

A Quasi-Experimental Study of a Community-Based Training Program to Reduce Death-Related Existential Anxiety Among Rural Elderly Women in Nineveh, Iraq

Shireen Safar Mousa¹, Iman Mohammed Mustafa²

¹ Department of Education and Psychology, College of Education, University of Zakho- Kurdistan Region – Iraq

² Department of Education and Psychology, College of Education, University of Zakho- Kurdistan Region – Iraq

* Corresponding author: iman.mustafa@uoz.edu.krd

Article History:

Received: January 14, 2026

Revision: February 28, 2026

Accepted: March 20, 2026

Published: March 31, 2026

How to cite this article:

Mustafa, I., & Mousa, S. (2026).

Effectiveness of a Training Program in Reducing Existential Anxiety Related to Death Among Elderly Women in Rural Areas. *International Journal of Religious and Interdisciplinary Studies (IJoRIS)*, 3(1), 27–40. <https://doi.org/10.64529/qfhq8173>

Copyright: © 2025 by the author/s. This open-access article is distributed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. (CC BY-NC-SA 4.0).
<https://creativecommons.org/licenses/by-nc-sa/4.0/>.

Abstract: Existential anxiety related to death can be a significant psychological problem among older adults, especially women living in rural settings where access to mental health support may be limited. The study examined the potential effectiveness of community-based training programs in reducing existential anxiety related to death among elderly women in rural Nineveh, Iraq. A quasi-experimental pre-test/post-test design with an unequal control group was used. The study involved 25 women aged 60-70 years, selected through purposive sampling, with 14 assigned to the intervention group and 11 to the control group. The intervention consisted of 10 sessions delivered over two weeks. Outcome assessments were conducted using the 36-item Existential Death Anxiety Scale developed by the researchers for this population. The intervention group showed a much greater decrease in anxiety scores than the control group (mean reduction = 38.64 vs. 4.18; $t = 9.83$, $p < 0.05$), and in-group analysis also showed a significant pre-post reduction in the intervention group (pre-test mean = 142.86; post-test mean = 104.22; $t = 11.59$, $p < 0.05$). These findings suggest that the program may help reduce existential anxiety related to death among rural elderly women. However, the results should be interpreted with caution due to the small, non-random sample, the use of geographically separated groups, and the absence of follow-up assessments. Larger, more rigorous studies are needed to confirm the effectiveness and long-term impact of interventions.

Keywords: existential anxiety; Death-related anxiety; elderly women; Rural areas; Psychosocial Interventions; Geriatric Mental Health; Quasi-Experiment

1. Introduction

The aging of the world's population has made the mental health of the elderly an increasingly important issue on the public health agenda. As they age, many individuals not only face physical decline and changes in social roles but also deal with deeper existential questions, including awareness of death, the meaning of life, loss, and the limitations of remaining time. For older women living in rural areas, the experience is often more complex due to limited access to mental health services, reduced social networks, and a high reliance on the support of family or close communities. In such situations, existential anxiety related to death can develop into real psychological distress, especially when the elderly live in fragile or isolated social conditions. The World Health Organization emphasizes that mental disorders are one of the important contributors to the health burden in the elderly group, and social isolation and loneliness are significant risk factors for the psychological well-being of the elderly (World Health Organization [WHO], 2025a, 2025b). Thus, anxiety related to death in rural elderly women needs to be understood as a psychological problem that does not stand alone, but is closely related to demographic changes, social contexts, and access to available support.

Previous literature suggests that death anxiety and existential anxiety in the elderly have been discussed from a variety of perspectives, but not adequately in older women groups in rural areas. Zhang et al. (2019) found that the



Copyright© 2026 Author/s

This article is distributed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International license. (CC BY-NC-SA 4.0)

meaning of life was negatively associated with death anxiety in the elderly, while self-esteem played an important role as a mediator in the relationship. Khodabakhshi-Koolaei (2022) also showed that death anxiety in the elderly increases when they face life uncertainty, alienation, and prolonged psychological distress. On the other hand, Hussain et al. (2023) emphasized that loneliness and limited social networks are significant issues for the elderly in rural communities but have not been explored in depth in intervention research. Research by Zhou et al. (2024) further shows that social support and psychological capital can help lower death anxiety in elderly people living alone. While the findings are important, most studies still focus on the general population, clinical patients, or the elderly in socially and culturally distinct contexts. Therefore, there is still a research gap on how existential anxiety related to death is experienced and can be intervened in rural elderly women, especially in the context of the Middle East.

This gap becomes even more important when placed in the context of Iraq, where women often face psychosocial burdens affected by gender inequality, the experience of conflict, economic pressure, and limited access to formal services. In this context, mental health problems in elderly women are easily overlooked because they are often considered a "normal" part of aging, even though they can affect their quality of life, social relationships, and their ability to live their daily lives calmly. Younis and Lafta (2021) show that women in Iraq face various forms of social and psychological vulnerability that can have a long-term impact on their mental well-being. However, studies that specifically focus on elderly women in rural areas remain very limited. Departing from these conditions, this study aims to fill the research gap by testing the potential effectiveness of community-based training programs in reducing existential anxiety related to mortality in elderly women in rural Nineveh, Iraq. This position is important because the research not only seeks to describe the problem but also offers psychosocial interventions designed to fit participants' life contexts and the limitations of the services they face.

