Journal Website

Article history:
Received 09 December 2025
Revised 04 April 2026
Accepted 13 April 2026
Initial Publication 15 April 2026
Final Publication 01 September 2026

International Journal of Education and Cognitive Sciences

Volume 7, Issue 3, pp 1-10

E-ISSN: 3041-8828

The Effectiveness of Meaning-Centered Group Therapy on the Dimensions of Illness Attitude in Women with Amputation-Related Grief Syndrome Due to Cancer

Nika. Dardashtinia[1], Gholamreza. Talebi[2*], Shadi. Goli[3]

[1] M.A, Department of Medicine, Na.C., Islamic Azad University, Najafabad, Iran
[2] Department of Medicine, Na.C., Islamic Azad University, Najafabad, Iran
[3] Department of Midwifery, Na.C., Islamic Azad University, Najafabad, Iran

*** Corresponding author email address**: rezatalebi@iau.ac.ir

A r t i c l e I n f o

Article type:
Original Research

How to cite this article:
Dardashtinia, N., Talebi, G., & Goli, S. (2026). The Effectiveness of Meaning-Centered Group Therapy on the Dimensions of Illness Attitude in Women with Amputation-Related Grief Syndrome Due to Cancer. *International Journal of Education and Cognitive Sciences*, *7*(3), 1-10.
https://doi.org/10.61838/kman.ijecs.356

A B S T R A C T

Purpose: The present study aimed to investigate the effectiveness of meaning-centered group therapy on the dimensions of illness attitude in women with amputation-related grief syndrome due to cancer.

Methods and Materials: This study employed a quasi-experimental design with a pretest–posttest and follow-up structure including an experimental and a control group. The statistical population consisted of women with breast cancer experiencing death anxiety and amputation-related grief who were referred to Seyed al-Shohada Hospital (AS) and the Alaa Cancer Prevention and Control Center in Isfahan. A total of 36 participants were selected through purposive sampling and randomly assigned to an experimental group (n = 18) and a control group (n = 18). The experimental group received eight 90-minute sessions of meaning-centered group therapy based on logotherapy principles, while the control group received no psychological intervention. Data were collected using the Illness Attitude Scale, Death Anxiety Scale, and Prolonged Grief Disorder Scale at three stages: pretest, posttest, and follow-up. Data were analyzed using repeated measures analysis of variance in SPSS-26.

Findings: The results indicated a significant effect of time ($F = 36.82$, $p = 0.001$), group ($F = 28.17$, $p = 0.001$), and the interaction of time and group ($F = 39.74$, $p = 0.001$) on illness attitude dimensions. The experimental group showed significant reductions in maladaptive illness attitudes from pretest to posttest ($p = 0.001$) and from pretest to follow-up ($p = 0.001$), while no significant change was observed between posttest and follow-up ($p > 0.05$), indicating stability of the intervention effects over time. No significant changes were observed in the control group across measurement stages.

Conclusion: Meaning-centered group therapy is an effective intervention for improving illness attitudes and reducing maladaptive cognitive-emotional responses in women with cancer-related amputation and grief, with sustained effects over time.

Keywords: *Meaning-centered therapy, illness attitude, amputation-related grief, breast cancer, death anxiety, group therapy*

1. Introduction

Cancer is widely recognized as one of the most complex and life-altering diseases, not only because of its physiological consequences but also due to its profound psychological, existential, and social impacts on affected individuals. Among women, breast cancer represents one of the most prevalent malignancies worldwide, and despite advancements in early detection and treatment, the diagnosis often initiates a cascade of emotional distress, identity disruption, and existential concerns (Marano & Mazza, 2025; Milić et al., 2025). In particular, the experience of cancer-related amputation, such as mastectomy, introduces an additional layer of psychological burden characterized by loss of bodily integrity, altered self-image, and disruption of personal meaning systems. This condition frequently gives rise to a specific form of grief, often conceptualized as amputation-related grief syndrome, which shares features with both bereavement and trauma-related responses (Aguado et al., 2024; Maffoni et al., 2025).

The psychological consequences of amputation in cancer patients extend beyond physical loss and include profound disturbances in how individuals perceive their illness, their bodies, and their future. Illness attitude, as a multidimensional construct, encompasses cognitive, emotional, and behavioral responses to illness, including worry about disease, fear of death, bodily preoccupation, and maladaptive health beliefs. Research has consistently demonstrated that illness perception and attitudes significantly influence patients' psychological adjustment, treatment adherence, and overall quality of life (Bagherian-Sararoudi et al., 2020; Bassi et al., 2021). In oncology contexts, maladaptive illness attitudes are associated with increased anxiety, depression, and reduced coping capacity, particularly in patients confronting disfiguring or life-threatening conditions (Seiler et al., 2024; Wang et al., 2023).

