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Comparing the Effectiveness of Cognitive-Behavioral Therapy and Emotion-Focused Therapy on Quality of Life Components in Patients with Cervical Cancer

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A B S T R A C T

This study aimed to compare the effectiveness of Cognitive-Behavioral Therapy (CBT) and Emotion-Focused Therapy (EFT) in improving quality of life in women with cervical cancer. A quasi-experimental design with a pretest-posttest structure and control group was employed. Seventy-five women with cervical cancer were purposively sampled and randomly assigned to three groups: CBT, EFT, and control (25 participants each). Both interventions consisted of 12 weekly group sessions. The quality of life was measured using the WHOQOL-BREF questionnaire across physical, psychological, social, and environmental domains. Data were analyzed using mixed-design ANOVA to evaluate the effects of the interventions over time and between groups. Bonferroni post-hoc tests were conducted to identify specific differences. The mixed-design ANOVA revealed significant main effects of test stages ($F = 588.22$, $p < 0.001$, $\eta^2 = 0.91$) and group membership ($F = 69.55$, $p < 0.001$, $\eta^2 = 0.70$), as well as significant interactions between test stages and groups ($F = 168.24$, $p < 0.001$, $\eta^2 = 0.86$) for the total quality of life score. Bonferroni post-hoc comparisons indicated that both CBT and EFT groups significantly outperformed the control group in all quality of life domains ($p < 0.001$). No significant differences were found between CBT and EFT ($p > 0.05$), and improvements were sustained at follow-up. Both CBT and EFT are effective in improving quality of life in women with cervical cancer, with comparable outcomes. These findings highlight the value of integrating psychological therapies into cancer care programs to address the multidimensional impacts of the disease and enhance patients' overall well-being.

Keywords: *Cognitive-Behavioral Therapy, Emotion-Focused Therapy, Quality of Life, Cervical Cancer, Psychological Interventions.*

1. Introduction

Cervical cancer is one of the most common cancers affecting women globally, posing significant challenges not only to physical health but also to psychological well-being and overall quality of life (Gillanders et al., 2015). The diagnosis and treatment of cervical cancer can lead to heightened anxiety, emotional distress, and disruptions in daily life, necessitating interventions that address both physical and emotional aspects. In this context, psychological therapies such as Cognitive-Behavioral Therapy (CBT) and Emotion-Focused Therapy (EFT) have gained attention for their potential to improve quality of life in patients with chronic or life-altering conditions (Gillanders et al., 2015; Razmpoosh et al., 2020).

CBT is a well-established therapeutic approach designed to modify dysfunctional thoughts and behaviors, thereby alleviating psychological distress and enhancing adaptive coping mechanisms (Bagheri Sheikhanghasheh et al., 2023). Its effectiveness has been demonstrated in a variety of contexts, including improving psychological capital, tolerance for ambiguity, and quality of life in patients with chronic headaches (Bagheri Sheikhanghasheh et al., 2023), and reducing anxiety in older adults affected by the COVID-19 pandemic (Esmaeili, 2023). Additionally, CBT has shown efficacy in addressing depression and anxiety symptoms, both of which are prevalent in cancer patients, and in enhancing quality of life through structured, goal-oriented interventions (Maj et al., 2023).

Similarly, EFT has emerged as an effective approach in addressing the emotional experiences underlying psychological distress. This therapy focuses on increasing emotional awareness, facilitating emotional expression, and enhancing emotional regulation (Haghayegh et al., 2015). EFT has been shown to significantly improve quality of life and relational dynamics in various populations, including couples coping with breast cancer (Hedayati et al., 2021) and individuals with irritable bowel syndrome (Haghayegh et al., 2015). Furthermore, EFT's impact on improving marital adjustment and quality of life among infertile couples with marital conflicts underscores its versatility and effectiveness in addressing emotional and relational challenges (Najafi et al., 2015).

The psychological challenges associated with cervical cancer, such as fear of recurrence, body image concerns, and treatment-related side effects, underscore the importance of interventions that can comprehensively address quality of life. Research has consistently highlighted the role of psychological interventions in improving various domains of quality of life, including physical, psychological, social, and environmental health (Gillanders et al., 2015; Jamalomidi et al., 2021). For instance, Jamalomidi et al. (2021) compared the effectiveness of CBT and EFT in obese women with polycystic ovary syndrome, finding both therapies beneficial in enhancing quality of life. Such findings suggest that these interventions may be equally beneficial for patients with cervical cancer.

CBT has also been widely applied in cancer care, demonstrating significant improvements in quality of life among patients with breast cancer (Majcher et al., 2023), as well as those undergoing dialysis (Khazaei et al., 2023). The incorporation of CBT in holistic cancer care plans has been shown to reduce psychological distress and improve patients' resilience, highlighting its role in enhancing treatment outcomes (Razmpoosh et al., 2020). In a systematic review, Mehraban et al. (2022) further validated the effectiveness of CBT in improving the quality of life of patients with diabetes, emphasizing the therapy's adaptability across various chronic conditions (Mehraban et al., 2022).

