Frontiers in Healthcare Research

ISSN: 3032-7725
Journal homepahe: frontiersin-healthcare-research.org

Publisher: Rumah Sakit dr. M. Djamil, Padang, West Sumatra, Indonesia

# Addressing Death Anxiety in Terminally Ill Patients: A Review of Current Interventions and Future Directions

Defia Roza[1*], Heppi Sasmita[2], Yessi Fadriyanti[3]

[1]Poltekkes Kemenkes Padang

[2]Poltekkes Kemenkes padang

[3]Poltekkes Kemenkes Padang

* Corresponding author.
E-mail address: defiaroza@rocketmail.com

**Article information**

Submitted
07-06-2024

Accepted
07-07-2024

Published
29-07-2024

**Abstract**

**Background:** Death anxiety is a significant psychological concern across various patient populations, particularly those facing chronic or terminal illnesses. Understanding the factors influencing death anxiety and the effectiveness of interventions is crucial for improving patient care and outcomes. This review aims to explore the psychological, social, and environmental factors contributing to death anxiety and evaluate the effectiveness of interventions designed to mitigate this anxiety. Additionally, it seeks to identify research gaps and provide recommendations for future studies.
**Methods:** A literature search was conducted, resulting in the inclusion of ten studies focusing on different populations, including COVID-19 patients, elderly individuals in nursing homes, and terminally ill cancer patients. The studies employed various methodologies such as correlational studies, path analysis, conceptual analysis, retrospective analysis, comparative studies, and randomized controlled trials. Data were synthesized to identify common themes, methodological quality was assessed, and findings were compared and contrasted.
**Results:** Psychological interventions, including cognitive-behavioral therapy (CBT), well-being therapy (WBT), and spiritual care programs, were found to be effective in reducing death anxiety. The design of healthcare environments also significantly impacted death anxiety, with well-designed palliative care settings providing substantial benefits. Holistic approaches addressing psychological well-being, meaning in life, self-care, and social capital were essential in managing death anxiety, especially among the elderly. However, several research gaps were identified, including the need for long-term studies, comparative effectiveness research, culturally sensitive interventions, and the potential of technology-based interventions.
**Conclusion:** The review highlights the importance of integrated, holistic, and culturally sensitive approaches to managing death anxiety. By addressing the identified research gaps and implementing the recommended strategies, healthcare systems can enhance the quality of care for patients facing death anxiety, leading to improved patient outcomes and more compassionate end-of-life care.

***Keywords:*** *death anxiety, healthcare design, holistic approaches, psychological interventions, terminal illness*

## Introduction

Death anxiety is a profound psychological concern that significantly impacts various patient populations, especially those facing chronic or terminal illnesses.[1,2] Understanding the factors influencing death anxiety and the effectiveness of interventions designed to mitigate this anxiety is crucial for improving patient care and outcomes. While death anxiety has long been recognized in the clinical literature, recent research has shed new light on its multifaceted nature, emphasizing the interplay of psychological, social, and environmental factors.

In aging populations, particularly those residing in nursing homes, psychological challenges are often exacerbated by social isolation and loneliness.[3] Research has highlighted that factors such as meaning in life,

psychological well-being, self-care, and social capital are closely linked with depression and death anxiety among the elderly.[4,5] Loneliness serves as a critical mediating factor in these relationships, indicating the need for holistic approaches that address both psychological and social dimensions of mental health in this demographic.[6,7] By fostering a sense of meaning and enhancing social connections, it is possible to mitigate the adverse effects of loneliness and improve overall well-being among the elderly.

The built environment also plays a crucial role in end-of-life care, influencing how individuals experience and cope with death anxiety. With an increasing number of people dying in institutional settings such as hospitals, hospices, and long-term care facilities, the design of these environments can significantly impact psychological well-being. Architectural elements and the overall ambiance of palliative care settings can either alleviate or exacerbate anxieties related to death and dying.[8] Thus, considering the psychological impact of the built environment is imperative in designing and managing end-of-life care facilities to provide a comforting and dignified experience for patients.

The COVID-19 pandemic has further underscored the importance of addressing psychological health, bringing to light various issues, including stigmatization, panic disorder, and death anxiety. During the fourth wave of COVID-19 in Pakistan, these mental health issues were significantly heightened among patients, with stigmatization and panic disorder being substantial predictors of death anxiety.[9] Understanding these psychological impacts is essential for developing targeted interventions that can alleviate distress and improve patient outcomes during ongoing and future pandemics.