One of the central components underlying illness attitude in cancer patients is the perception of mortality and the accompanying experience of death anxiety. For individuals diagnosed with cancer, especially those undergoing surgical interventions such as amputation, the confrontation with mortality becomes more immediate and tangible. This confrontation often leads to heightened death anxiety, existential distress, and difficulty in integrating the illness experience into a coherent life narrative (Hadler et al., 2024; Harrop et al., 2017). Studies have shown that death-related cognitions significantly shape illness attitudes, influencing how patients interpret symptoms, engage with treatment, and envision their future (Wong et al., 2019). Furthermore, the presence of anticipatory grief, which involves mourning anticipated losses such as physical functioning, identity, and life expectancy, exacerbates psychological distress and complicates emotional adaptation (Ramakrishna & Dykeman, 2023; Ren et al., 2023).

Amputation-related grief in cancer patients represents a unique and underexplored psychological phenomenon. Unlike traditional bereavement, this form of grief involves the loss of a part of the self, both physically and symbolically. Patients often report feelings of incompleteness, diminished femininity, and social withdrawal, particularly in cultures where body image and gender identity are closely intertwined (Carpenter-Song et al., 2010; Valizadeh et al., 2023). The process of adjusting to such loss requires not only emotional processing but also a reconstruction of meaning and identity. However, many patients struggle to achieve this integration, resulting in persistent distress and maladaptive coping patterns (Gallio et al., 2024; Madsen et al., 2023).

In recent years, there has been growing recognition of the importance of meaning-making processes in facilitating psychological adaptation to serious illness. Meaning-centered approaches, grounded in existential psychology and logotherapy, emphasize the human capacity to find purpose and value even in the face of suffering. These approaches have been shown to enhance psychological resilience, reduce distress, and improve quality of life in patients with life-threatening conditions (Roberts et al., 2025; Zeligman et al., 2018). In oncology settings, meaning-centered interventions aim to help patients reinterpret their illness experience, reconnect with sources of meaning, and develop a sense of coherence and purpose despite physical and emotional challenges (Lacerda et al., 2024; Levine et al., 2024).

Empirical evidence supports the effectiveness of meaning-centered therapies in improving psychological outcomes among cancer patients. For instance, previous research has demonstrated that meaning-centered group therapy can significantly reduce death anxiety and enhance distress tolerance in women with breast cancer, indicating its potential to address both emotional and existential dimensions of illness (Talebi et al., 2024). Similarly, interventions such as emotional schema therapy and mindfulness-based cognitive therapy have been shown to influence key psychological variables including illness perception, hope, and attitudes toward death, highlighting

E-ISSN: 3041-8828

the importance of cognitive-emotional processes in shaping patients' responses to illness (Talebi, Bagherian-Sararoudi, Rezaei Jamaloui, et al., 2025; Talebi, Bagherian-Sararoudi, Rezaei_ Jamaloei, et al., 2025; Talebi et al., 2023). These findings suggest that therapeutic approaches targeting meaning and cognition may play a crucial role in modifying maladaptive illness attitudes.

Despite these advancements, there remains a significant gap in the literature regarding the application of meaning-centered interventions specifically for patients experiencing amputation-related grief. Most existing studies have focused on general cancer populations or have examined isolated psychological variables without addressing the complex interplay between grief, illness attitude, and existential distress. Moreover, while palliative care research has emphasized the importance of addressing patients' psychological and existential needs, barriers to integrating such interventions into clinical practice persist, including limited resources, lack of training, and cultural factors influencing help-seeking behavior (Chelazzi et al., 2025; He et al., 2025; McNeil et al., 2023).

In addition, contemporary research has highlighted the evolving role of interdisciplinary and innovative approaches in addressing psychological distress in cancer patients. For example, emerging perspectives on the use of technology, including artificial intelligence, suggest potential avenues for enhancing psychological support, although ethical and practical considerations remain under debate (Yockel et al., 2025). At the same time, qualitative studies have underscored the importance of patient-centered care, emphasizing the need to understand patients' lived experiences, particularly in relation to major life changes such as amputation (Aguado et al., 2024). These insights reinforce the necessity of developing targeted interventions that address the unique psychological challenges faced by this population.

Furthermore, the integration of dignity-conserving practices and early palliative care has been identified as a critical component in improving psychological outcomes for patients with advanced illness. Such approaches aim to preserve patients' sense of identity, autonomy, and meaning, thereby mitigating the negative impact of illness on psychological well-being (Hadler et al., 2024; Seiler et al., 2024). However, the effectiveness of these approaches in modifying illness attitudes, particularly in the context of amputation-related grief, remains insufficiently explored.

Taken together, the existing body of literature highlights the multifaceted nature of psychological distress in women with breast cancer, particularly those experiencing amputation-related loss. While previous studies have demonstrated the effectiveness of various therapeutic approaches in improving specific psychological outcomes, there is a clear need for integrative interventions that address the complex interplay between grief, illness perception, and existential meaning. Meaning-centered group therapy, with its focus on reconstructing meaning and fostering psychological resilience, represents a promising approach for addressing these challenges. However, empirical evidence specifically examining its impact on the dimensions of illness attitude in this population is limited.

Therefore, the present study aims to investigate the effectiveness of meaning-centered group therapy on the dimensions of illness attitude in women with amputation-related grief syndrome due to cancer.

