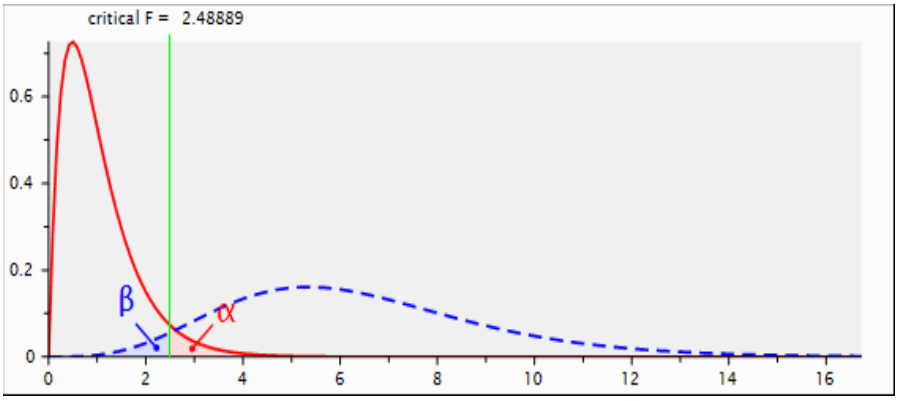

Figure 1. Sample size calculation with G*Power software.

The requirements for participating in the study consist of being a veteran, being aged 45 or older, being in a good physical health to take part in research training sessions, seeking help from counseling and psychology centers for PTSD, having a clinical record, providing informed consent, and not having participated in similar training programs within the previous two months. Participants could be removed from the study if they had a condition affecting their ability to attend training sessions regularly, missed over three sessions, arrived late to more than four sessions, or decided to withdraw from the research. The researchers initially visited the central organization of the Tehran Martyrs and Veterans Affairs Foundation and became familiar with the counseling and psychology centers under the foundation's umbrella. Subsequently, the researchers published virtual and in-person notices for veterans with a history of counseling related to PTSD. After receiving information from interested individuals, the researchers targeted veterans who met the necessary criteria for participation in the research. During the initial in-person interview at one of the counseling centers, the researchers explained the research objectives and ethical guidelines to the veterans, addressing any questions they may have had. Veterans who did not meet the criteria for participation (such as lacking time or resources for intervention sessions) were excluded from the study. In the end, the researchers chose 60 veterans for the study. Using the research tools, a pre-test was conducted on the veterans. During the first phase, information was collected from 60 military veterans. Subsequently, they were allocated to different training groups through a random selection process. The first experimental group underwent eight sessions twice a week, each lasting 45 minutes [26], while the second experimental group also had eight sessions twice a week, each lasting 45 minutes, focusing on the life skills method program [21]. The control group remained on a waiting list for training. Tables 1 and 2 outline the topics and content covered in these sessions. Out of the 60 initial participants, only 34 remained in the study until the follow-up stage, potentially due to PTSD hindering their ability to participate effectively. The researcher helped participants who did not have the required literacy skills to fill out the questionnaires. Ethical considerations included obtaining informed consent from participants and ensuring the confidentiality of information. Tables 1 and 2 present a summary of the training sessions, while Figure 2 shows the flow chart of the CONSORT guidelines. This study utilized descriptive criteria like mean and standard deviation for descriptive statistics, and covariance analysis with repeated measures for inferential statistics. The collected data was analyzed using the Kruskal-Wallis H method, repeated measure ANCOVA, and Bonferroni's post hoc test at a significance level of 0.05. The SPSS version 27 and JASP software version 18.1.0 were employed for all statistical analyses. The Shapiro-Wilk test assessed normal distribution, while Levene's test examined homogeneity of variances.

