

Original Paper

The Effects of Improving Emotional Intelligence on Death Anxiety in Older Adults



Akram Baghdadi¹, Mohammad Aghajani², Zohre Sadat³, Neda Mirbagher Ajorpaz^{4*}

1. Nursing (MSN), School of Nursing and Midwifery, Trauma Nursing Research Center, Kashan University of Medical Sciences, Kashan, Iran.
2. PhD candidate of Nursing, Department of Nursing and Midwifery, Infection Diseases Research Center, School of Nursing and Midwifery, Kashan University of Medical Sciences, Kashan, Iran.
3. Associate Professor, Department of Nursing, School of Nursing and Midwifery, Trauma Nursing Research Center, Kashan University of Medical Sciences, Kashan, Iran.
4. Associate Professor, Department of Nursing and Midwifery, Autoimmune Diseases Research Center, School of Nursing and Midwifery, Kashan University of Medical Sciences, Kashan, Iran.



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ABSTRACT

Introduction: Death anxiety is one of the main elements in mental health in older adults.

Objective: This study aimed to determine the effects of improving emotional intelligence on death anxiety in older adults in Kashan City, Iran.

Materials and Methods: This quasi-experimental study was carried out on 60 older adults referred to health clinics in Kashan City, Iran, in 2019. The participants were randomly allocated to the control and experimental groups. Before the intervention, a demographics data questionnaire and death anxiety scale was filled out by the two groups. The experimental group received emotional intelligence education in eight sessions (twice a week). The control group received no intervention. The study measures included a demographic checklist and the Templer Death Anxiety Scale (TDAS). Immediately and one month after the intervention, both groups filled out the death anxiety scale again. The collected data were analyzed using descriptive and analytical tests such as t test, the Chi-square, and repeated-measures Analysis of Variance (ANOVA).

Results: The results showed that 22 participants (73.3%) and 17 (56.7%) were in the 61-65 age range in the experimental and control groups, respectively. Based on the Chi-square test, there was no significant difference between the two groups regarding demographical data, including age, gender, marital status, education, and job. The results of repeated-measures ANOVA in the experimental group showed that the mean scores of death anxiety decreased over the 3 time points ($P < 0.05$). Also, the post hoc test showed a significant difference in death anxiety scores at different time points in the experimental group ($P < 0.05$). The t test results showed no statistically significant difference in the mean score of death anxiety before the intervention between the two groups, but at the end of the sessions ($P = 0.006$) and one month after the intervention ($P = 0.001$), this difference was significant.

Conclusion: The results indicated that improving emotional intelligence in older adults decreased their death anxiety. It is recommended that nurses use this method to decrease death anxiety in older adults.

Keywords:

Anxiety, Death, Emotional intelligence, Older adults

* Corresponding Author:

Neda Mirbagher Ajorpaz, PhD.

Address: Department of Nursing and Midwifery, Autoimmune Diseases Research Center, School of Nursing and Midwifery, Kashan University of Medical Sciences, Kashan, Iran.

Tel: +98 (36) 155540021

E-mail: mirbagher_n@kaums.ac.ir

Highlights

- Death anxiety affects older adults from spiritual, mental, and physical viewpoints. It is imperative to find ways to increase peace and tranquility and decrease anxiety in older adults.
- Emotional intelligence covers capabilities of perception, expression, comprehension, and control of one and others' emotions.
- Enhancing emotional intelligence in older adults reduces their death anxiety.

Plain Language Summary

Studies have reported that older adults have death anxiety. Death anxiety encompasses thoughts, fears, and emotions about the end of life that create worry, fear, and concern about death and dying. Studies have shown that about 15%-25% of old individuals struggle with severe mental problems and suffer disorders like depression, death anxiety, and cognitive disorders. Since death anxiety affects older adults from spiritual, mental, and physical viewpoints, it is imperative to find ways to increase peace and tranquility and decrease anxiety in older adults. This study aimed to determine the effect of improving emotional intelligence on death anxiety in older adults. According to studies, biological changes in the body of older adults cause physical and mental disorders, including death anxiety. One of the new ways to reduce death anxiety is to increase emotional intelligence. The study results showed that training emotional intelligence in 8 sessions to the older adults significantly reduced their death anxiety.