Based on this framework, the study departs from the argument that existential death-related anxiety in rural elderly women is not a completely fixed condition, but can be mitigated through interventions that help participants understand their fears, rebuild meaning in life, and strengthen social connections in a safe and supportive setting. This argument aligns with the findings of Zhang et al. (2019) on the importance of meaning in life, Zhou et al. (2024) on the role of social support, and Lu et al. (2024), who suggest that structured psychosocial interventions have the potential to reduce death anxiety. On that basis, this study hypothesizes that elderly women who participate in the training program will experience a greater decrease in existential anxiety related to mortality than elderly women who do not participate in the program. In addition, it was hypothesized that the post-intervention scores in the experimental group would be lower than their pre-intervention scores. Thus, this study not only expands the literature on death-related existential anxiety in the elderly but also offers preliminary evidence on the relevance of community-based interventions for elderly women in rural areas that have been relatively underrepresented in international research.

2. Literature Review

2.1. Existential Anxiety Related To Death In The Elderly: Concept, Dimensions And Psychological Relevance

Existential anxiety related to death in the elderly needs to be understood as a more complex psychological experience than just the fear of death itself. In the advanced stages of life, individuals not only face the possibility of death but also more fundamental questions about the meaning, loss, separation, dependence, and value of the life they have lived. In the tradition of existential psychology, Yalom (1980) places death as one of the main concerns that shape human anxiety, along with freedom, isolation, and meaning. This perspective is then reinforced by Terror Management Theory, which explains that awareness of death gives rise to psychological threats that are managed through systems of meaning, self-esteem, and cultural worldviews (Greenberg et al., 1997). In a more recent study, Kellehear and Garrido (2023) showed that the study of existential aging and dying remains fragmented, even though the aging process makes awareness of one's closeness to death more real. Thus, existential anxiety related to death in

the elderly should be read as a multidimensional symptom that includes awareness of mortality, existential threats, search for meaning, and a sense of separation, rather than as a single, stand-alone fear.

Empirical studies have also shown that death anxiety in old age is closely related to various indicators of psychological well-being. Zhang et al. (2019) found that the meaning of life is negatively correlated with death anxiety in the elderly, and that self-esteem plays an important mediator role in these relationships. These findings are important because they show that death anxiety arises not only from biological threats, but also from the shaky structure of personal meaning. Khodabakhshi-Koolae (2022), in the context of the pandemic, shows that the elderly experience increased death anxiety when faced with uncertainty, isolation, and changes in life routines, all of which reinforce awareness of self-fragility. Furthermore, recent integrative reviews show that death anxiety in older adults affects emotional responses, health behaviors, and adherence to care, especially when older adults live with chronic illnesses or lose social support (Frontiers in Psychology, 2025). This means that existential anxiety related to death is not only philosophically relevant but also has practical consequences for the quality of life, social functioning, and the way the elderly live their daily lives. From this, it can be concluded that the literature is already quite strong in explaining the importance of this variable, but it still requires more contextual intervention testing in certain elderly groups.

2.2. Elderly Women In Rural Areas As A More Vulnerable Group

Existential anxiety in the elderly does not appear in a vacuum; it is shaped by the social context in which a person ages. In rural communities, the experience of aging is often influenced by limited transportation, low access to mental health services, shrinking social networks, and cultural norms that tend to view talking about death as sensitive or even taboo. Hussain et al. (2023), through a systematic review, show that loneliness and weak social networks are prominent problems for the elderly in rural areas, and that the dynamics of their social relations remain insufficiently understood. This finding is important because social isolation is not only a relational issue, but also a factor that increases the psychological burden and narrows the opportunity for the elderly to talk about their deepest fears. Williams et al. (2022) noted that interventions in rural areas still lack strong evidence, especially regarding efforts to effectively reduce loneliness and social isolation. In the context of this article, these conditions become particularly relevant because the study participants came from rural communities of Nineveh who were explicitly described as having geographical isolation, limited mental services, and strong traditional values. Therefore, rural elderly women can be understood as a group that faces a double layer of vulnerability: age vulnerability and residential context vulnerability.

These vulnerabilities become sharper when gender variables are also taken into account. In many societies, including Iraq, women are more likely to bear the accumulated burden of parenting, loss of a partner, economic dependence, and limited social mobility in old age. Younis and Lafta's (2021) article confirms that women's mental health in Iraq is shaped by long experiences of war, loss, poverty, displacement, and gender inequality, while the literature on women's mental health itself is still relatively limited. Even when mental services are available, stigma, tolerance norms, and moral demands often make women more likely to harbor distress than to express it as a need for help. More recent literature also suggests that death anxiety can differ by gender in the elderly population and is influenced by determinants that are not always the same between men and women (BMC Geriatrics, 2025). In this regard, the focus of this article on elderly women aged 60–70 years in the districts of Ain Safni and Baadre is academically important, as this group is not only underrepresented but also at the intersection of elderly, gender, rurality, and post-conflict contexts. Thus, the research gap lies not only in the lack of studies on death anxiety, but also in the lack of understanding of how anxiety is experienced by rural elderly women in specific socio-cultural settings.