The following instruments were used in the study:

Beck Anxiety Inventory (BAI): In 2001, Beck Et al. created a survey to evaluate symptoms of anxiety and gauge anxiety levels in people. They confirmed the tool's reliability using internal consistency methods [27]. The Beck Anxiety Inventory (BAI) consists of 21 items where respondents select one of four options to indicate the severity of their anxiety symptoms over the past week. Each response is scored on a Likert scale ranging from 0 to 3, with total scores falling between 0 and 63. The resulting score categorizes anxiety levels as follows: no (0-7), mild (8-15), moderate (16-25), and severe anxiety (26-63). Higher scores on the BAI indicate higher levels of anxiety, while lower scores indicate less anxiety. A study in Iran reported a Cronbach's alpha coefficient of 0.92 for the BAI [28] . Similarly, the validity of this questionnaire was examined using exploratory and confirmatory factor analysis methods, and the convergent validity of the questionnaire questions was confirmed, and the factor loadings of the questions were higher than 0.4. Similarly, the correlation of this questionnaire with the GHQ-28 questionnaire was examined, and its value was 0.80 [28]. In this study, the researcher obtained a Cronbach's alpha coefficient of this scale of 0.89.

UCLA Loneliness Scale: Russell Et al. developed this Scale in 1980 to explore feelings of loneliness in the participants [29]. The Scale consists of 20 questions and utilizes a Likert

scale with 4 levels. Higher scores indicate increased loneliness, while lower scores suggest lower levels of loneliness. The total score, which should fall between 20 and 80, determines the degree of loneliness experienced by the individual. The reliability of this scale was determined to be 0.81 through Cronbach's alpha test [30]. In the current study, the Cronbach's alpha coefficient for this questionnaire was 0.88.

Multidimensional Scale of Perceived Social Support (MSPSS): The self-report questionnaire was developed in 1988 by Dahlem Et al. to assess perceived social support [31]. This questionnaire consists of 12 items rated on a seven-point Likert scale ranging from 1 (completely disagree) to 7 (completely agree). It measures support from friends, family, and others. The total scores on this scale reflect the level of perceived social support, with higher scores indicating more support. Individuals' scores on this scale range from 12 to 84. In an investigation in Iran, Cronbach's alpha coefficient for this scale was determined to be 0.88 [32], while in the current study, it was reported as 0.91. In the present study, Cronbach's alpha for this questionnaire was 0.71.

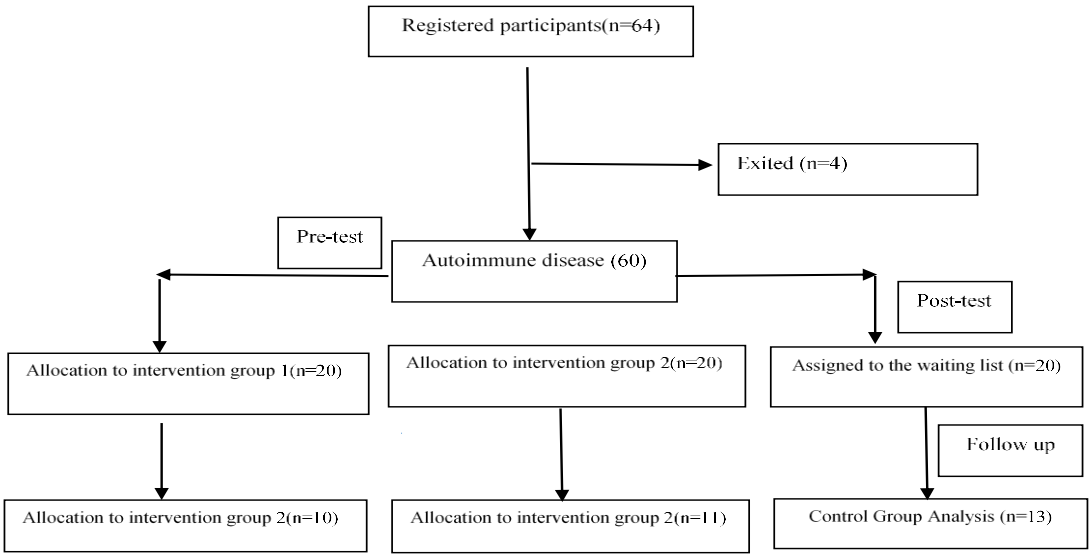

Figure 2. Consort flowchart of the study.