Introduction

Old age is a natural stage of life featured with degradation of physical and mental capabilities [1]. In 2010, it was estimated that 524 million people (8%) of the world's population were aged 65 and over. That number is expected to be tripled by 2050 to about 1.5 billion (16% of the world's population) [2].

Studies have shown that about 15%-25% of old individuals struggle with severe mental problems and suffer from disorders like depression, death anxiety, and cognitive disorders [3, 4]. Death anxiety encompasses thoughts, fears, and emotions about the end of life that create worry, fear, and concern about death and dying [5]. Anxiety is a multidimensional concept, and according to Dadfar et al., there are eight dimensions of fear of death, fear of early death, fear of losing loved ones, pathogenic fear of death, fear of destruction, fear of the body after death, fear of the unknowns of death, and fear of dead body [6].

The prevalence of death anxiety in old age is higher than in other age groups [7]. According to a study in Malaysia, women and men were 52% and 45%, respectively, and the main aspect in women was about spouse's death [8]. The results of the study showed that many individu-

als regard culture and religion as a source of coping with the anxiety of their lives, such as death anxiety [9].

Among the physical side-effects of death anxiety in older adults, tachycardia, tachypnea, and increased blood pressure are notable. Mental side-effects of death anxiety in older adults include mood disorders, fear, seclusion, depression, and so on [8]. Since death anxiety affects older adults from spiritual, mental, and physical viewpoints, it is imperative to find ways to increase peace and tranquility and decrease anxiety in older adults [10], and nurses should do this job. The desire for non-drug methods to alleviate death anxiety is growing nowadays [11]. Among such treatment, relaxation, desensitization, thought stop, giving role model, prayer therapy, and educating the elements of emotional intelligence are notable.

Studies have shown that individuals with higher emotional intelligence tend to suffer less acute and chronic physical and mental disorders and enjoy a higher quality of life [12, 13]. Emotional intelligence covers capabilities of perception, expression, comprehension, and control of one and others' emotions [14]. Bar-On maintained that emotional intelligence comprised five elements, namely intrapersonal skills (self-actualization, independence, and emotional self-awareness), interpersonal skills (sympathy and social responsibility), adaptability skills (problem-solving ability, awareness of reality, and

flexibility), stress control skills (impulses control and coping pressures), and common mood skills (happiness and optimism that can be taught) [15].

Many studies have reported an association between emotional intelligence and anxiety [16-19]. Also, a study showed an inverse relationship between emotional intelligence in older adults and death anxiety [20]. Zysberg found that the relationship between emotional intelligence and anxiety control was vague and more studies are needed on this field [21]. Many studies have reported a lack of association between emotional intelligence and anxiety or a negative association between them [22-24].

Given that one of the challenges in old age is death anxiety, it is essential to find a way to control the anxiety without creating unwanted side effects. Given the inconsistent results in this field and the lack of studies on emotional intelligence and death anxiety in older adults, the present study tries to determine the effects of emotional intelligence training on death anxiety in older adults.

Materials and Methods

This study was carried out with a quasi-experimental design from September to December 2019 on 60 older adults referred to health centers affiliated to Kashan University of Medical Sciences, which focused on the care of outpatients. Based on the confidence level 95% and test power of 80% and following Majidi et al. [4] study, where the mean±SD post test scores in the intervention and control groups were 131.3±8.65 and 120.9±4.81, respectively, the number of participants in each group was estimated to be 23 and given the probable attrition (10%), 30 participants were selected for each group.

The participants were selected through a multi-stage sampling method. In this way, Kashan City was divided into three geographical regions based on socioeconomic status (poor, moderate, and good). One health clinic was selected from each geographical region. Based on the number of visitors to each health clinic, a specific number of volunteers for the emotional intelligence education course were selected. Then the volunteers were screened based on the inclusion criteria.