2.3. Community-Based Psychosocial Interventions: What Is Already Known And What Has Not Been Tested

Amid increasing attention to death anxiety, the intervention literature suggests that psychosocial approaches do have potential, but the available evidence is still inconsistent. A meta-analysis of Menzies et al. (2018) showed that psychological interventions generally resulted in a reduction in death anxiety with small to moderate effects, although the types of interventions and populations studied varied widely. A more recent network study by Lu et al. (2024) also concluded that some psychosocial interventions—including cognitive-behavioral approaches, logotherapy, and spiritual-based interventions—can lower death anxiety in patients, although most of the evidence comes from clinical contexts, not communities. Heidary et al. (2023) showed that group logotherapy can reduce death anxiety and existential loneliness in patients with advanced cancer, emphasizing the importance of meaning-making as a therapeutic target. Theoretically, the findings align with Wong (2007), who emphasizes that acceptance of death is more likely to develop when individuals can still maintain meaning, relationships, and symbolic continuity in their lives. However, the literature also shows a clear gap: interventions are still largely tested in patients or urban populations, while rural elderly women are rarely the main focus.

These limitations are important because the intervention's effectiveness is determined not only by the technique but also by the suitability of the delivery context. In rural populations, interventions that are too clinical or too individualized often do not fit the realities of participants' lives, who rely more on informal networks, communal spaces, and local cultural legitimacy. Hussain et al. (2023) show that interventions that successfully reduce loneliness in rural seniors generally foster regular and meaningful social connections, while Williams et al. (2022) emphasize the importance of shared interests, companionship, and shared experiences in reducing loneliness. A broader review of loneliness interventions also shows that effective programs tend to be adaptive, participatory, and sensitive to the needs of target groups (Morrish et al., 2023). In this text, the training program is designed through the integration of existential approaches, cognitive-behavioral techniques, meaning-making, and group formats adapted to the local culture, and then delivered in 10 sessions over two weeks in a community setting. Therefore, the academic position of this study is quite clear: it does not simply repeat the findings that psychosocial interventions can help, but rather tests whether brief, intensive, community-based, and culturally sensitive interventions can work in rural older women—a question rarely addressed in the international literature.

3. Methods

3.1. Research Design

This study employed a quasi-experimental pre-test–post-test design with a non-equivalent control group to examine the potential effectiveness of a community-based training program in reducing death-related existential anxiety among elderly women in rural areas of Nineveh Governorate, Iraq. The study was conducted in two rural districts, Ain Safni and Baadre, which were selected because they reflect common characteristics of rural communities in the region, including geographic isolation, limited access to mental health services, and strong traditional social values. A quasi-experimental design was considered appropriate for this study because random assignment was not feasible in the community setting. Instead, participants were assigned by district: women from Ain Safni served as the intervention group, and women from Baadre served as the control group. While this design allowed the study to be implemented in a naturalistic, culturally acceptable manner, it also introduced an important limitation: the two groups came from different locations. Accordingly, the findings should be interpreted as preliminary evidence derived from a pilot community-based study rather than as definitive causal proof of intervention effectiveness.

3.2. Setting and Participants

The target population consisted of elderly women aged 60–70 years residing in rural communities in the Ain Safni and Baadre districts of Nineveh Governorate. Participants were recruited using purposive sampling based on predefined inclusion criteria. To be eligible, participants had to be women aged 60–70 years, permanent residents of one of the two target districts, willing to attend the full training program, cognitively able to participate in group activities and interviews, and able to provide informed consent. In the original manuscript, eligibility also referred to women who had shown signs of existential death anxiety for at least three months; in the present revision, this condition is treated as a screening-based clinical indication rather than as an externally verified diagnosis. A total of 25 women were enrolled in the study. Fourteen participants from Ain Safni were assigned to the intervention group, and 11 participants from Baadre formed the control group. The sample included 7 women aged 60–64 years, 11 aged 65–68 years, and 7 aged 69–70 years. Regarding education, 8 participants were illiterate, 12 had completed primary school, 4 had intermediate education, and 1 had secondary education. Most participants were widowed ($n = 16$), with 6 married and 3 divorced.