Table 1. Summary of Spiritual Therapy Sessions

First:
Objective: Introducing members and goals of therapy
Session content: Introducing treatment options and spiritual therapy methods, addressing confidentiality boundaries, obtaining informed consent for participants to proceed with training, facilitating group member introductions, and exploring spirituality and religion concepts specifically for veterans.
Second:
Objective: Teaching self-image and strengthening listening
Session content: Self-awareness and interpersonal relationship, paying attention to one's intuition, enhancing self-esteem (such as through scriptures and connecting with a higher power the individual believes in through prayer).
Third:
Objective: Teaching communication with God
Session content: Talking with God, communicating with the holy being and providing exercises and evaluating the previous session for the veterans.
Fourth:
Objective: Stress management and practicing thought recording
Session content: A review of coping skills for managing stress, creating an agenda for meetings, identifying and acknowledging impromptu thoughts, and practicing logging thoughts. Altruism and unforgiveness and guilt and self-forgiveness when experiencing stress and providing exercises and evaluating the previous session.
Fifth:
Objective: Fear management
Session content: Examining the fear surrounding accidents and pain, offer drills, and assessing the preceding meeting.
Sixth:
Objective: Practicing trust in God
Session content: Faith and trust in God, as well as the demonstration of activities and assessment of the last meeting.
Seventh:
Objective: Gratitude
Session content: Practicing gratitude and reviewing the last session.
Eighth:
Objective: Wrapping up sessions
Session content: The last meeting will involve a thorough review of the preceding sessions, as well as the consolidation and execution of the veterans' post-test.

Table 2. Summary of Life Skills Training Protocol Sessions

First:
Objective: Introducing life skills goals
Session Content: Introduction: The veterans group initially addressed group norms and confidentiality. Life skills were then introduced to the veterans in a group setting.
Second:
Objective: Teaching self-awareness and examining strengths and weaknesses
Session Content: Comprehending PTSD: The discussion focused on the symptoms and impacts of PTSD. Veterans shared their personal experiences in the group. Understanding the importance of self-awareness for well-being, recognizing the traits related to self-awareness such as strengths and weaknesses, identifying personal interests.
Third:
Objective: Teaching mindfulness
Session Content: Coping strategies: Relaxation techniques (such as deep breathing, and mindfulness) were introduced.
Fourth:
Objective: Practicing communication skills
Session Content: Communication skills: Engaging in role-playing activities to enhance assertive communication skills.
Fifth:
Objective: Teaching problem-solving skills
Session Content: Problem-solving skills were taught through a structured model, with group activities to reinforce the skills.
Sixth:
Objective: Practice self-esteem
Session Content: Developing self-esteem involves engaging in exercises that center on acknowledging personal strengths and accomplishments. The session also included conversations about positive self-talk and affirmations. Furthermore, a group activity was held to enhance emotional recognition and practice techniques for managing anger and aggression.
Seventh:
Objective: Teaching goal-setting
Session Content: Goal Setting: Participants are taught how to set SMART goals, which are specific, measurable, achievable, relevant, and time-bound. They then establish their objectives.
Eight:
Objective: Summarizing sessions
Session Content: Examining the past sessions, and providing a recap and carry out the post-test for the veterans.

Results

The researchers collected information on the participants in three stages - pre-test, post-test, and follow-up - for both the experimental and control groups. Initially, the demographic factors of the studied participants were analyzed and outlined (Table 3). The participants were categorized into three age brackets: 45-50 years, 50-55 years, and 56 years and above. Education-wise, the participants were segregated into three groups: illiterate, diploma holders, and those with a bachelor's degree. Similarly, based on veteran percentage status, they were divided into three categories: 5 to 10%, 10 to 20%, and over 20%. The findings from the Kruskal-Wallis Test indicated that there was not a notable variation between the individuals based on demographic aspects ($P>0.05$).