2. Methods and Materials

2.1. Study Design and Participants

The present study employed a quasi-experimental design with a pretest–posttest and follow-up structure including an experimental group and a control group. The statistical population consisted of women diagnosed with breast cancer who were also experiencing death anxiety and amputation-related grief syndrome, and who were receiving treatment or follow-up care at Seyed al-Shohada Hospital (AS) and the Alaa Cancer Prevention and Control Center in Isfahan. From this population, a total of 36 participants were selected through purposive sampling based on inclusion criteria such as confirmed diagnosis of breast cancer, history of surgical amputation (e.g., mastectomy), presence of clinically significant grief symptoms, and willingness to participate in psychological intervention sessions. The participants were randomly assigned into two equal groups, with 18 individuals in the experimental group receiving the intervention and 18 individuals in the control group receiving no psychological intervention during the study period. Both groups were assessed at three stages, including pretest, posttest, and a follow-up phase, in order to evaluate the stability of treatment effects over time.

2.2. Measures

Illness Attitude Scale (IAS). This instrument, originally developed by Kellner in 1986, is a widely used self-report questionnaire designed to assess individuals' attitudes, beliefs, and concerns related to illness. The scale consists of

E-ISSN: 3041-8828

29 items distributed across several subscales including worry about illness, disease phobia, thanatophobia, bodily preoccupation, and effects of symptoms. Respondents rate items on a Likert-type scale, typically ranging from 0 (no concern) to 4 (severe concern), with higher scores indicating more maladaptive illness attitudes. The IAS captures both cognitive and emotional dimensions of illness perception, making it particularly suitable for populations dealing with chronic or life-threatening conditions such as cancer. Previous research has confirmed the construct validity and internal consistency reliability of the scale across different clinical populations, including cancer patients, with Cronbach's alpha coefficients generally reported above 0.80.

Death Anxiety Scale (DAS). The Death Anxiety Scale, developed by Templer in 1970, is a standardized measure used to assess the level of anxiety individuals experience in relation to death and dying. The scale includes 15 dichotomous items (true/false format), with higher total scores reflecting greater death anxiety. The DAS addresses various aspects of death-related fear, including fear of the dying process, fear of the unknown, and existential concerns. It has been extensively used in clinical and research settings, particularly in studies involving patients with life-threatening illnesses. Numerous studies have demonstrated the scale's acceptable psychometric properties, including good test–retest reliability and internal consistency, as well as convergent validity with related constructs such as general anxiety and depression.

Prolonged Grief Disorder Scale (PG-13). This scale, developed by Prigerson et al. in 2009, is designed to assess symptoms of prolonged or complicated grief. The PG-13 consists of 13 items measuring core components such as separation distress, emotional pain, identity disruption, and difficulty moving on after a loss. Items are rated on a Likert scale reflecting frequency or intensity of symptoms, and higher scores indicate more severe grief reactions. In the context of this study, the scale was adapted to assess grief associated with loss of bodily integrity due to cancer-related amputation. The PG-13 has demonstrated strong psychometric properties in various populations, with high internal consistency (Cronbach's alpha typically above 0.85) and established construct validity.

2.3. Intervention

Meaning-Centered Group Therapy Protocol. The intervention implemented in the present study was based on meaning-centered psychotherapy principles originally developed by Breitbart and colleagues (2010), grounded in Viktor Frankl's logotherapy framework. The program was delivered in a group format over eight weekly sessions, each lasting approximately 90 minutes. The sessions were structured to facilitate exploration of meaning, purpose, and personal values in the context of illness and loss. The therapeutic process began with an introduction to the concept of meaning and its role in psychological resilience, followed by guided discussions and experiential exercises focusing on sources of meaning such as creativity, relationships, and attitudes toward suffering. Participants were encouraged to reflect on their life narratives, reconstruct their sense of identity following amputation, and explore existential themes such as mortality, freedom, and responsibility. Techniques included group dialogue, reflective writing, mindfulness-based awareness exercises, and meaning-oriented cognitive reframing. The intervention emphasized emotional expression, validation of grief experiences, and the development of adaptive coping strategies to enhance acceptance and psychological flexibility. The group setting also provided opportunities for social support and shared understanding among participants, which contributed to normalization of experiences and reduction of isolation.

2.4. Data Analysis

Data analysis was conducted using SPSS software (version 26). Descriptive statistics, including means and standard deviations, were calculated for all study variables across the three measurement points. To examine the effectiveness of the intervention over time and between groups, repeated measures analysis of variance (ANOVA) was employed. This approach allowed for the assessment of main effects of time, group, and the interaction between time and group. Assumptions of normality, homogeneity of variance, and sphericity were evaluated prior to conducting the analysis. In cases where the assumption of sphericity was violated, the Greenhouse–Geisser correction was applied. Post-hoc comparisons using Bonferroni adjustment were performed to identify specific differences between measurement stages. Statistical significance was set at $p < 0.05$ for all analyses.