3.3. Measure

The outcome variable was death-related existential anxiety, assessed using the Existential Death Anxiety Scale developed by the researchers for this study. The scale consisted of 36 items scored on a five-point Likert scale ranging from 1 (never) to 5 (always), with total scores ranging from 36 to 180; higher scores indicated greater levels of existential death anxiety. The instrument was constructed to reflect four domains of existential anxiety relevant to older adults: mortality awareness (10 items), meaning and purpose (9 items), isolation and separation (8 items), and existential threat (9 items). Given the participants' educational backgrounds, the scale was designed to be sufficiently simple to administer via interviews while still capturing multiple dimensions of the construct. Preliminary psychometric evaluation was conducted before the main study. Content validity was assessed by six specialists in clinical psychology, existential therapy, and geriatric mental health, resulting in a content validity index of 0.82. Face validity was explored through structured interviews with eight elderly women from similar rural communities. Exploratory factor analysis with a pilot sample of 32 women provided initial support for a four-factor structure, with factor loadings ranging from 0.58 to 0.84. Internal consistency was high, with Cronbach's alpha of 0.94 for the total scale and 0.82–0.89 across subscales. However, because the instrument was newly developed and tested on a small pilot sample, its psychometric properties should be regarded as preliminary.

3.4. Intervention

The intervention consisted of a structured community-based training program specifically designed to reduce death-related existential anxiety among rural elderly women. The program was delivered over two consecutive weeks in 10 sessions, each lasting approximately 50 minutes. Sessions were held daily to accommodate participants' routines and reduce the burden of prolonged attendance. The program's content was informed by existential therapy, cognitive-behavioral strategies, meaning-making approaches, and group-based supportive methods appropriate for older adults. Across sessions, participants were guided to discuss death-related concerns openly, identify sources of fear and avoidance, explore meaning and personal legacy, strengthen spiritual and philosophical coping resources, practice mindfulness and emotional regulation, and build supportive relationships with peers in the group. Delivery methods included interactive discussion, guided reflection, experiential exercises, peer sharing, and practical take-home activities. To improve acceptability and relevance, the sessions were adapted to the local cultural context by using community-relevant examples, familiar communication styles, and references to local religious and social values. The intervention was conducted in community-based settings such as village centers, religious facilities, and private homes that were considered accessible, familiar, and private enough for sensitive discussion.

3.5. Procedures

Before data collection began, ethical approval was obtained from the relevant institutional ethics committee and local community authorities. In addition, community consultation was undertaken with religious leaders, village elders, and women's groups to ensure that the study procedures and training content were culturally appropriate and acceptable within the local context. After eligibility screening and recruitment, informed consent was obtained from all participants following an explanation of the study objectives, procedures, potential benefits and risks, confidentiality safeguards, and the voluntary nature of participation. Baseline assessment was then conducted individually for all participants in both groups using the Existential Death Anxiety Scale. Because some participants had limited literacy, the scale was administered through face-to-face interviews in participants' homes or other preferred community locations. After the pre-test, the intervention group received the two-week training program, whereas the control group continued their usual daily activities and did not receive any study-related intervention during that period. Immediately after the intervention, both groups underwent a post-test assessment using the same instrument and administration procedure. All participant information was coded numerically to maintain confidentiality. No follow-up assessment was conducted after the post-test phase

3.6. Data Analysis

Data were analyzed using SPSS version 28.0. Descriptive statistics were first computed to summarize participant characteristics and score distributions. Given the small sample size, the Shapiro–Wilk test was used to assess normality before conducting parametric analyses. To evaluate changes associated with the intervention, two main comparisons were performed. First, an independent-samples *t-test* was used to compare the mean reduction in existential death anxiety scores between the intervention and control groups. Second, a paired-samples *t-test* was used to compare pre-test and post-test scores within the intervention group. Effect sizes were estimated using Cohen's *d* to aid the interpretation of the practical magnitude of the observed changes. Statistical significance was set at $p < .05$. Although the original analysis plan mentioned the calculation of 95% confidence intervals, these were not fully reported in the results section. Because the study used a small, non-random sample and non-equivalent groups from different districts, the statistical findings should be interpreted cautiously and understood as preliminary rather than conclusive. For a future larger study, an analysis such as ANCOVA or a mixed-model approach would provide a stronger test of intervention effects while accounting for baseline differences.

4. Results

4.1. Participant Characteristics

The study involved 25 elderly women aged 60–70 years, with 14 in the intervention group and 11 in the control group. The age distribution included 7 participants aged 60–64 years, 11 aged 65–68 years, and 7 aged 69–70 years. Regarding educational background, 8 participants were illiterate, 12 had completed primary education, 4 had completed intermediate education, and 1 had completed secondary education. Most participants were widowed ($n = 16$), with 6 married and 3 divorced. These characteristics indicate that the study focused on a socially vulnerable population of older rural women, a context that is important for interpreting both the need for the intervention and the data-collection method used.

4.2. Baseline Level of Existential Death Anxiety

Before the intervention was implemented, the baseline level of existential death anxiety in the experimental group was examined using a one-sample *t-test* by comparing the observed mean score with the hypothetical mean of the scale. The analysis showed that the mean pre-test score of the experimental group was substantially higher than the hypothetical mean, indicating that participants had elevated levels of existential death anxiety at baseline.