The inclusion criteria were age above 60 years, visiting health clinics in Kashan City, with Templar Death Anxiety Scale (TDAS) score ≥ 6 [25], cognitive status inventory of Iranian older adult ≥ 22 [26], Schutte's emotional intelligence scale ≤ 100 [27], not using anxiolytics according to their report, ability to speak, no history of smoking,

reading/writing literacy, not using other anxiety palliative methods such as sports therapy, hydrotherapy, and massage therapy. The exclusion criteria were missing more than two sessions, reluctance to participate, hospitalization, and cognitive disease for any reason during the study. Then the participants with the inclusion criteria were divided into the control (n=30) and experimental groups (n=30) based on a randomization block with four blocks (simple allocation using www.sealedenvelope.com) [28]. The educational sessions were held in a health clinic that has a large hall for holding the session. Initially, 81 participants were selected and out of whom 21 were excluded from the study (8 samples were reluctant to participate, and 14 samples did not meet the inclusion criteria). None of the participants left the study (Figure 1).

The study measures included a demographic checklist with five questions (age, gender, marital status, job, and education) and the Templer Death Anxiety Scale (TDAS). The TDAS is a tool with 15 Yes/No questions. The "Yes" answers are scored 1 (presence of death anxiety), and the "No" answers are scored 0 (no death anxiety). The maximum and minimum scores of the tool are 15 (high death anxiety) and 0 (no death anxiety), respectively. Scores between 6 and 7 are considered as the cut-off point [25]. Rajabi and Naderi Nobandegani reported the Cronbach α coefficient of 0.86 for this tool, and its validity was supported by experts [29]. The Cronbach α was calculated in this study as 0.87. (Before randomly assigning the participants to the two groups, a questionnaire was completed by 20 of them, and the Cronbach coefficient was calculated)

At first, the participants filled out TDAS and cognitive status inventory of Iranian older adults and Schutte's emotional intelligence scale. The participants who met the inclusion criteria entered the study. During the first session, the participants were briefed about the course of study. The participants in the experimental group were randomly grouped into two groups with 15 participants and then received emotional intelligence training based on the elements of emotional intelligence (intrapersonal skills, interpersonal skills, adaptation skills, stress control skills, common mood skills) based on Bar-On study [15]. The education was implemented by an expert of emotional intelligence (the third author) in 8 sessions, each for 2 hrs (Table 1). The sessions were held twice a week (Monday and Wednesday 8-10 AM for group one and 10-12 AM for group two). It is noteworthy that the education conditions for the two groups were the same. To ensure an efficient and stable education, a mixture of educational methods (e.g. lecturing,

Table 1. Educational content of the session-based on emotional intelligence elements

Sessions	Contents
One	Introduction, briefing the participants about the course, checking expectations from the course, and filling out the tools. Introducing emotional intelligence and its elements. Defining and elaborating on emotional self-awareness and emotional perception; observing and identifying one's feelings, finding words to express feelings, and learning about the relationship between thoughts, feelings, and responses.
Two	Education and discussion about emotional intelligence and its elements (emphasizing the elements of emotional intelligence and death anxiety control program). The participants first received required education about these elements and then the methods to adapt to stressors and stressful environments. The participants learned about the patterns in life and their emotional responses, and how to identify such patterns in others. The participants also learned about the definition of self-control and emotions.
Three	Introduction to the concept of emotional self-control, expression of emotions, attachments, and methods to alter perception. The educations consisted of skills to control emotions and using win-win patterns in discussion and conflict settlement.
Four	Introduction to emotional self-control, ways of judging self-sympathy beliefs, power to adapt, and relaxation. Sympathetic skills: appreciation of honesty and creating trust in a relationship, and learning about how to talk about the sense of danger and private feelings.
Five	Emotional self-motivation: How to create self-motivation and emotional use in others: expressing interests and feeling without anger and passiveness. Self-motivation: improving collective behaviors and answering others' requests for help.
Six	Self-esteem and self-confidence in interpersonal relationships: improving emotional self-awareness by using 'self-talk' to find negative messages like destructive internal criticism and realizing what is behind every feeling. Improving self-awareness in others: understanding others' feelings and interests, taking into account others' mental perspectives, and respecting differences in others' feelings toward different phenomena.
Seven	Happiness and optimism. Methods to create happiness in oneself and others.
Eight	Anxiety and stress management Managing one and others' emotions: improving self-control, social awareness, and group decision making.