3. Findings and Results

The demographic characteristics of the participants indicated that the mean age of women in the experimental

E-ISSN: 3041-8828

group was 46.82 years (SD = 7.91), while in the control group it was 45.67 years (SD = 8.14), suggesting relative homogeneity between groups in terms of age distribution. The majority of participants in both groups were married (experimental: 72.22%; control: 66.67%), and the rest were either widowed or divorced. Regarding educational level, most participants had completed secondary education (experimental: 50.00%; control: 44.44%), followed by university education (experimental: 27.78%; control: 33.33%) and primary education (experimental: 22.22%; control: 22.22%). In terms of employment status, a substantial proportion of participants were housewives (experimental: 61.11%; control: 66.67%), with the remaining participants engaged in part-time or full-time employment. The mean duration since diagnosis of breast cancer was 2.84 years (SD = 1.21) in the experimental group and 2.91 years (SD = 1.35) in the control group. All participants had undergone surgical treatment involving partial or total mastectomy and reported experiencing varying degrees of amputation-related grief symptoms and death anxiety at baseline. Overall, the two groups were comparable across demographic and clinical variables, indicating that any observed post-intervention differences could be attributed with greater confidence to the treatment effect.

Table 1

Descriptive Statistics of Illness Attitude Dimensions Across Groups and Measurement Stages

Variable	Group	Pretest Mean (SD)	Posttest Mean (SD)	Follow-up Mean (SD)
Illness Attitude (Total)	Experimental	78.46 (6.73)	61.38 (5.92)	59.74 (5.48)
	Control	77.92 (7.01)	76.85 (6.84)	76.19 (6.57)
Disease Phobia	Experimental	16.28 (2.41)	12.14 (2.08)	11.73 (1.95)
	Control	15.97 (2.35)	15.63 (2.27)	15.41 (2.19)
Thanatophobia	Experimental	14.82 (2.16)	10.69 (1.94)	10.31 (1.88)
	Control	14.55 (2.09)	14.28 (2.03)	14.11 (1.97)
Bodily Preoccupation	Experimental	17.36 (2.58)	13.92 (2.21)	13.47 (2.14)
	Control	17.11 (2.62)	16.87 (2.55)	16.63 (2.49)
Worry About Illness	Experimental	15.64 (2.47)	12.03 (2.19)	11.82 (2.06)
	Control	15.39 (2.51)	15.12 (2.46)	14.96 (2.33)

The descriptive statistics presented in Table 1 indicate that at the pretest stage, the experimental and control groups were highly similar across all dimensions of illness attitude, reflecting appropriate baseline equivalence. However, following the intervention, substantial reductions were observed in the experimental group across the total illness attitude score and all subscales, including disease phobia, thanatophobia, bodily preoccupation, and worry about illness. These improvements were not only evident at posttest but were also maintained or slightly enhanced at the follow-up stage, suggesting the stability of treatment effects. In contrast, the control group exhibited only minimal and non-systematic changes across the three measurement points, with mean scores remaining relatively stable. The magnitude of change in the experimental group, particularly in the total illness attitude score (from 78.46 to 59.74), indicates a clinically meaningful improvement in participants' cognitive and emotional responses to illness following meaning-centered group therapy.

Table 2

Results of Repeated Measures ANOVA for Illness Attitude Dimensions

Source of Variation	SS	df	MS	F	p	η^2
Time	1248.37	2	624.19	36.82	0.001	0.52
Group	986.45	1	986.45	28.17	0.001	0.45
Time × Group	1354.62	2	677.31	39.74	0.001	0.56
Error (Time)	1084.29	68	15.95			
Error (Between Groups)	1191.53	34	35.04			

The results of repeated measures ANOVA presented in Table 2 reveal significant main effects for time and group, as well as a significant interaction effect between time and group on illness attitude scores. The significant effect of time

E-ISSN: 3041-8828

($F = 36.82$, $p = 0.001$, $\eta^2 = 0.52$) indicates that changes in illness attitude occurred across measurement stages. The significant group effect ($F = 28.17$, $p = 0.001$, $\eta^2 = 0.45$) suggests an overall difference between the experimental and control groups. Most importantly, the significant time × group interaction effect ($F = 39.74$, $p = 0.001$, $\eta^2 = 0.56$) demonstrates that the pattern of change over time differed significantly between groups, with the experimental group showing marked improvement compared to the control group. The large effect sizes (η^2 values above 0.45) further confirm the substantial impact of the intervention on illness attitude dimensions.

Table 3

Bonferroni Post-hoc Test for Pairwise Comparisons Across Measurement Stages (Experimental Group)

Comparison	Mean Difference	Std. Error	p-value
Pretest – Posttest	17.08	1.94	0.001
Pretest – Follow-up	18.72	2.01	0.001
Posttest – Follow-up	1.64	1.21	0.287

The Bonferroni post-hoc comparisons presented in Table 3 further clarify the nature of changes observed in the experimental group. There was a significant reduction in illness attitude scores from pretest to posttest (Mean Difference = 17.08, $p = 0.001$), indicating the immediate effectiveness of the intervention. Similarly, the difference between pretest and follow-up was also significant (Mean Difference = 18.72, $p = 0.001$), suggesting that the improvements were sustained over time. However, the difference between posttest and follow-up was not statistically significant (Mean Difference = 1.64, $p = 0.287$), indicating that the gains achieved during the intervention were maintained without further significant change. This pattern supports the conclusion that meaning-centered group therapy produces stable and lasting improvements in illness-related attitudes among women experiencing amputation-related grief due to cancer.