Although this analysis does not constitute the main test of intervention effectiveness, it provides descriptive support that the participants represented an appropriate target group for the intervention

Table 1
One-sample t-test for existential death anxiety scale

Scale	N	Hypothetical Mean	Arithmetic Mean	Standard Deviation	Calculated t-value	Tabulated t-value	Significance
Pre-anxiety	14	108	142.86	18.73	6.95	2.16 (0.05) (13)	Significant

As shown in Table 1, the calculated t value was 6.95, exceeding the tabulated value of 2.16 at the 0.05 significance level with 13 degrees of freedom. The arithmetic mean of 142.86 was notably higher than the hypothetical mean of 108, suggesting that the participants in the experimental group experienced a relatively high level of existential death anxiety prior to the intervention. This finding supports the need to implement a structured psychological program for this population.

4.3. Between-Group Comparison of Anxiety Reduction

To assess the effect of the intervention, difference scores were calculated by subtracting post-test scores from pre-test scores in both groups. These reduction scores were then compared using an independent-samples t -test. The findings showed that the intervention group demonstrated a markedly greater reduction in existential death anxiety than the control group. Specifically, the intervention group had a mean reduction score of 38.64, whereas the control group showed only a mean reduction of 4.18. This difference was statistically significant, indicating that the training program was associated with a substantially greater decline in anxiety scores over the study period. Given the quasi-experimental design, this result is best interpreted as preliminary evidence of a positive intervention effect.

Table 2
T-test for two independent samples in reducing existential death anxiety among members of the two groups

Groups	Number	Mean	Standard Deviation	Calculated t-value	Tabulated t-value	Significance
Experimental	14	38.64	12.47	9.83	2.07 (0.05) (23)	Significant in favor of the experimental
Control	11	4.18	6.92	—	—	—

As presented in Table 2, the calculated t value reached 9.83, which was much higher than the tabulated value of 2.07 at the 0.05 significance level with 23 degrees of freedom. The intervention group showed a mean reduction of 38.64 points, while the control group showed only a minimal reduction of 4.18 points. This pattern indicates that participants who received the training program improved more substantially than those who did not during the same period.

4.4. Within-Group Change in the Experimental Group

A paired-samples *t*-test was conducted to examine whether the experimental group showed a significant reduction in existential death anxiety from pre-test to post-test. The results indicated a statistically significant decrease after participation in the training program. The arithmetic mean declined from 142.86 at pre-test to 104.22 at post-test, with a mean difference of 38.64 and a standard deviation of differences of 12.47. These findings indicate that the intervention group experienced a substantial improvement across the intervention period. However, because no follow-up assessment was conducted, the extent to which this improvement was maintained over time cannot be determined from the present study.

Table 3

T-value for two related samples in existential death anxiety among the experimental group members

Existential Death Anxiety Scale	Arithmetic Mean	Number	Mean of Differences	Standard Deviation of Differences	Calculated t-value	Tabulated t-value	Significance
Pre-application	142.86	14	38.64	12.47	11.59	2.16 (0.05) (df = 13)	Significant in favor of post-application
Post-application	104.22	—	—	—	—	—	—

As shown in Table 3, the calculated *t* value was 11.59, exceeding the tabulated value of 2.16 at the 0.05 significance level with 13 degrees of freedom. The mean score declined from 142.86 before the intervention to 104.22 after the intervention. This result indicates a statistically significant reduction in existential death anxiety within the experimental group following the training program.

Summary of Findings

Overall, the results reveal three main patterns. First, participants in the experimental group entered the study with elevated levels of existential death anxiety relative to the hypothetical midpoint of the scale. Second, the reduction in anxiety scores was substantially greater in the intervention group than in the control group. Third, the experimental group showed a significant decline in anxiety scores from pre-test to post-test. Taken together, these findings suggest that the community-based training program may have contributed to reducing death-related existential anxiety among elderly women in rural settings. At the same time, the interpretation of these findings should remain cautious because the study employed a small purposive sample, non-random group allocation, and geographically separate groups.

5. Discussion

The study's preliminary findings suggest that participants in the experimental group entered the program with relatively high levels of existential anxiety related to death. This condition is important because it confirms that the intervention is applied to groups that do face real psychological problems, not to populations with marginal levels of anxiety. From the perspective of existential psychology, awareness of death is one of the basic human concerns that tends to become more intense as individuals enter old age, especially when accompanied by experiences of loss, dependence, shrinking social roles, and an increased awareness of life's limitations (Yalom, 1980). These findings are also in line with the research of Zhang et al. (2019), which showed that death anxiety in the elderly is closely related

to life meaning and self-esteem. Thus, the high initial score in this study makes sense from the participants' perspective: elderly women living in rural areas with limited sources of psychological support. However, comparing the initial score with the hypothetical mean should be understood as a descriptive picture of the level of problems participants face, not as evidence of the program's effectiveness. The main value lies in the affirmation that the study target group is indeed relevant to receive psychosocial interventions that focus on existential anxiety related to death.