Similarly, EFT has been found effective in addressing the unique emotional and relational needs of patients and their families. For example, Khajeh et al. (2022) reported that a combined EFT and compassion-based therapy package significantly improved marital quality of life and attachment dimensions in couples (Khajeh et al., 2022). These findings resonate with studies highlighting EFT's capacity to improve emotional functioning and relational satisfaction, making it a promising approach for patients with cancer-related emotional and relational challenges (Hedayati et al., 2021).

The potential benefits of CBT and EFT extend beyond psychological improvements, influencing physical health outcomes as well. For example, Haghayegh et al. (2015) demonstrated that EFT improved not only quality of life but also sleep quality in patients with irritable bowel syndrome, a condition often exacerbated by emotional distress (Haghayegh et al., 2015). Similarly, CBT has been shown to improve sleep characteristics in patients with insomnia, contributing to enhanced physical and psychological well-being (Scott, 2023). Such findings underscore the interconnectedness of psychological and physical health and highlight the importance of addressing both domains in cancer care.

In the context of cervical cancer, interventions targeting quality of life must account for the multifaceted impact of

KMAN-CPN
KMAN-Counseling & Psychology Nexus
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the disease. Physical health domains, such as fatigue and pain management, are critical, but equally important are psychological and social dimensions, including anxiety, depression, and social support. Jamalomidi et al. (2021) emphasized the holistic nature of quality of life improvements, noting that effective psychological interventions should address both individual and relational factors (Jamalomidi et al., 2021). This approach aligns with findings from Gillanders et al. (2015), who identified self-compassion and cognitive flexibility as key predictors of improved quality of life in cancer survivors (Gillanders et al., 2015).

The comparative effectiveness of CBT and EFT has been explored in various contexts, with mixed findings. For example, Jalali et al. (2023) found that a stress management method based on CBT was as effective as self-care training in improving quality of life in patients with type 2 diabetes (Jalali et al., 2023). Meanwhile, Jamalomidi et al. (2021) reported no significant differences in the effectiveness of CBT and EFT for obese women with polycystic ovary syndrome (Jamalomidi et al., 2021). These findings suggest that both therapies are effective in addressing quality of life, albeit through different mechanisms. While CBT focuses on restructuring negative thought patterns, EFT emphasizes emotional processing and relational dynamics, offering complementary pathways to improvement.

Despite the demonstrated efficacy of these therapies, there remains a need for further research to compare their effectiveness in specific populations, such as women with cervical cancer. The unique challenges faced by these patients, including physical symptoms, psychological distress, and social isolation, necessitate tailored interventions that address their specific needs. By examining the comparative effectiveness of CBT and EFT, this study aims to provide insights into the optimal therapeutic approach for improving the quality of life in women with cervical cancer.

2. Methods and Materials

2.1. Study Design and Participants

The present study employed a quasi-experimental design featuring a pretest-posttest structure with control groups. Participants were randomly assigned into two experimental groups and one control group. Baseline assessments were conducted for all three groups. The two experimental groups received distinct therapeutic interventions, while the control group was placed on a waiting list. Following the interventions, post-tests were administered, and the results were compared across the groups. Due to the psychological nature of the interventions, a double-blind design was not feasible. Participants were aware of their group assignments, but group allocation was conducted by an independent evaluator who was unaware of the intervention content, thus reducing potential biases.

The study population consisted of women diagnosed with cervical cancer who visited Vali-e-Asr Hospital in Zanjan during 2024. A purposive sampling method was employed, and participants were randomly assigned to three groups. Each group included 20 participants, based on a sample size calculation that considered an effect size of 0.25, an alpha of 0.05, and a power of 0.80. To account for potential dropouts, the sample size was increased to 25 participants per group, ensuring the study's robustness in the face of unforeseen events or withdrawals.

2.2. Measures

2.2.1. Quality of Life

The quality of life was assessed using the World Health Organization Quality of Life Questionnaire-Short Form (WHOQOL-BREF). This 26-item questionnaire, developed in 1996, evaluates quality of life across four domains: physical health, psychological health, social relationships, and environmental health, with 7, 6, 3, and 8 items respectively. The first two items assess overall quality of life and general health. Responses are rated on a 5-point Likert scale, with higher scores indicating better quality of life. The instrument has been validated in diverse cultural contexts, and its Persian version has demonstrated satisfactory psychometric properties, including test-retest reliability ranging from 0.75 to 0.84 across domains (Ali Sari Nasirlo et al., 2024; Dehesh et al., 2024; Karbasi et al., 2024).