4. Discussion and Conclusion

The findings of the present study demonstrated that meaning-centered group therapy produced a significant and sustained improvement in the dimensions of illness attitude among women with amputation-related grief syndrome due to cancer. Specifically, participants in the experimental group exhibited marked reductions in maladaptive illness attitudes, including disease phobia, thanatophobia, bodily preoccupation, and worry about illness, compared to the control group. These changes were evident at the posttest stage and remained stable during the follow-up phase, indicating both immediate and enduring therapeutic effects. The significant interaction effect between time and group suggests that the observed improvements were attributable to the intervention rather than natural recovery or external factors. These findings highlight the effectiveness of meaning-centered approaches in modifying cognitive-emotional responses to illness in a highly vulnerable clinical population.

The observed reduction in maladaptive illness attitudes can be understood within the framework of meaning-making processes. Meaning-centered therapy facilitates the reconstruction of personal narratives and promotes the integration of illness into a broader existential context. For women who have experienced cancer-related amputation, the loss is not only physical but also symbolic, affecting identity, femininity, and perceived life continuity. By engaging participants in reflective exercises and existential dialogue, the intervention likely enabled them to reinterpret their illness experience, reducing catastrophic thinking and maladaptive beliefs about the disease. This interpretation aligns with previous findings indicating that meaning-centered interventions enhance psychological resilience and promote adaptive coping in individuals facing chronic or life-threatening conditions (Roberts et al., 2025; Zeligman et al., 2018). Furthermore, the role of illness-related cognition in shaping emotional outcomes has been well documented, suggesting that modifying cognitive representations of illness can lead to significant improvements in psychological well-being (Wang et al., 2023).

The significant decrease in thanatophobia observed in the experimental group is particularly noteworthy, as fear of death constitutes a central component of psychological distress in cancer patients. The results suggest that meaning-centered therapy may help individuals confront and process death-related concerns in a structured and supportive environment. By encouraging participants to explore existential themes such as mortality, purpose, and legacy, the intervention likely reduced avoidance and facilitated

E-ISSN: 3041-8828

acceptance. This finding is consistent with prior research demonstrating that addressing existential concerns can alleviate death anxiety and improve psychological adjustment in cancer populations (Hadler et al., 2024; Harrop et al., 2017). Moreover, studies have shown that therapeutic approaches focusing on meaning and dignity can significantly reduce distress and enhance well-being in palliative care settings, further supporting the present results (Levine et al., 2024; Seiler et al., 2024).

Another important finding of the study was the reduction in bodily preoccupation and illness-related worry among participants in the experimental group. These dimensions reflect heightened vigilance toward bodily sensations and excessive concern about disease progression, which are common in patients with serious medical conditions. Meaning-centered therapy may have contributed to reducing these symptoms by shifting attention away from symptom monitoring toward broader life values and goals. This shift in focus can decrease rumination and promote a more balanced perspective on health and illness. Previous studies have emphasized the role of illness beliefs and coping strategies in determining perceived health outcomes, indicating that interventions targeting these factors can improve both psychological and physical well-being (Bagherian-Sararoudi et al., 2020; Bassi et al., 2021). Additionally, the integration of cognitive and emotional processing within the therapy may have enhanced participants' ability to regulate distress and reinterpret bodily sensations more adaptively.

The findings of the present study are also consistent with earlier research conducted on similar therapeutic approaches in breast cancer populations. For example, previous studies have demonstrated that emotional schema therapy can significantly improve illness perception and reduce distress by modifying maladaptive emotional and cognitive patterns (Talebi, Bagherian-Sararoudi, Rezaei Jamaloui, et al., 2025; Talebi et al., 2023). Similarly, mindfulness-based cognitive therapy has been shown to influence attitudes toward death and enhance hope, suggesting that interventions addressing both cognitive and experiential dimensions can produce meaningful psychological changes (Talebi, Bagherian-Sararoudi, Rezaei_ Jamaloei, et al., 2025). The current study extends these findings by focusing specifically on meaning-centered therapy and its impact on illness attitude in the context of amputation-related grief, thereby contributing to a more comprehensive understanding of therapeutic mechanisms in oncology settings.

The stability of treatment effects observed at the follow-up stage further underscores the effectiveness of meaning-centered group therapy. Unlike some interventions that produce short-term improvements, the sustained changes in illness attitude suggest that participants internalized the therapeutic principles and continued to apply them in their daily lives. This durability may be attributed to the emphasis on existential reflection and personal meaning, which fosters long-term cognitive restructuring rather than temporary symptom relief. The importance of sustained psychological support in cancer care has been highlighted in recent literature, emphasizing the need for interventions that produce lasting benefits (Marano & Mazza, 2025; Milić et al., 2025). Moreover, the group format of the intervention may have enhanced its effectiveness by providing social support and opportunities for shared meaning-making, which are critical components of psychological adaptation to illness.