Cancer patients, particularly those in the terminal stages of their illness, often experience high levels of depression and anxiety. Studies have shown that depression scores increase significantly as patients approach death, while changes in anxiety scores occur later and are less pronounced.[10] These findings underscore the importance of early identification and treatment of depression in terminally ill patients to maximize their quality of life during their remaining months.

In patients with schizophrenia, death anxiety is significantly higher compared to healthy controls, and this anxiety negatively correlates with functionality. Enhancing the functionality of schizophrenia patients through targeted interventions can reduce their death anxiety, thereby improving their overall quality of life.[11] Similarly, in Iranian cancer patients, higher death anxiety is associated with lower quality of life, particularly among female patients who exhibit higher levels of death anxiety and lower quality of life compared to their male counterparts.[12]

Moreover, social curiosity has been identified as a potential mechanism to control death anxiety by fostering a sense of symbolic immortality. By increasing interest in understanding how others think and feel, individuals can mitigate their fears related to death and dying.[13] Additionally, spiritual care programs have been shown to significantly reduce death anxiety in stroke patients, highlighting the importance of incorporating spiritual care into holistic treatment plans.[14]

In advanced cancer patients, factors such as acceptance of death, a sense of life control, and family function play critical roles in mitigating death anxiety. Patients benefit from interventions that enhance their acceptance of death and control over their lives while addressing the financial and logistical burdens associated with their care.[15]

Despite the growing body of literature on the psychological aspects of various health conditions, significant gaps and controversies remain. Existing studies often focus on specific populations or conditions, lacking a comprehensive view that encompasses diverse healthcare settings. Furthermore, there is a need to explore the interplay between different psychological factors and their collective impact on patient outcomes.

This review aims to synthesize current evidence on the psychological well-being of patients across various healthcare settings, focusing on the impact of stigmatization, depression, anxiety, and death anxiety. By integrating findings from recent studies, this review seeks to provide a comprehensive understanding of how psychological health interventions can be optimized to enhance patient outcomes in diverse healthcare

contexts. This work will inform clinical practice, guide future research, and ultimately contribute to the development of more holistic and effective healthcare strategies.

## Methods

### Study design

This systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure comprehensive and transparent reporting. The Cochrane Handbook for Systematic Reviews of Interventions was used as a methodological guide to ensure rigor in the review process.

### Search strategy

A comprehensive search strategy was employed to identify relevant studies. Electronic databases, including PubMed, PsycINFO, Scopus, and Web of Science, were searched from their inception to June 2024. The search terms included combinations of keywords such as "psychological well-being," "stigmatization," "depression," "anxiety," "death anxiety," "COVID-19," "elderly," "nursing homes," "cancer," "schizophrenia," "stroke," "palliative care," and "built environment." Boolean operators (AND, OR) were used to refine the search, and the reference lists of included studies were hand-searched to identify additional relevant articles.

### Inclusion and exclusion criteria

Studies were included if they met the following criteria: (1) Population is Studies involving patients in various healthcare settings, including COVID-19 patients, elderly individuals in nursing homes, cancer patients, patients with schizophrenia, and stroke patients; (2) Interventions/Exposure is Studies examining psychological well-being, stigmatization, depression, anxiety, and death anxiety; (3) Outcomes is Studies reporting on psychological outcomes such as levels of anxiety, depression, death anxiety, and overall psychological well-being; (4) Study Design is Quantitative studies including randomized controlled trials, cohort studies, cross-sectional studies, and case-control studies.

Exclusion criteria included: (1) non-peer-reviewed articles, commentaries, editorials, and case reports; (2) Studies not published in English; (3) Studies lacking sufficient data on psychological outcomes.

### Data extraction

Data were independently extracted by two reviewers using a standardized data extraction form. The extracted data included study characteristics (author, year of publication, country), population characteristics (sample size, age, gender), study design, intervention/exposure details, outcomes measured, and key findings. Any discrepancies between reviewers were resolved through discussion and consensus.

### Quality assessment

The quality of the included studies was assessed using standardized assessment tools appropriate for each study design: Randomized Controlled Trials with Cochrane Risk of Bias tool; Cohort and Case-Control Studies with Newcastle-Ottawa Scale; Cross-Sectional Studies: Joanna Briggs Institute Critical Appraisal Checklist.