2.3. Interventions

2.3.1. Cognitive-Behavioral Therapy (CBT)

The first experimental group received Cognitive-Behavioral Therapy (CBT), a structured intervention targeting maladaptive thoughts and behaviors. This therapy involved 12 weekly sessions, each lasting 90 minutes, focusing on identifying and challenging negative thought patterns, developing problem-solving skills, and fostering adaptive coping mechanisms.

The first session served as an introduction, welcoming participants and establishing group norms such as regular

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attendance and punctuality. Participants were educated about cervical cancer, its symptoms, treatment, and prognosis. The psychological implications of cancer were discussed, and a metaphor of the "mental suitcase" was introduced, illustrating how accumulated thoughts shape mental experiences. Homework was assigned to prepare participants for the next session.

In the second session, cognitive patterns were explained. Participants identified negative thoughts and cognitive distortions related to cancer, such as pessimistic beliefs about prognosis. Worksheets for recording automatic thoughts were distributed, and participants were encouraged to practice identifying their thoughts as homework.

The third session emphasized stopping negative thoughts and identifying triggers for unpleasant feelings. Participants shared challenges encountered while recording thoughts and practiced replacing negative thoughts with logical and positive alternatives. They were tasked with continuing this practice in daily life.

The fourth session focused on emotional processing. Participants explored their emotions, identified unresolved emotional issues, and were guided to challenge irrational beliefs. Assignments were given to encourage further emotional exploration and rational thinking.

The fifth session introduced the concept of immersion, encouraging participants to confront distressing thoughts and emotions directly. Homework was tailored to individual progress and challenges.

The sixth session addressed maladaptive assumptions. Participants engaged in exercises to challenge irrational beliefs about cancer using logic and evidence, illustrated by the "lake monster" metaphor. They practiced providing rational arguments to counter negative thoughts and continued this process through homework.

The seventh session explored schemas and their connection to dysfunctional assumptions. Practical challenges were presented to eliminate negative thoughts. Skills such as problem-solving, assertiveness, and activity planning were introduced and practiced.

The eighth session focused on consolidating learning. Participants practiced thought injection and perceptual change exercises. The program was reviewed, and feedback was gathered from group members to evaluate the intervention's impact.

2.3.2. Emotion-Focused Therapy (EFT)

The second experimental group underwent Emotion-Focused Therapy (EFT), designed to enhance emotional awareness and regulation. This intervention also consisted of 12 weekly 90-minute sessions. The therapy emphasized exploring emotional experiences, identifying unresolved emotional issues, and facilitating emotional expression and transformation to improve psychological well-being.

The first session established rapport among participants and introduced the principles of EFT. Initial assessments of participants' problems and relational dynamics were conducted, and their expectations for therapy were discussed. A pre-test was administered to evaluate baseline emotional states.

In the second session, participants identified their negative interaction cycles. They explored their attachment patterns and the impact of emotions on interpersonal interactions. Discussions aimed to reset these cycles and increase emotional flexibility.

The third session delved into underlying emotions driving interaction patterns. Participants explored their attachment needs, fears, and unacknowledged emotions. The session encouraged them to validate their experiences and focus on their primary emotions, distinguishing these from secondary emotional reactions.

The fourth session reframed participants' problems based on core emotions and attachment needs. They were encouraged to express their emotions and attachment behaviors openly. Psychoeducation on the effects of fear and defense mechanisms on cognitive and emotional processes was provided.

The fifth session encouraged participants to identify suppressed needs and aspects of themselves that were denied. They reflected on their interaction patterns, emphasizing empathy and mutual respect. Exercises promoted the expression of attachment needs and acceptance of previously denied emotions.

The sixth session emphasized the awareness of core emotions and the role each individual plays in relationships. Participants explored their experiences and discussed new ways of interacting. Emotions were traced, and attachment needs were redefined in a healthy and natural context.

The seventh session facilitated the expression of desires, needs, and expectations. Emotional engagement was deepened, fostering the development of secure interpersonal bonds. Participants explored their inner attachment needs and created new, secure connections.

The eighth session provided opportunities for new relational experiences. Participants clarified and reinforced positive interaction patterns while addressing attachment needs. The session emphasized emotional safety in problem-solving.

The ninth session consolidated the changes achieved during therapy. Participants reflected on the differences between old and new interaction patterns and discussed how their relationships had evolved. A post-test was administered to evaluate progress, and the group intervention concluded with an emphasis on sustaining secure and adaptive attachment behaviors.

2.4. Data Analysis

Data were analyzed using SPSS software (version 25). Descriptive statistics, including means and standard deviations, were calculated to summarize the data. Inferential statistics, such as mixed-design ANOVA and Bonferroni post hoc tests, were employed to examine the effectiveness of the interventions. Assumptions for normality and homogeneity of variances were assessed using the Kolmogorov-Smirnov and Levene's tests, respectively, ensuring the validity of the applied statistical methods.