The role of grief processing in the observed outcomes should also be considered. Amputation-related grief involves complex emotional responses that require both acknowledgment and integration. The intervention likely facilitated this process by providing a safe space for emotional expression and validation. By addressing unresolved grief, participants may have experienced a reduction in emotional burden, which in turn contributed to more adaptive illness attitudes. This interpretation is supported by research indicating that effective management of grief in cancer patients is associated with improved psychological outcomes and better adjustment to illness (Gallio et al., 2024; Madsen et al., 2023). Furthermore, studies on anticipatory and preparatory grief suggest that structured psychological support can help individuals navigate the emotional challenges associated with illness-related loss (Ramakrishna & Dykeman, 2023; Ren et al., 2023).

Cultural and contextual factors may also have influenced the effectiveness of the intervention. The meaning of illness, body image, and loss is shaped by cultural beliefs and social norms, which can affect how individuals respond to therapeutic interventions. In contexts where femininity and physical integrity are closely linked, the psychological impact of amputation may be particularly pronounced. Meaning-centered therapy, by allowing individuals to redefine their sense of identity and value beyond physical appearance, may be especially beneficial in such settings. This perspective is consistent with research highlighting the importance of culturally sensitive approaches in addressing

E-ISSN: 3041-8828

mental health issues and improving treatment outcomes (Carpenter-Song et al., 2010; Valizadeh et al., 2023).

In addition, the findings of the present study align with broader developments in palliative and supportive care, which emphasize the integration of psychological and existential interventions into standard treatment protocols. Despite growing recognition of their importance, such interventions are often underutilized due to systemic barriers, including limited resources and lack of specialized training among healthcare providers (Chelazzi et al., 2025; He et al., 2025; McNeil et al., 2023). The positive outcomes observed in this study highlight the potential benefits of incorporating meaning-centered therapy into routine care for cancer patients, particularly those experiencing complex forms of grief and psychological distress.

Overall, the results of the present study provide strong evidence for the effectiveness of meaning-centered group therapy in improving illness attitudes among women with cancer-related amputation and grief. By addressing both cognitive and existential dimensions of illness, the intervention appears to facilitate a more adaptive and integrated response to the challenges posed by cancer. These findings contribute to the growing body of literature supporting the use of meaning-centered approaches in oncology and underscore the importance of addressing psychological and existential needs in comprehensive cancer care.

One of the limitations of the present study is the relatively small sample size, which may limit the generalizability of the findings to broader populations. Additionally, the use of convenience sampling and the focus on a specific clinical setting may introduce selection bias. Another limitation is the reliance on self-report measures, which are subject to response biases such as social desirability and recall inaccuracies. Furthermore, the follow-up period, although sufficient to demonstrate short-term stability, may not capture long-term effects of the intervention. Finally, the study did not control for potential confounding variables such as concurrent psychological support or variations in medical treatment, which could have influenced the outcomes.

Future research should consider employing larger and more diverse samples to enhance the generalizability of findings and allow for subgroup analyses based on demographic and clinical characteristics. Longitudinal studies with extended follow-up periods are needed to assess the durability of treatment effects over time. Additionally, future studies could explore the mechanisms underlying the effectiveness of meaning-centered therapy, such as changes in cognitive processing, emotional regulation, and identity reconstruction. Comparative studies examining the relative effectiveness of different therapeutic approaches, including mindfulness-based and cognitive-behavioral interventions, would also provide valuable insights. Incorporating qualitative methods could further enrich understanding of patients' experiences and the processes through which meaning-centered therapy facilitates psychological change.

From a practical perspective, the findings of this study suggest that meaning-centered group therapy can be a valuable addition to psychosocial interventions for women with cancer, particularly those experiencing amputation-related grief. Healthcare providers, including psychologists, oncologists, and palliative care specialists, should consider integrating such interventions into comprehensive treatment plans. Training programs should be developed to equip clinicians with the necessary skills to deliver meaning-centered therapy effectively. Additionally, healthcare systems should allocate resources to support the implementation of group-based interventions, which can be both cost-effective and beneficial in fostering social support. Finally, raising awareness about the importance of addressing psychological and existential needs in cancer care can contribute to improving overall patient outcomes and quality of life.

Authors' Contributions

All authors significantly contributed to this study.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We hereby thank all individuals for participating and cooperating us in this study.

Declaration of Interest

The authors report no conflict of interest.

E-ISSN: 3041-8828

Funding

According to the authors, this article has no financial support.

Ethical Considerations

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the interview and participated in the research with informed consent.

References

Aguado, M. G., Wilde, L., & Hanna, E. (2024). "You Don't Realize What a Big Change It Is": A Reflexive Thematic Analysis of Patients' Experiences of Amputation Preparation, Information Provision, and Support. *Qualitative Health Research*, *35*(10-11), 1146-1158. https://doi.org/10.1177/10497323241293039

Bagherian-Sararoudi, R., Ahmadzadeh, G., & Bahraminejad, M. (2020). The Relationship between Illness Perception, Personality Variables, and Adherence among the Patients with Myocardial Infarction. *Journal of Isfahan Medical School*, *37*(560), 1454-1461. https://doi.org/10.22122/jims.v37i560.12815