answering questions, and group discussion) were used. The first author acted as the supervisor of the session. Each session would be started with a short review of the previous session and asking questions. The participants would be reminded of the importance of implementing the materials in each session, and a few questions would be asked about implementing the education. The author would also call the participants once a week to emphasize the necessity of implementing the educations. To motivate the participants to attend the sessions, refreshments, blood sugar tests, and small gifts would be provided in each session. Immediately after the educational course, the participants in both groups filled out TDAS, and to check the stability of taught behavior, they filled out the tool one month [30] afterward as well. To motivate the participants to cooperate, they were promised to receive free blood pressure and blood sugar tests after filling out the tool. All the participants filled out TDAS three times (before, immediately after, and one month after the intervention).

The data were analyzed in SPSS 16 (SPSS Inc., Chicago, IL, USA), and the normal distribution of the quantitative variables was tested using the Kolmogorov-Smirnov test. Descriptive tests (number, percentage, mean, and standard deviation) were used to describe and categorize the data. The Fisher exact test and Chi-square test

were used to compare demographical information. The repeated-measures Analysis of Variance (ANOVA) was used to compare the mean scores of death anxiety at three time points (before, immediately after the last session, and one month after the intervention). Also, the post hoc test was used to compare death anxiety three times before, immediately after the last session, and one month after the last session of the intervention in each group. The Independent t test was used to compare the mean scores of death anxiety in two groups. A significance level was considered 0.05.

Results

The results showed that 17 participants (56.7%) in the experimental group and 18 (60%) in the control group were men. In terms of age, 22 (73.3%) and 17 (56.7%) were in the 61-65 age range in the experimental and control groups, respectively. Totally, 25 (83.3%) and 26 (86.7%) in the experimental and control groups did not have a high school diploma, respectively. Based on the Chi-square test, there was no significant difference between the two groups regarding demographical data, including age, gender, marital status, education, and job (Table 2). In the experimental group, the Mean±SD scores of death anxiety before, immediately, and one month after the intervention were 10.90±1.97,

Table 2. Demographic characteristics in the experimental and control groups

Variables	No.(%)		Sig.	
	Experimental Group	Control Group		
Gender	Male	17(56.7)	18(60)	0.763 [*]
	Female	13(43.3)	12(40)	
Age (y)	61-65	22(73.3)	17(56.7)	0.378 ^{**}
	66-70	5(16.7)	10(23.3)	
	Up To 70	3(10)	3(10)	
Education level	Below diploma	25(83.3)	26(86.7)	0.98 ^{**}
	Diploma and higher	5(16.7)	4(13.3)	
Marital status	Single	0	2(6.7)	0.492 ^{**}
	Married	30(100)	28(93.3)	
Occupational status	Employed	4(13.3)	2(6.7)	0.477 ^{**}
	Unemployed	13(43.3)	12(40)	
	Housekeeper	4(13.3)	2(6.7)	
	Retired	9(30)	14(46.7)	

* The Chi-Square test; ** The Fisher exact test.

8.93±2.49, and 7.80±2.77, respectively, and in the control group were 11.20±1.80, 10.60±1.95, 12.33±1.26, respectively. The results of the repeated-measures ANOVA in the experimental group showed that the mean scores of death anxiety decreased over the 3 time points (P<0.05). Also, the post hoc test showed a significant difference in death anxiety scores at different times in the experimental group (P<0.05). The results of the t

test showed no statistically significant difference in the mean score of death anxiety before the intervention in two groups, but at the end of the sessions (P=0.006) and one month after the intervention (P=0.001), this difference was significant (Table 3).

Table 3. Mean±SD of older adult's death anxiety in the two experimental and control groups in the three time periods

Variables	Groups	Mean±SD			Post Hoc Test (Time, Sig.)	Sig. [*]		
		Before the Intervention	Immediately After the Intervention	One Month After the Intervention		Time	Time× Group	Group
Death anxiety	Experimental	10.90±1.97	8.93±2.49	7.80±2.77	T1 & T2, P=0.01 T1 & T3, P=0.001 T2 & T3, P=0.001 T1 & T2, P=0.46 T1 & T3, P=0.06 T2 & T3, P=0.10	0.001	0.001	0.001
	Control	11.20±1.80	10.60±1.95	12.33±1.26				

* Repeated-measures ANOVA.