The researcher also examined the mean and standard deviation of the research variables in the research groups in Table 4.

Table 3. Demographic Characteristics in the Experimental and Control Groups

Variables	Demographic information	Spiritual Therapy Training	%	Life Skill Group Training	%	Control	%	Kruskal-Wallis H	P
Age	45-50	3	30.0%	5	45.5%	3	23.1%	1.31	0.517
	50-55	5	50.0%	5	45.5%	8	61.5%		
	+56	2	20.0%	1	9.1%	2	15.4%		
	Total	10	100.0%	11	100.0%	13	100.0%		
Education	Illiterate	3	30.0%	3	27.3%	3	23.1%	0.15	0.926
	Diploma	5	50.0%	6	54.5%	7	53.8%		
	Bachelor Degree	2	20.0%	2	18.2%	3	23.1%		
	Total	10	100.0%	11	100.0%	13	100.0%		
Veteran percentage	5-10%	6	60.0%	5	45.5%	7	53.8%	0.49	0.780
	10-20%	3	30.0%	4	36.4%	4	30.8%		
	20-50%	1	10.0%	2	18.2%	2	15.4%		

Table 4 displays the average and standard deviation of the participant's scores in the study variables. It is evident from the data that the average anxiety scores in the spiritual therapy, life skills group training, and control groups were quite similar during the pre-test. In the post-test and follow-up stages, the groups that received spiritual therapy training and life skills group showed lower scores than the control group. Similarly, the average scores for loneliness in all three groups did not show significant differences during the pre-test, but in the post-test and follow-up phases, the spiritual therapy and life skills group training had lower scores than the control group. Social support showed similar levels across the groups, except for the life skills group training which had lower levels compared to the other groups. In Table 5, the researcher analyzed the results of repeated measurements covariance analysis and explored the impact of the moderating variable.

Based on the results of the covariance analysis presented in Table 5, the P-value for between-subjects effects in the anxiety variable was found to be statistically significant for the groups ($p<0.001$). A significant difference was observed between the control group and the experimental group, clearly showcasing a contrast between the two research groups considering the impact of the pre-test phase. Furthermore, there was no statistically significant difference in within subjects effects for the anxiety variable ($P>0.05$). Additionally, the P-value for between-subjects effects in the loneliness variable was also determined to be significant for the groups ($p<0.001$). Similar to the anxiety variable, a significant difference was observed between the control group and the experimental group, indicating a notable disparity between the research groups while controlling the pre-test stage effects. However, there was no significant difference in within subjects effects for the loneliness variable ($P>0.05$). The researcher also examined the influence of the moderator variable, categorizing individuals with scores above 50 as having high social support and those with scores below 50 as having low support and being in the low social support group.

Table 4. Description Statistics

Variable	TIME	Groups	Mean	SD	Shapiro-Wilk	P	Min	Max
Anxiety	Pre-test	Spiritual therapy training	45.30	2.26	0.97	0.948	41	49
		Life skill group training	45.27	2.14	0.97	0.899	41	49
		Control	45.23	2.31	0.91	0.233	41	49
	Post-test	Spiritual therapy training	43.30	1.76	0.92	0.418	40	46
		Life skill group training	41.18	1.66	0.71	< .001	40	44
		Control	47.07	1.25	0.86	0.039	45	49
	Follow-up	Spiritual therapy training	42.80	2.04	0.81	0.022	40	45
		Life skill group training	39.27	1.00	0.88	0.134	38	41
		Control	46.84	1.40	0.86	0.047	45	49
Loneliness	Pre-test	Spiritual therapy training	56.60	2.75	0.91	0.335	52	60
		Life skill group training	57.36	2.01	0.94	0.601	54	60
		Control	56.76	2.42	0.90	0.175	52	60
	Post-test	Spiritual therapy training	49.70	1.76	0.84	0.044	48	53
		Life skill group training	52.18	1.60	0.85	0.050	50	54
		Control	56.38	2.50	0.95	0.595	52	60
	Follow-up	Spiritual therapy training	47.20	1.22	0.84	0.046	46	49
		Life skill group training	51.18	2.92	0.72	0.001	49	59
		Control	56.23	2.27	0.96	0.851	52	60
Social Support		Spiritual therapy training	52.00	5.73	0.86	0.078	44	59
		Life skill group training	48.63	6.45	0.85	0.043	41	58
		Control	52.38	1.89	0.83	0.017	50	55