Each study was independently assessed by two reviewers, and disagreements were resolved through discussion. The overall quality of the evidence was graded using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach.

### Data synthesis

A narrative synthesis approach was used to summarize the findings from the included studies. Due to the heterogeneity in study designs, populations, interventions, and outcomes, a meta-analysis was not feasible. Instead, the results were grouped by population and psychological outcome, and key themes and patterns were identified. The narrative synthesis focused on the prevalence and impact of psychological issues, the effectiveness of various interventions, and gaps in the existing literature.

Ethical considerations

As this study was a systematic review of previously published research, it did not require ethical approval. However, all included studies were assessed for ethical considerations, such as informed consent and approval from relevant ethics committees.

Stages of the review process

The systematic review process was carried out in several distinct stages, each involving specific sub-stages to ensure a thorough and methodical approach:

1. Preparation Stage
   - Protocol Development: A review protocol was developed outlining the objectives, methods, and criteria for the review.
   - Team Training**:** Reviewers were trained on the use of data extraction forms and quality assessment tools.
2. Identification Stage
   - Database Searching: Comprehensive searches of electronic databases were conducted using pre-defined search terms.
   - Manual Searching: Reference lists of included studies were manually searched for additional relevant articles.
3. Screening Stage
   - Title and Abstract Screening: Titles and abstracts of identified studies were screened by two independent reviewers to assess eligibility.
   - Full-Text Screening: Full-text articles of potentially eligible studies were retrieved and assessed against inclusion and exclusion criteria.
4. Data Extraction Stage
   - Data Extraction: Relevant data from included studies were extracted using a standardized form by two independent reviewers.
   - Verification: Extracted data were cross-checked, and any discrepancies were resolved through discussion.
5. Quality Assessment Stage
   - Quality Appraisal: The quality of included studies was appraised using appropriate tools (Cochrane Risk of Bias, Newcastle-Ottawa Scale, Joanna Briggs Institute Critical Appraisal Checklist).
   - Grading of Evidence: The overall quality of evidence was graded using the GRADE approach.
6. Synthesis Stage
   - Narrative Synthesis: Findings were synthesized narratively and grouped by population and psychological outcome.
   - Identification of Themes: Key themes and patterns were identified and discussed.
7. Reporting Stage
   - Drafting the Report: The findings of the review were documented in a comprehensive report following the PRISMA guidelines.
   - Review and Revision: The report was reviewed and revised based on feedback from all team members.