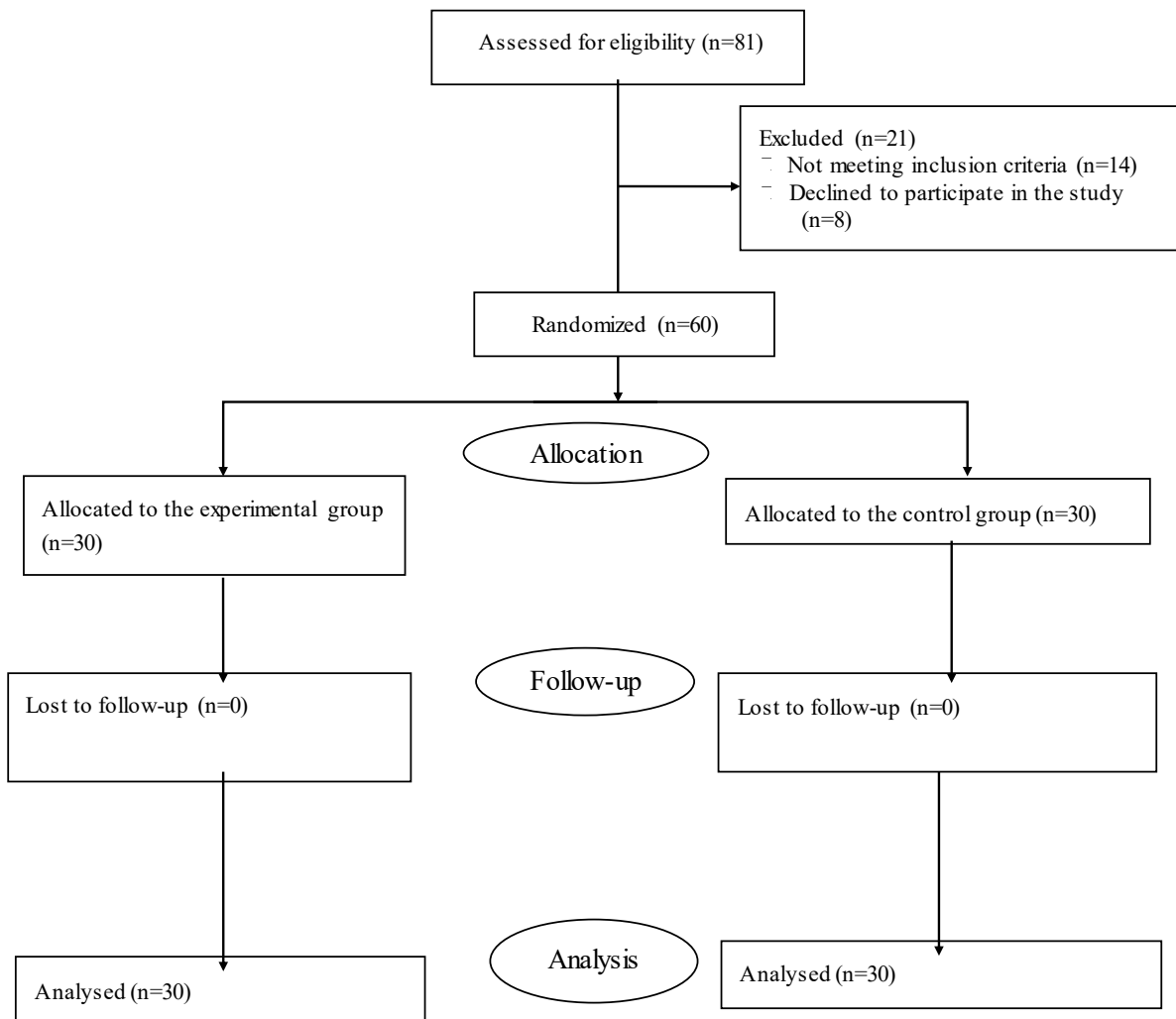


Figure 1. The sampling framework of the study

Discussion

The findings showed significant differences between the experimental and control groups in the mean score of death anxiety over time (before, immediately after, and one month after the intervention). Based on the study result, improved emotional intelligence decreased the mean score of death anxiety in older adults. To explain these results, it can be said that cognitive regulation of emotions helps people to regulate arousal and negative emotions [31]. A cross-sectional study showed a relationship between emotional intelligence and death anxiety in older adults. So that by increasing emotional intelligence and spiritual beliefs, their death anxiety is reduced [20]. Another study showed that emotional intelligence education improved the quality of life and the symptoms of anxiety and depression in the older adults living in Tehran older adults' home

cares [32]. Foster et al. reported that the elements of emotional intelligence were related to anxiety and depression so that with higher emotional intelligence, the lower is the anxiety and depression [19].

The study results are consistent with the results of previous studies. To explain the results, cognitive adjustment of emotions helps individuals to control negative emotions and arousals. A study reported that emotional intelligence was negatively related to death anxiety. In addition, individuals with high emotional intelligence have non-cognitive skills, talents, and capabilities that increase their capability to deal with environmental pressures and demands such as death anxiety and fear [33]. They also reported that improvement of emotional intelligence elements decreased anxiety in the subjects. To explain the findings, emotional intelligence is a sort of adaptation and problem-solving behavior in which the highest growth level is in different cognitive,

behavioral, emotional, and other fields. This type of intelligence gives a general perception about life experiences and how to deal with issues. Therefore, a higher emotional intelligence helps to reduce death anxiety in individuals [34]. In another study entitled “concerns about aging and death anxiety and the role of emotional factors and adjustment”, the authors concluded that death anxiety could be alleviated through emotional adjustment, and individuals with higher mental health disorders and worry about aging and death tend to have a less efficient emotional and feeling facilitation mechanism [35]. Moreover, Espinoza and Sanheuzza found in their study that there was a negative correlation between emotional adjustment and self-positive perception, and death anxiety. Therefore, a high level of emotional intelligence is related to less fear of death [36]. A research showed a significant and negative relationship between death anxiety and the elements of emotional intelligence [37]. The results of the present study are consistent with the results of their study. As shown, improvement of emotional intelligence decreased death anxiety in older adults.