Table 5. Covariance Analysis Test

Variable		Source	SS	MS	F	P	Eta Squared
Anxiety	Within Subjects Effects	TIME	1.27	1.27	0.69	0.411	0.02
		TIME ✻ Pre-test	1.70	1.70	0.92	0.344	0.03
		TIME ✻ group	9.23	4.61	2.51	0.098	0.14
		Residuals	55.15	1.83	-	-	-
	Between Subjects Effects	Pre-test	0.008	0.008	0.003	0.959	8.784×10^{-5}
		group	550.02	275.01	92.42	< .001	0.860
		Residuals	89.26	2.97	-	-	-
Loneliness	Within Subjects Effects	TIME	0.12	0.12	0.02	0.881	7.597×10^{-4}
		TIME ✻ Pre-test	0.30	0.30	0.05	0.813	0.002
		TIME ✻ group	15.82	7.91	1.47	0.245	0.090
		Residuals	160.79	5.36	-	-	-
	Between Subjects Effects	Pre-test	16.96	16.96	4.53	0.042	0.131
		group	718.75	359.37	96.009	< .001	0.865
		Residuals	112.29	3.74	-	-	-

The P-value for the interaction of groups and the moderator variable in the anxiety variable was significant based on the results presented in Table 6 (p=0.013). According to the findings, the group that received less social support showed a smaller decrease in the anxiety variable among the experimental groups. The outcome was the same for both the group receiving spiritual therapy training with low social support and the group receiving spiritual therapy training with high social support. Individuals who received higher social support and were part of the spiritual therapy training group were better able to reduce anxiety. There was no significant interaction between groups and social support moderating variable in the loneliness variable (p=0.230). However, there was a significant interaction between time and social support (p=0.005). According to these results, it can be concluded that there was a greater decrease in the follow-up phase for the low social support group. In Table 7, the researcher conducted pairwise comparisons between research stages and groups.

According to the data presented in Table 7, there was a notable contrast in the anxiety variable between the group that received spiritual therapy and life skills training in a group setting, as opposed to the control group (P<0.05). The significant variance between the groups and the decrease in average scores within this variable in both the post-test and follow-up stages for the experimental groups, when compared to the control group, indicates the effectiveness of both intervention methods in reducing anxiety in the current study. This decrease in anxiety levels appears to be long-lasting, as demonstrated by a significant variance in the follow-up stages (P<0.01). The comparison of average scores among the groups revealed that individuals in the life skills training in a group setting experienced lower levels of anxiety when compared to those in the spiritual therapy training group, suggesting that the former approach was more effective in reducing anxiety.

Similarly, as indicated in Table 7, there was a notable distinction in the loneliness factor between spiritual therapy and life skills group training compared to the control group (P<0.001). The significant difference between the groups and the decrease in average scores in the loneliness factor during the post-test and follow-up stages in the experimental groups, in contrast to the control group, suggests both intervention approaches in the study impact the loneliness factor positively, resulting in a sustained reduction. This was evidenced by a significant distinction in the follow-up stages (P<0.001). Additionally, a substantial gap was observed between the experimental groups, with individuals in the spiritual group therapy training experiencing lower levels of loneliness than those in the life skills group training, signifying the former as the more effective method in reducing loneliness.