The most important finding in the study was that the experimental group showed a much greater decrease in existential anxiety related to death than the control group. This pattern provides an early indication that the training program provided is likely to contribute to the psychological changes experienced by the participants. Conceptually, the results are in line with the literature showing that psychosocial interventions can help lower death anxiety when they provide space for participants to understand their fears, manage emotional responses, and rebuild meaning systems that underpin psychological security. A meta-analysis by Menzies et al. (2018) showed that psychosocial interventions generally reduced death anxiety with small to moderate effects, while Lu et al. (2024) reported that various psychosocial interventions had potential benefits in the patient population. Within that framework, this study's results extend previous findings regarding rural elderly women. However, the interpretation of these results must still be cautious. Because the study design was quasi-experimental, with groups from different districts and no randomization, the differences between groups could not be considered definitive causal evidence. A more precise formulation is that this study provides preliminary evidence that community-based training programs are associated with a decrease in existential anxiety related to death.

The significant decline in scores from pre-test to post-test in the experimental group further strengthened the suspicion that the intervention benefited participants who followed it. These changes suggest that after the program is over, participants not only experience minor emotional fluctuations but also exhibit significant shifts in the way they respond to death-related anxiety. However, these changes should not be immediately cited as evidence of established clinical success. The available data support only the conclusion that anxiety scores are lower after the intervention, but it is not yet sufficient to ensure that the changes are stable in the long term or have formal clinical significance. The absence of follow-up limits this study to short-term post-intervention improvements. In addition, the literature suggests that death anxiety in the elderly is often related to broader psychological variables such as meaning of life, self-esteem, and social-emotional conditions that change over time (Khodabakhshi-Koolae, 2022; Zhang et al., 2019). Therefore, it is very likely that some of the changes observed in this study were influenced by a combination of social engagement, facilitators' attention, and opportunities to discuss previously suppressed issues. In other words, these findings are important, but they are still more accurately read as an indicator of initial benefit than final evidence of long-term therapeutic effectiveness.

There are several reasons that could theoretically explain why the experimental group experienced greater improvement. First, the psychoeducational component is likely to help participants understand existential anxiety as a human experience that can be talked about, rather than a personal burden that must be hidden. Second, the meaning-making element may provide space for participants to reinterpret old age not only as a phase of decline, but also as one that retains value, relationships, legacy, and symbolic continuity. This idea aligns with Meaning Management Theory, which emphasizes that acceptance of death is more likely to grow when individuals can still build meaning in their lives (Wong, 2007). Third, the group format likely lowered feelings of isolation because participants heard that others also carried similar anxiety. This is consistent with the study of Hussain et al. (2023), which shows the importance of social networks and meaningful connections for the psychosocial well-being of the elderly in rural areas. Fourth, the program's cultural adaptation seems to play an important role, as interventions delivered in familiar language, values, and examples are usually more well-received by participants. Although this study did not directly measure mediators—for example, meaning of life, social support, or emotion regulation—these explanations were consistent with the intervention's structure and the available literature.

The results of this study are generally in line with previous research that shows that psychosocial interventions can help reduce death anxiety and existential distress. The added value of this research lies not in the claim that it has

provided a final answer, but in extending the empirical context to a rarely researched group: elderly women in rural Iraqi communities. So far, most evidence for interventions has come from clinical populations, the general population, or more urban settings. For example, Menzies et al. (2018) highlight the effects of psychosocial interventions across a diverse adult and clinical sample, while Lu et al. (2024) focus more on patient populations. On the other hand, the research of Younis and Lafta (2021) confirms that women in Iraq live in a psychosocial landscape shaped by prolonged conflict, poverty, displacement, loss, and gender inequality, while the literature on women's mental health there is still limited. As such, this research has an important academic position: it links the literature on death anxiety with the literature on women's vulnerability in Iraq, and then tests it in a rural setting. With this position, this study can be seen as an early contribution that paves the way for the development of more context-sensitive intervention models for older women in areas where formal mental health services are less accessible.

Although preliminary, the results of this study have clear practical implications. These findings suggest that short, community-based psychosocial programs have the potential to be a realistic form of support for older women in rural areas who have difficulty accessing formal psychological services. In rural contexts, interventions that rely on communal spaces, group interactions, and culturally sensitive content tend to be more acceptable than service models that are too clinical or too individualized. A systematic review by Hussain et al. (2023) shows that successful interventions in rural older adults generally rely on the formation of meaningful social connections and repeated engagement. Therefore, the findings of this study support the idea that the mental health of older people in rural areas does not necessarily have to be addressed through formal institutions, but can also be developed through a structured community approach. However, the results of this study are insufficient to support recommendations for large-scale implementation. A more precise implication is that intervention models like this are worthy of further testing with stronger designs, larger samples, and the involvement of local actors, such as health cadres, women's groups, and community leaders, to make them more acceptable and sustainable.