Our results were not consistent with few other studies. Alipour et al., for instance, showed that emotional intelligence education did not have any effect on the anxiety of the heart patients’ [38]. Zysberg reported that the relationship between emotional intelligence and anxiety alleviation was unclear, and further studies are needed in this regard [21]. Also, another study reported a negative relationship between emotional intelligence and behavioral disorders such as aggression, anxiety, and depression [22]. The reason for this inconsistency can be different data gathering tools and differences between subjects. Because emotional intelligence can be taught, it is possible to alleviate death anxiety in older adults through emotional intelligence education.

It is suggested that in future research, the effect of teaching emotional intelligence on the mental health of older adults is investigated.

This study was performed on older adults, so the results could not be extended to other groups (child and middle-aged) in society. Because the intervention was at the time of the outbreak of COVID disease, the intervention group was divided into two groups of 15 people. Education sessions were held in a large hall in the health center and accordance with health protocols.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Institutional Review Board and the Ethics Committee of Kashan University of Medical Sciences, Kashan, Iran (Code: KAUMS.NUHEPM.REC.2019.073). The participants were informed about the study objectives and methods and the voluntary nature of the study. They were ensured about the confidentiality of data and their right to withdraw from the study without penalty. The participants gave their written informed consents. The participants were assured about the confidentiality of their information and that they could leave the study at any stage. The principles of the Declaration of Helsinki were also observed. In addition, they were assured that the participation was free of any charge.

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Author's contributions

Conceptualization: Akram Baghdadi, Mohammad Aghajani, and Neda Mirbagher Ajorpaz; Data collection: Akram Baghdadi and Mohammad Aghajani; Data analysis: Zohre Sadat and Mohammad Aghajani; Writing – original draft: Akram Baghdadi and Neda Mirbagher Ajorpaz; Writing – review, and editing: All authors.

Conflict of interest

The authors declared no conflict of interest.

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