Table 6. Covariance Analysis Test

Variable		Source	SS	MS	F	P	η2
Anxiety	Within Subjects Effects	TIME ✻ Social Support	0.12	0.12	0.06	0.801	0.002
		TIME ✻ group ✻ Social Support	1.13	0.56	0.28	0.755	0.02
	Between Subjects Effects	Social Support	6.81	6.81	3.01	0.094	0.10
		Group ✻ Social Support	23.07	11.53	5.10	0.013	0.27
Loneliness	Within Subjects Effects	TIME ✻ Social Support	39.73	39.73	9.30	0.005	0.25
		TIME ✻ Group ✻ Social Support	3.89	1.94	0.45	0.639	0.03
	Between Subjects Effects	Social Support	1.40	1.40	0.38	0.542	0.01
		Group ✻ Social Support	11.46	5.73	1.55	0.230	0.10

Table 7. Bonferroni's Post-hoc Test to Examine Differences between Three Groups

Variables	TIME	(I) Group	(J) Group	MD	Std. Error	P
Anxiety	Post-test	Spiritual therapy training	Life skills group training	2.116*	0.685	0.013
			Control	-3.78*	0.65	0.0001
		Life skills group training	Control	-5.89*	0.64	0.0001
	Follow-up	Spiritual therapy training	Life skills group training	3.52*	0.67	0.0001
			Control	-4.04*	0.64	0.0001
		Life skills group training	Control	-7.57*	0.62	0.0001
Loneliness	Post-test	Spiritual therapy training	Life skills group training	-2.29*	0.87	0.040
			Control	-6.64*	0.83	0.0001
		Life skills group training	Control	-4.34*	0.81	0.0001
	Follow-up	Spiritual therapy training	Life skills group training	-3.83*	1.00	0.002
			Control	-8.99*	0.95	0.0001
		Life skills group training	Control	-5.16*	0.93	0.0001

Discussion

The main purpose of this study was to examine the impact of spiritual therapy and life skills group training on decreasing feelings of loneliness and symptoms of anxiety in veterans with PTSD, with social support playing a role. The results showed that both forms of treatments were successful in reducing levels of anxiety, especially life skills training when conducted in a group setting. Additionally, both interventions were successful in reducing feelings of loneliness, with spiritual therapy training proving to be more effective in this regard. Participants who received more social support and were in the spiritual therapy training group showed better results in reducing anxiety.

The results of the present research suggest that life skills group training is more effective at reducing anxiety in veterans, in line with previous studies [24, 33, 34]. Previous research has indicated that life skills training can lower anxiety levels in individuals [24]. Other studies have also found that life skills training can promote mental health [33]. Additionally, a study demonstrated that life skills training can lead to a notable decrease in both depression and anxiety among patients [34].

Life skills can be defined as abilities that contribute to enhancing the mental health of individuals in society, improving human relationships, and promoting health and healthy behaviors at the community level. Life skills training can assist individuals by enhancing their emotional awareness, understanding and managing their emotions, recognizing their ability to take control of negative feelings like anxiety, depression, and hopelessness, as well as boosting their psychological resilience. Life skills training aims to help individuals with emotional issues become conscious of negative thoughts and emotions, teaching them how to cope with anxiety in stressful situations through positive reinterpretations [35]. Life skills training programs improve an individual's ability to deal with anxiety by developing various skills like decision-making and problem-solving, ultimately reducing uncertainty and the inability to face challenges in life, which are common causes of anxiety [24]. Moreover, life skills training in a group setting is more effective in reducing anxiety because it enhances the life skills of participants, enabling them to handle conflicts and life situations skillfully, interact positively and adaptively with others in society, culture, and the environment, and ensure their mental well-being. Acquiring these skills is crucial for establishing healthy relationships with others, making informed personal choices, improving one's self-management, and reducing anxiety levels. Additionally, group sessions facilitate mutual sharing of experiences, enabling individuals to realize they are not alone in their struggles, which can be instrumental in alleviating anxiety [20].