The findings of this study need to be read alongside several important methodological limitations. First, the small sample size and purposive sampling limit the generalizability of the findings. Second, using groups from two different districts introduces the possibility of location-based confounding that cannot be fully controlled. Third, the absence of follow-up means the intervention's resilience has not yet been evaluated. Fourth, the instrument was developed by the researchers themselves, and although it showed promising initial validity, it still required further psychometric testing in a larger sample. Fifth, because some participants have limited literacy, interview-based administration can increase the possibility of interviewer bias or social desirability. These limitations mean the study's results are better understood as preliminary evidence from community-based pilot studies. Going forward, follow-up research will need to use larger samples, randomize where possible, include baseline equivalence tests, employ more robust analyses such as ANCOVA or mixed-effects models, and assess mediators such as life meaning, social support, spiritual coping, and emotion regulation. These steps are important so that future research can shed light not only on whether the intervention works, but also how and under what conditions it is most effective.

6. Conclusion

This study shows that community-based training programs have the potential to reduce existential anxiety related to death in elderly women in rural areas. Key findings showed that the intervention group experienced a greater reduction in anxiety scores than the control group and also showed significant improvement from before to after the intervention. These results are in line with the literature that confirms that death anxiety in the elderly is closely related to life meaning, self-esteem, and psychosocial support, so interventions that touch on these aspects are indeed likely to result in positive change. These findings are also consistent with synthetic evidence suggesting that psychosocial interventions can reduce death anxiety, although the strength of the effect varies by population, context, and the form of intervention used. Nevertheless, the conclusions of this study should be read carefully. Because the study used a quasi-experimental design, small samples, non-random participant selection, and groups from different districts, the results obtained are more appropriately understood as preliminary evidence from community-based

pilot studies, rather than as final causal evidence. Thus, the main contribution of this study is to provide an initial empirical basis for the development of culturally sensitive psychosocial interventions for rural elderly women, a group that remains very underrepresented in the international literature.

Theoretically, this study reinforces the argument that existential anxiety related to death in old age cannot be understood simply as a biological fear of death, but rather as a multidimensional experience related to the meaning of life, self-esteem, social relations, and cultural context. The results of this study support the view that interventions that combine existential discussion, meaning-making, and social support can be a relevant pathway for reducing distress among the elderly, especially women living in vulnerable social conditions. In a broader academic context, the study also expands the literature on death anxiety by focusing on a previously understudied setting, rural communities in Iraq. Therefore, this study helps affirm that theories of existential anxiety and psychosocial interventions need to be tested in non-Western and non-clinical contexts to ensure their explanatory power is not limited to populations that have been dominant in international research.

Practically, the results of this study suggest that short, community-based psychosocial programs can be a realistic intervention option for elderly women in rural areas who have limited access to formal mental health services. The format of group interventions conducted in locations familiar to participants' lives, as well as the use of approaches tailored to local cultural and social values, appeared to be important factors supporting the program's acceptance. These findings align with a systematic review showing that interventions for rural seniors tend to be more effective when they build meaningful social connections and are delivered regularly in settings close to their communities. However, the practical implications of this research have not yet reached the stage of recommendations for large-scale implementation. A more appropriate implication is that such an intervention model warrants further development through collaboration with community health workers, women's groups, religious leaders, and local leaders, and then retesting with a more robust design. This approach is important so that mental health support for rural seniors is not only theoretically available but also truly accessible, accepted, and sustained in field practice.

For further research, this study confirms the need for a more robust design to test the intervention's effectiveness more convincingly. Future research should involve larger samples, randomization where possible, baseline equivalence testing, and follow-up to assess the sustainability of intervention effects. In addition, it is important to measure potential mediators, such as meaning in life, social support, spiritual coping, and emotion regulation, to more precisely explain the mechanisms of change. Previous literature suggests that these factors are very likely to play a role in lowering death anxiety, but they have not been directly tested in community designs such as this study. Thus, the research implications of this study extend beyond the need for replication to the development of intervention models that are theoretically sharper, methodologically stronger, and more sensitive to the cultural context in which the elderly live their daily lives.

References

- Beller, J. (2023). Loneliness and mortality: The moderating effect of positive affect. *Applied Psychology: Health and Well-Being*, 15(1), 49–65. <https://doi.org/10.1111/aphw.12354>
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–334. <https://doi.org/10.1007/BF02310555>
- Donaldson, S. I., Dollwet, M., & Rao, M. A. (2015). Happiness, excellence, and optimal human functioning revisited: Examining the peer-reviewed literature linked to positive psychology. *The Journal of Positive Psychology*, 10(3), 185–195. <https://doi.org/10.1080/17439760.2014.943801>