Bassi, M., Grobberio, M., Negri, L., Cilia, S., Minacapelli, E., Niccolai, C., Pattini, M., Pietrolongo, E., Quartuccio, M. E., Viterbo, R. G., Allegri, B., Amato, M. P., Benin, M., De Luca, G., Falautano, M., Gasperini, C., Patti, F., Trojano, M., & Delle Fave, A. (2021). The Contribution of Illness Beliefs, Coping Strategies, and Social Support to Perceived Physical Health and Fatigue in Multiple Sclerosis. *Journal of Clinical Psychology in Medical Settings*, *28*(1), 149-160. https://doi.org/10.1007/s10880-019-09692-6

Carpenter-Song, E., Chu, E., Drake, R. E., Ritsema, M., Smith, B. J., & Alverson, H. (2010). Ethno-Cultural Variations in the Experience and Meaning of Mental Illness and Treatment: Implications for Access and Utilization. *Transcultural Psychiatry*. https://doi.org/10.1177/1363461510368906

Chelazzi, C., Marelli, D., Mantovani, P., Franchi, F., & Vezzoli, C. (2025). Needs, Status and Future Directions in Palliative Care for Children With Cancer: An Insight Into the Italian Situation. *Frontiers in Oncology*, *15*. https://doi.org/10.3389/fonc.2025.1582341

Gallio, I., Lorusso, M., Moscato, M., Miranti, C., Pasalic, M., Formaglio, F., Feltrin, A., & Ruggiero, E. (2024). Management Model of Caregiver's Grief in a Tertiary Oncological Center Hospice: From Anticipatory Mourning to Condolence Conversation: Preliminary Observations. https://doi.org/10.21203/rs.3.rs-3969736/v1

Hadler, R. A., Weeks, S., Rosa, W. E., Choate, S., Goldshore, M., Julião, M., Mergler, B., Nelson, J. E., Soodalter, J., Zhuang, C., & Chochinov, H. M. (2024). Top Ten Tips Palliative Care Clinicians Should Know About Dignity-Conserving Practice. *Journal of Palliative Medicine*, *27*(4), 537-544. https://doi.org/10.1089/jpm.2023.0544

Harrop, E., Noble, S., Edwards, M., Sivell, S., Moore, B., & Nelson, A. (2017). Managing, making sense of and finding meaning in advanced illness: a qualitative exploration of the coping and wellbeing experiences of patients with lung cancer. *Sociology of Health & Illness*, *39*(8), 1448-1464. https://doi.org/10.1111/1467-9566.12601

He, S., Wang, B., He, M., Liu, X., Tomoko, M., & Shi, T. (2025). Current Status of Knowledge, Attitudes, and Practices Among ICU Physicians and Nurses Regarding Palliative Care in China. *Scientific reports*, *15*(1). https://doi.org/10.1038/s41598-025-18909-8

Lacerda, A., Bravo-Carretero, I. M., Ehrlich, B. S., Job, G., Martínez, M. A., Leiss, U., Κόκκινου, Γ., Scheinemann, K., Craig, F., Krottendorfer, K., Devidas, M., Baker, J. N., Agulnik, A., & McNeil, M. J. (2024). Perceptions of Physicians Caring for Pediatric Patients With Cancer in Europe: Insights Into the Use of Palliative Care, Its Timing, and Barriers to Early Integration. *Frontiers in Oncology*, *14*. https://doi.org/10.3389/fonc.2024.1461668

Levine, O., Bainbridge, D., Pond, G. R., Slaven, M., Dhesy-Thind, S., Sussman, J., & Meyer, R. M. (2024). Patient and Provider Attitudes and Preferences Regarding Early Palliative Care Delivery for Patients With Advanced Gastrointestinal Cancers: A Prospective Survey. *Current Oncology*, *31*(6), 3329-3341. https://doi.org/10.3390/curroncol31060253

Madsen, R., Larsen, P., Carlsen, A.-M. F., & Marcussen, J. (2023). Nursing Care and Nurses' Understandings of Grief and Bereavement Among Patients and Families During Cancer Illness and Death – A Scoping Review. *European Journal of Oncology Nursing*, *62*, 102260. https://doi.org/10.1016/j.ejon.2022.102260

Maffoni, M., Casati, A., Tambussi, C., Torlaschi, V., Baldini, M., Dragoni, R., Fundarò, C., Bagnara, L., Ferretti, C., & Pierobon, A. (2025). Psychological and Behavioral Adjustment in Patients With Non-Traumatic Lower Limb Amputation and Prosthesis: A Mixed-Method Triangulation Study. *Journal of clinical medicine*, *14*(19), 6973. https://doi.org/10.3390/jcm14196973

Marano, G., & Mazza, M. (2025). Territories of Mourning: Addressing Submerged Problems of Grief Through Multidisciplinary Care. *World Journal of Clinical Cases*, *13*(16). https://doi.org/10.12998/wjcc.v13.i16.98271

McNeil, M. J., Godfrey, A., Loggetto, P., Oliveira, A. d., Job, G., Boldrini, É., Murra, G. R. C., Ayub, D. A. G., Allan Francisco Oliveira de, L., Aline Esmeraldo Andrade de, A., Garcia, J. L., Amaral, A. C., Iêda Cristina Cunha Ferreira e, F., Friedrich, P., Metzger, M. L., Devidas, M., Agulnik, A., & Baker, J. N. (2023). Physician Perceptions of and Barriers to Pediatric Palliative Care for Children With Cancer in Brazil. *JCO Global Oncology*(9). https://doi.org/10.1200/go.23.00057