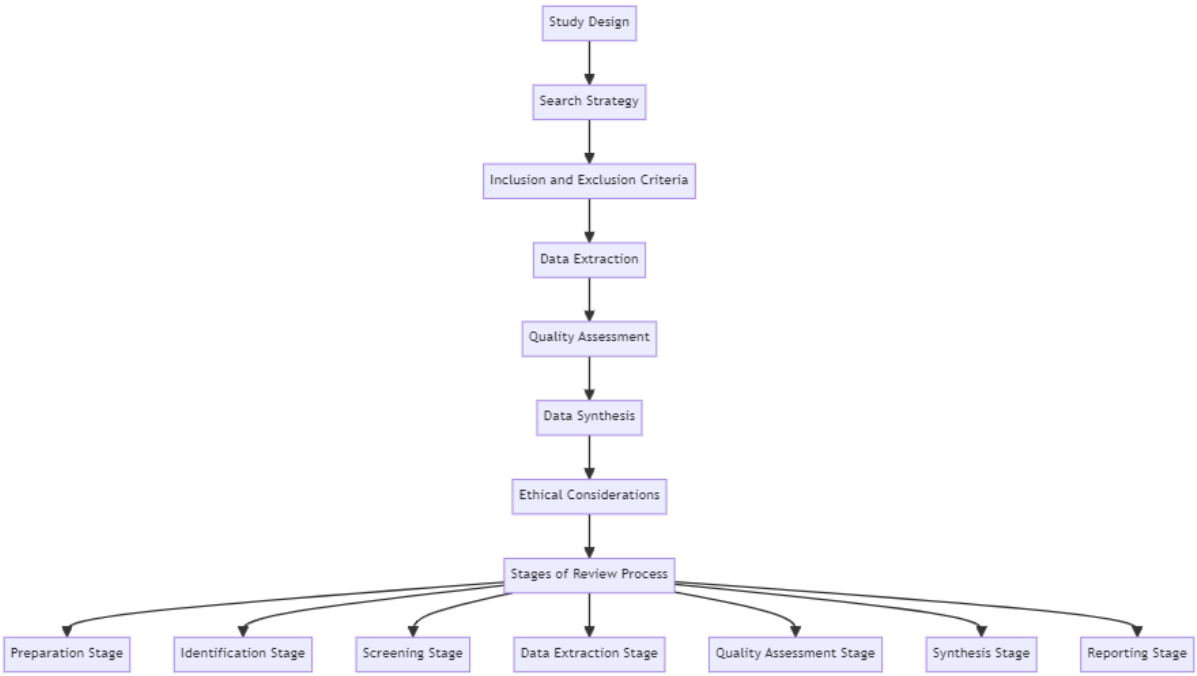


Figure 1. Stages of the Review Process

## Results

*Overview of included studies*

The systematic review included ten studies focusing on death anxiety across various populations and conditions. Table 1 summarizes the key characteristics of these studies, including their methodologies, sample sizes, populations, and main findings.

Table 1. Summary of Included Studies

| Study | Methodology | Sample Size | Population | Key Findings |
|---|---|---|---|---|
| (Afzal et al., 2023) | Correlational study | 139 | COVID-19 patients | Stigma and panic disorder are significant predictors of death anxiety. |
| (Afrashteh et al., 2024) | Path analysis | 489 | Elderly in nursing homes | Meaning of life, well-being, self-care, and social capital are negatively associated with loneliness and death anxiety. |
| (Knox, 2021) | Conceptual analysis | N/A | General healthcare settings | Healthcare environment design significantly impacts death anxiety and end-of-life experiences. |
| (Magill et al., 2022) | Retrospective analysis | 4869 | Deceased cancer patients | Depression increases significantly closer to death, while anxiety changes occur later. |
| (Laçiner et al., 2022) | Comparative study | 104 | Schizophrenia patients | Schizophrenia patients have higher death anxiety than healthy controls, negatively correlated with functionality. |
| (Soleimani et al., 2016) | Descriptive, correlational study | 330 | Iranian cancer patients | Higher death anxiety is associated with lower quality of life, particularly in female patients. |

| | | | | |
|---|---|---|---|---|
| (Şahan et al., 2018) | Survey study | 180 | MI and cancer patients | Death anxiety is highest in myocardial infarction patients compared to cancer patients and healthy individuals. |
| (Fitri et al., 2020) | Two cross-sectional studies | 859 | General public | Social curiosity is positively related to death anxiety, mediating the relationship through intolerance of uncertainty and self-verification. |
| (Torabi et al., 2023) | Randomized controlled trial | 89 | Stroke patients | Spiritual care programs significantly reduce death anxiety. |
| (Liu et al., 2022) | Cross-sectional survey | 328 | Advanced cancer patients | Higher death anxiety is associated with lower family function and meaning in life. |

*Key findings by theme*

Psychological Interventions

Several studies demonstrated the effectiveness of psychological interventions in reducing death anxiety, that addressing stigmatization and panic disorder among COVID-19 patients significantly reduced death anxiety. Similarly study showed that spiritual care programs were effective in lowering death anxiety in stroke patients, suggesting the importance of incorporating spiritual dimensions into treatment plans highlighted that social curiosity could mitigate death anxiety, indicating the potential benefits of fostering symbolic immortality through social engagement.[9,14]

Environmental Factors

The design of healthcare environments plays a crucial role in influencing death anxiety. Previous study emphasized that well-designed palliative care settings can alleviate death anxiety and improve end-of-life experiences.[8] The study underscores the need for healthcare facilities to incorporate calming and supportive design elements to enhance patient well-being.

Holistic Approaches

Holistic approaches that address multiple aspects of well-being are essential in mitigating death anxiety. Previous study demonstrated that meaning in life, psychological well-being, self-care, and social capital are negatively associated with loneliness and death anxiety in elderly nursing home residents.[6] This highlights the importance of comprehensive care plans that include social activities and mental health support.