- Greenberg, J., Solomon, S., & Pyszczynski, T. (1997). Terror management theory of self-esteem and cultural worldviews: Empirical assessments and conceptual refinements. *Advances in Experimental Social Psychology*, 29, 61–139. [https://doi.org/10.1016/S0065-2601\(08\)60016-7](https://doi.org/10.1016/S0065-2601(08)60016-7)
- Heidary, M., Heshmati, R., & Hayes, J. (2023). Effect of group logotherapy on anxiety about death and existential loneliness in patients with advanced cancer: A randomized controlled trial. *Cancer Nursing*, 46(1), E21–E30. <https://doi.org/10.1097/NCC.0000000000001086>
- Hussain, B., Mirza, M., Baines, R., Burns, L., Stevens, S., Asthana, S., & Chatterjee, A. (2023). Loneliness and social networks of older adults in rural communities: A narrative synthesis systematic review. *Frontiers in Public Health*, 11, Article 1113864. <https://doi.org/10.3389/fpubh.2023.1113864>
- Juhl, J., Routledge, C., Arndt, J., Sedikides, C., & Wildschut, T. (2010). Fighting the future with the past: Nostalgia buffers existential threat. *Journal of Research in Personality*, 44(3), 309–314. <https://doi.org/10.1016/j.jrp.2010.02.004>
- Kellehear, A., & Garrido, M. (2023). Existential aging and dying: A scoping review. *Archives of Gerontology and Geriatrics*, 104, Article 104798. <https://doi.org/10.1016/j.archger.2022.104798>
- Khodabakhshi-Koolaei, A. (2022). Living with death anxiety: Challenges of older adults during the COVID-19 quarantine period. *OMEGA—Journal of Death and Dying*, 85(3), 640–656. <https://doi.org/10.1177/00302228211065960>
- Lu, J., Yang, Y., Chen, H., Ma, H., & Tan, Y. (2024). Effects of different psychosocial interventions on death anxiety in patients: A network meta-analysis of randomized controlled trials. *Frontiers in Psychology*, 15, Article 1362127. <https://doi.org/10.3389/fpsyg.2024.1362127>
- Lyke, J. (2013). Associations among aspects of meaning in life and death anxiety in young adults. *Death Studies*, 37(5), 471–482. <https://doi.org/10.1080/07481187.2011.649939>
- Menzies, R. E., Zuccala, M., Sharpe, L., & Dar-Nimrod, I. (2018). The effects of psychosocial interventions on death anxiety: A meta-analysis and systematic review of randomized controlled trials. *Journal of Anxiety Disorders*, 59, 64–73. <https://doi.org/10.1016/j.janxdis.2018.09.004>
- Morrish, N., Choudhury, S., & Medina-Lara, A. (2023). What works in interventions targeting loneliness: A systematic review of intervention characteristics. *BMC Public Health*, 23, Article 2245. <https://doi.org/10.1186/s12889-023-17097-2>
- Routledge, C., & Juhl, J. (2010). When death thoughts lead to death fears: Mortality salience increases death anxiety for individuals who lack meaning in life. *Cognition & Emotion*, 24(5), 848–854. <https://doi.org/10.1080/02699930902847144>
- Williams, T., Lakhani, A., & Spelten, E. (2022). Interventions to reduce loneliness and social isolation in rural settings: A mixed-methods review. *Journal of Rural Studies*, 90, 76–92. <https://doi.org/10.1016/j.jrurstud.2022.02.001>
- Wisman, A., Heflick, N., & Goldenberg, J. L. (2015). The great escape: The role of self-esteem and self-related cognition in terror management. *Journal of Experimental Social Psychology*, 60, 121–132. <https://doi.org/10.1016/j.jesp.2015.05.002>
- Wong, P. T. P. (2007). Meaning management theory and death acceptance. In A. Tomer, G. T. Eliason, & P. T. P. Wong (Eds.), *Existential and spiritual issues in death attitudes* (pp. 65–87). Lawrence Erlbaum Associates. <https://doi.org/10.4324/9780203809679-10>
- World Health Organization. (2023). *Mental health of older adults*. <https://www.who.int/news-room/fact-sheets/detail/mental-health-of-older-adults>
- World Health Organization. (2025a, October 8). *Mental health of older adults*. <https://www.who.int/news-room/fact-sheets/detail/mental-health-of-older-adults>

World Health Organization. (2025b). *Reducing social isolation and loneliness among older people*. <https://www.who.int/activities/reducing-social-isolation-and-loneliness-among-older-people>

Yalom, I. D. (1980). *Existential psychotherapy*. Basic Books.

Younis, M. S., & Lafta, R. K. (2021). The plight of women in Iraq: Gender disparity, violence, and mental health. *International Journal of Social Psychiatry*, 67(8), 977–983. <https://doi.org/10.1177/00207640211003602>

Zhang, J., Peng, J., Gao, P., Huang, H., Cao, Y., Zheng, L., & Miao, D. (2019). Relationship between meaning in life and death anxiety in the elderly: Self-esteem as a mediator. *BMC Geriatrics*, 19, Article 308. <https://doi.org/10.1186/s12877-019-1316-7>

Zhou, J., Wu, B., Su, L., & Ma, X. (2024). The influence of tai chi on the death anxiety of elderly people living alone: The chain mediating effect of social support and psychological capital. *Frontiers in Psychology*, 14, Article 1303524. <https://doi.org/10.3389/fpsyg.2023.1303524>