Another finding from the current study is that spiritual therapy training is more effective in reducing loneliness. Those who receive higher social support and participate in spiritual therapy training are better able to reduce anxiety, as shown in previous research [15, 18, 19]. The research findings suggest that spiritual therapy can effectively reduce feelings of loneliness [19]. Additionally, the study results indicate that spiritual therapy training is effective in reducing both overt and hidden anxiety [18]. It was also found in a study that social support and state anxiety have a negative correlation, with social support directly and indirectly affecting anxiety levels [15]. Belief systems can provide a framework for individuals to cope with challenging life situations and make sense of distressing events. Being part of a spiritual community can reduce feelings of isolation and sadness, while practices such as prayer can enhance relaxation and reflection to reduce loneliness in veterans [16].

In spiritual therapy, existential capacities, tendencies, divine motives, and moral virtues are utilized for treating illness. The semantic aspect of spiritual therapy, which is reflected in various religious practices, plays a crucial role in the therapy process. These spiritual therapy techniques encompass behavioral, cognitive, metacognitive, emotional, and moral dimensions, as seen in practices like prayer and meditation. Spiritual therapy training draws on religious beliefs and activities to help individuals manage emotional stress and anxiety [17]. Social support plays a significant role in supporting individuals during treatment, with perceived social support being more impactful on mental health outcomes than actual social support. Increasing social support has been correlated to better mental health outcomes in both short-term and long-term studies, with high levels of social support serving as a protective factor for mental health [14].

The current study has several limitations that need to be considered when interpreting the applicability of the results. First, this study specifically focused on Iranian veterans, and the outcomes may vary in other cultures and environments, highlighting the importance of conducting research in a more diverse range of populations to better understand how culture and social situations influence the effectiveness of treatment. Additionally, due to the advanced age of the participants, the process of completing the questionnaires was slow and challenging, especially for elderly individuals who lacked adequate literacy skills, making it difficult to fully comprehend the test. The researchers attempted to minimize bias in this data collection method by providing a thorough rationale for including the research participants. Another limitation was the lack of control over intervening factors such as cultural differences, social status, and economic standing during participant selection, which may have affected the generalizability of the results. Moreover, the findings from this research are specific to veterans with PTSD, which may limit their applicability to other disorders. Furthermore, limitations include the inability to regulate factors like participant motivation levels and monitoring activities outside of study time. To enhance the generalizability of the findings, it is advisable to replicate this study in different populations.

Conclusion

According to the findings of the current research, both life skills training and spiritual therapy training have proven to be effective in alleviating anxiety and feelings of loneliness in veterans with PTSD. To improve their efficacy,

life skills group training can decrease anxiety levels, while spiritual therapy sessions can specifically target reducing feelings of loneliness in veterans. By identifying PTSD veterans and providing them with spiritual therapy to establish social support, anxiety levels can be further reduced. Therefore, to improve the mental health of middle-aged and elderly veterans, it is suggested to utilize methods like boosting social support and providing counseling psychological and educational sessions. Encouraging veterans to engage in group activities can also contribute to improving their mental health and lessening feelings of anxiety and loneliness. Additionally, training programs should concentrate on enhancing motivation and reducing anxiety and loneliness to support veterans in improving their mental health. It is suggested that government agencies like welfare organizations, the Martyr's Foundation, Veterans Affairs offices, and universities should organize life skills training to raise awareness about the importance and benefits of these skills in individuals' daily lives.

Conflict of Interest

The authors declare no competing interests.

Ethical Approval

The details presented in this article are from the author's research carried out following the Ethics Code: IR. IAU. STB. REC. 1403.223.

Declaration of Generative AI and AI-Assisted Technologies

During the preparation of this work the authors did not use any AI tools.

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