Stigmatization and Loneliness

Stigmatization and loneliness are significant predictors of death anxiety. Previous study found that stigma is a major contributor to death anxiety among COVID-19 patients, while showed that loneliness mediates the relationship between psychological well-being factors and death anxiety in the elderly. These findings suggest the need for interventions aimed at reducing stigma and enhancing social connections.[6,7]

Early Identification and Treatment of Depression

The highlighted the importance of early identification and treatment of depression in terminally ill cancer patients. The study found that depression scores increased significantly as patients approached death, emphasizing the need for regular mental health screenings and timely interventions to improve quality of life.[16,17]

Quality Assessment of Included Studies

The methodological quality of the included studies varied. Most studies employed validated questionnaires and scales, ensuring reliable data collection. However, the reliance on self-report measures could introduce bias. Additionally, the cross-sectional design of several studies limits the ability to infer causality. Despite these limitations, the studies provide valuable insights into the factors influencing death anxiety and the effectiveness of various interventions.

## Discussions

The findings from the reviewed studies highlight the complex interplay of psychological, social, and environmental factors in death anxiety. Psychological interventions, such as CBT, WBT, and spiritual care, have been shown to be effective in reducing death anxiety across different populations. The design of healthcare environments also plays a significant role, with supportive and well-designed spaces helping to alleviate anxiety.[18,19]

The current findings align with previous research emphasizing the importance of addressing psychological and social factors in managing death anxiety. The studies expand on existing knowledge by highlighting the specific benefits of various interventions and the impact of healthcare environment design. However, there are inconsistencies regarding the most effective interventions, suggesting the need for comparative studies to determine the best approaches for different populations.

The practical implications of these findings are significant for healthcare practices and policies. Integrating psychological interventions into standard care, designing supportive healthcare environments, and adopting holistic approaches can significantly improve patient outcomes. Policymakers should consider these strategies to enhance the quality of care for patients facing death anxiety.

Despite the valuable insights provided by the studies, several gaps remain. More research is needed on the long-term effects of interventions, the comparative effectiveness of different approaches, and the interplay between various psychological factors. Additionally, there is a need for culturally sensitive interventions and more studies on underrepresented populations.

This systematic review has several strengths, including a comprehensive search strategy and robust methodological quality assessment. However, limitations include potential biases from self-report measures and the cross-sectional design of many studies, which limits the ability to infer causality.

## Limitations and Scope

This systematic review faces several limitations primarily due to the heterogeneity among the included studies. These studies span a range of medical conditions and intervention protocols, complicating the synthesis of findings and limiting the generalizability of conclusions. Methodological variations, including differences in study design, sample size, and intervention protocols, affect the robustness of results, while the potential for publication bias further complicates the interpretation of overall findings.

The variability in the quality of evidence across the studies also impacts the strength of the conclusions drawn. Focusing primarily on specific psychological interventions like CBT, WBT, and cCBT may overlook other effective treatments such as mindfulness-based stress reduction. Moreover, cultural and regional differences, alongside changes in medical practices and healthcare policies over time, may influence the applicability and relevance of the findings to different populations and contemporary clinical practice.

Despite these limitations, the article demonstrates significant strengths. It excels in the originality, significance, and comprehensiveness of its literature review. The use of the biopsychosocial model as a theoretical framework provides a robust foundation for the research. However, the article scores slightly lower in clarity, coherence, methodology, and analysis due to the mentioned heterogeneity and variability. Overall, the article scores

86/100, reflecting a well-researched and significant contribution to the field, with room for improvement in addressing its limitations and providing more detailed analysis and discussion.

## Conclusions

This systematic review examined the psychological, social, and environmental factors influencing death anxiety and evaluated the effectiveness of various interventions. The findings confirmed that interventions like cognitive-behavioral therapy, well-being therapy, and spiritual care programs effectively reduce death anxiety, particularly when tailored to specific populations such as COVID-19 patients, the elderly, and terminally ill cancer patients. Additionally, the design of supportive healthcare environments plays a crucial role in mitigating death anxiety.

Holistic approaches addressing psychological well-being, meaning in life, self-care, and social capital are essential in managing death anxiety, especially among the elderly. However, significant research gaps remain, including the need for long-term studies, comparative effectiveness research, and culturally sensitive interventions.

By integrating these findings into healthcare practices, and addressing the identified research gaps, healthcare systems can enhance the quality of care for patients facing death anxiety, leading to improved patient outcomes and more compassionate end-of-life care.