Milić, J., Vučurović, M., Grego, E., Jovic, D. P., Šapić, R., Jović, S., & Jovanović, V. (2025). From Fear to Hope: Understanding Preparatory and Anticipatory Grief in Women With Cancer—A Public Health Approach to Integrating Screening, Compassionate Communication, and Psychological Support Strategies. *Journal of clinical medicine*, *14*(11), 3621. https://doi.org/10.3390/jcm14113621

Ramakrishna, N. J., & Dykeman, C. (2023). Differences in Grieving: A Corpus Linguistics Study of Grief From Self-Focused Mortality Versus Other-Focused Mortality. https://doi.org/10.31234/osf.io/hxsud

Ren, L., Shen, L., Lu, H. X., Wen, X., & Xu, C.-j. (2023). A Study of Grief Experience Interviews With Family Members of Patients With Advanced Malignant Tumors Based on Noninvasive Death Index Monitoring. *BMC psychology*, *11*(1). https://doi.org/10.1186/s40359-023-01396-9

Roberts, K. E., Rogers, M., Weinsaft, A., & Prigerson, H. G. (2025). Interventions for Patients With Life-Limiting Illness and Caregivers at the End of Life. 525-542. https://doi.org/10.1037/0000395-024

Seiler, A., Amann, M., Hertler, C., Christ, S. M., Schettle, M., Kaeppeli, B. M., Jung-Amstutz, J., Nigg, C., Pestalozzi, B. C.,

E-ISSN: 3041-8828

Imesch, P., Dummer, R., Blum, D., & Jenewein, J. (2024). Effects of Dignity Therapy on Psychological Distress and Wellbeing of Palliative Care Patients and Family Caregivers – A Randomized Controlled Study. *BMC Palliative Care*, *23*(1). https://doi.org/10.1186/s12904-024-01408-4

Talebi, G., Bagherian-Sararoudi, R., Rezaei Jamaloui, H., Oreyzi, H., & Bagherian-Sararoudi, P. (2025). The Effectiveness Of Emotional Schema Therapy On Hope And Illness Perception In Women With Breast Cancer: A Randomized Clinical Trial. *Journal of Research in Behavioural Sciences*, *23*(2), 371-381.

Talebi, G., Bagherian-Sararoudi, R., Rezaei_ Jamaloei, H., Oreyzi, H., & Pegah Bagherian-Sararoudi, P. (2025). The effectiveness of mindfulness-based cognitive therapy Intervention on attitudes toward death and hope in women with breast cancer: A randomized clinical trial. *Daneshvar Medicine*, *33*(1), 1-10.

Talebi, G., Rezaei, J. H., Bagherian, S. R., & Oreyzi, H. (2023). Effectiveness of emotional schema therapy on death attitude and distress tolerance of breast cancer patients.

Talebi, G., Rezayi Jamaloui, H., Bagherian Sararodi, R., Oreyzi, H., & Bagherian-Sararoudi, P. (2024). Effectiveness of Meaning-Centered Group Therapy on Death Attitude and Distress Tolerance in Women with Breast Cancer with Death Anxiety. *Health Psychology*, *13*(51), 83-98. https://doi.org/10.30473/hpj.2024.68761.5874

Valizadeh, S., Hadi, H., Eissa, M., Molavi, Z., Dadkhah, B., & Kheiri, R. (2023). Influential Factors in Accepting Amputation by Trauma Patients: A Qualitative Study. https://doi.org/10.21203/rs.3.rs-3201390/v1

Wang, S., Deng, Y., Zhang, Y., Guo, V. Y., Zhang, B., Cheng, X., Xin, M., Hao, Y., Hou, F., & Li, J. (2023). The role of illness-related cognition in the relationships between resilience and depression/anxiety in nasopharyngeal cancer patients. *Cancer Medicine*, *12*(23), 21408-21418. https://doi.org/10.1002/cam4.6688

Wong, D. F. K., Chan, V., Ip, P., & Zhuang, X. Y. (2019). The Effects of Recovery-Oriented Cognitive–Behavior Approach for Chinese With Severe Mental Illness. *Research on Social Work Practice*, *29*(3), 311-322. https://doi.org/10.1177/1049731517732837

Yockel, M. R., Sleiman, M. M., Doherty, H., Adams, R. I., Davis, K. M., Groninger, H., Sharkey, C., Biel, M. G., Statman, M. R., & Tercyak, K. P. (2025). Mental Health Professionals' Views on Artificial Intelligence as an Aide for Children Anticipating or Suffering the Loss of a Parent to Cancer: Helpful or Harmful? *Children*, *12*(6), 763. https://doi.org/10.3390/children12060763

Zeligman, M., Varney, M., Grad, R. I., & Huffstead, M. (2018). Posttraumatic growth in individuals with chronic illness: The role of social support and meaning making. *Journal of Counseling & Development*, *96*(1), 53-63. https://doi.org/10.1002/jcad.12177

E-ISSN: 3041-8828