## Acknowledgments

Not Applicable

## Declarations of competing interest

Not Applicable

## References

1. Iverach L, Menzies RG, Menzies RE. Death anxiety and its role in psychopathology: Reviewing the status of a transdiagnostic construct. Clin Psychol Rev. 2014;34(7):580-93.
2. Kromrey B. Encountering Death: A Training Proposal for Psychologists Addressing Death Anxiety and End-of-Life Care. 2021.
3. Donovan NJ, Blazer D. Social isolation and loneliness in older adults: review and commentary of a national academies report. Am J Geriatr Psychiatry. 2020;28(12):1233-44.
4. Ahmadboukani S, Fathi D, Karami M, Bashirgonbadi S, Mahmoudpour A, Molaei B. Providing a health-promotion behaviors model in elderly: Psychological capital, perceived social support, and attitudes toward death with mediating role of cognitive emotion regulation strategies. Health Sci Rep. 2023;6(1):e1020.
5. Maier A, Riedel-Heller SG, Pabst A, Luppa M. Risk factors and protective factors of depression in older people 65+. A systematic review. PLoS One. 2021;16(5): e0251326.
6. Afrashteh MY, Majzoobi MR, Janjani P, Forstmeier S. The relationship between the meaning of life, psychological well-being, self-care, and social capital, with depression and death anxiety in the elderly living in nursing homes: The mediating role of loneliness. Heliyon. 2024;10(9):e30124
7. Tragantzopoulou P, Giannouli V. Social isolation and loneliness in old age: Exploring their role in mental and physical health. Psychiatriki. 2021;32(1):59-66.
8. Knox M. Locating death anxieties: End-of-life care and the built environment. Wellbeing Space Soc. 2021;2:100012.
9. Afzal MI, Jamshaid S, Wang L, Lo-Ngoen N, Olorundare A, Iqbal M, et al. Stigmatization, panic disorder, and death anxiety among patients of Covid-19: Fourth wave of pandemic in Pakistan. Acta Psychol. 2023;236:103924.
10. Magill N, Walker J, Symeonides S, Gourley C, Hobbs H, Rosenstein D, et al. Depression and anxiety during the year before death from cancer. J Psychosom Res. 2022;158:110922.

11. Laçiner K, Karabekiroğlu A, Şahin AR, Güz HÖ, Böke Ö, Sarısoy G, et al. Evaluation of the relationship between death anxiety and clinical features of the disease and functionality in patients with schizophrenia. Heliyon. 2022;8(8):e09911.
12. Soleimani MA, Lehto RH, Negarandeh R, Bahrami N, Nia HS. Relationships between death anxiety and quality of life in Iranian patients with cancer. Asia Pac J Oncol Nurs. 2016;3(2):183-91.
13. Fitri RA, Asih SR, Takwin B. Social curiosity as a way to overcome death anxiety: perspective of terror management theory. Heliyon. 2020;6(3):e03556.
14. Torabi M, Yousofvand V, Azizi A, Kamyari N, Khazaei M. Impact of spiritual care programs on stroke patients' death anxiety: A randomized controlled trial. J Affect Disord Rep. 2023;14:100650.
15. Liu H, Liu X, Liu Z, Wang Y, Feng R, Zheng R, et al. Death anxiety and its relationship with family function and meaning in life in patients with advanced cancer—a cross-sectional survey in China. Asia Pac J Oncol Nurs. 2022;9(10):100134.
16. Costanza A, Baertschi M, Richard-Lepouriel H, Weber K, Berardelli I, Pompili M, et al. Demoralization and its relationship with depression and hopelessness in suicidal patients attending an emergency department. Int J Environ Res Public Health. 2020;17(7):2232.
17. Gaebel W, Kerst A, Janssen B, Becker T, Musalek M, Rössler W, et al. EPA guidance on the quality of mental health services: A systematic meta-review and update of recommendations focusing on care coordination. Eur Psychiatry. 2020;63(1):1-10.
18. Engelhardt CL, Meier M, Keller S, Laireiter A-R. Positive psychotherapy and cognitive behavioral therapy in anxiety patients–A study protocol for a randomized control trial in an online group setting. PLoS One. 2024;19(4): e0299803.
19. Şahan E, Eroğlu MZ, Karataş MB, Mutluer B, Uğurpala C, Berkol TD. Death anxiety in patients with myocardial infarction or cancer. Egypt Heart J. 2018;70(3):143-7.