3. Findings and Results

The descriptive statistics for quality of life components across the three groups (emotion-focused, cognitive-behavioral, and control) at pretest, posttest, and follow-up stages are summarized in Table 1. Below are the mean and standard deviation results:

Table 1

Descriptive Statistics Findings

Variable	Test Stage	Emotion-Focused Group (Mean ± SD)	Cognitive-Behavioral Group (Mean ± SD)	Control Group (Mean ± SD)
Physical Health	Pretest	18.95 ± 2.87	19.00 ± 2.77	18.70 ± 1.95
	Posttest	23.85 ± 2.53	23.80 ± 2.31	19.05 ± 1.64
	Follow-Up	23.65 ± 2.39	23.50 ± 2.37	19.19 ± 2.36
Psychological Health	Pretest	17.75 ± 3.04	17.80 ± 2.09	17.05 ± 2.37
	Posttest	22.20 ± 2.82	22.45 ± 1.88	15.75 ± 2.86
	Follow-Up	21.45 ± 2.76	21.85 ± 1.81	16.30 ± 2.69
Social Relationships	Pretest	7.50 ± 2.11	8.40 ± 2.98	7.60 ± 1.98
	Posttest	12.20 ± 1.77	12.15 ± 2.25	7.20 ± 1.61
	Follow-Up	11.95 ± 1.73	11.50 ± 2.09	7.70 ± 2.05
Environmental Health	Pretest	23.00 ± 3.06	23.70 ± 3.37	20.65 ± 2.50
	Posttest	27.01 ± 2.81	27.10 ± 2.99	17.05 ± 3.03
	Follow-Up	26.55 ± 2.68	26.60 ± 2.85	19.20 ± 2.50
Total Score	Pretest	72.75 ± 7.67	74.65 ± 6.70	69.45 ± 5.73
	Posttest	94.20 ± 6.72	94.90 ± 5.40	67.45 ± 5.67
	Follow-Up	93.30 ± 5.61	93.15 ± 4.25	70.05 ± 5.36

The results indicate significant improvements in quality of life across all measured dimensions (physical health, psychological health, social relationships, and environmental health) for the two intervention groups (emotion-focused therapy and cognitive-behavioral therapy) from pretest to posttest and follow-up stages. In contrast, the control group demonstrated minimal changes across all dimensions. At the follow-up stage, the mean scores in the intervention groups remained higher than those in the control group, suggesting sustained effects of the interventions. Both therapies were similarly effective in improving quality of life, as reflected in comparable posttest and follow-up scores across the two intervention groups.

The assumptions required for the statistical analyses were assessed and confirmed for the study data. Normality was evaluated using the Kolmogorov-Smirnov test, and all variables demonstrated a normal distribution across the three groups (emotion-focused, cognitive-behavioral, and control) at each assessment stage. Homogeneity of variances was confirmed using Levene's test, ensuring comparable

variability across groups for all measured components of quality of life. Additionally, the assumption of homogeneity of covariance was satisfied, as tested by Box's M test. However, the assumption of sphericity, assessed using Mauchly's test, was not met for the repeated measures, indicating that variances of the differences between paired observations were not equal. The total sample size (75 participants, with 25 in each group) was sufficient for robust statistical analysis, accommodating potential deviations in assumptions without compromising the study's validity.

The results of the mixed-design ANOVA are detailed in Table 2. Significant differences were observed in test stages, group membership, and the interaction between test stages and group membership for all four components of quality of life (physical health, psychological health, social relationships, and environmental health) as well as the overall quality of life score. A summary of the results is provided below:

Table 2

The Results of Mixed ANOVA

Variable	Source of Variance	Sum of Squares	df	Mean Square	F	p-value	Effect Size (η^2)	Power
Physical Health	Test Stages	425.68	1.80	236.24	225.15	<0.001	0.80	1
	Group Membership	411.81	2	205.59	13.59	<0.001	0.32	1
	Interaction	172.57	3.60	43.88	45.63	<0.001	0.62	1
Psychological Health	Test Stages	245.51	2	122.76	149.88	<0.001	0.72	1
	Group Membership	712.84	2	356.42	20.48	<0.001	0.42	1
	Interaction	254.46	4	63.61	77.67	<0.001	0.73	1
Social Relationships	Test Stages	274.41	1.35	203.31	66.60	<0.001	0.54	1
	Group Membership	389.08	2	194.54	21.37	<0.001	0.43	1
	Interaction	168.72	2.70	62.50	20.47	<0.001	0.42	1
Environmental Health	Test Stages	90.84	2	45.42	23.12	<0.001	0.29	1
	Group Membership	1793.54	2	896.77	42.79	<0.001	0.60	1
	Interaction	367.22	4	91.81	46.74	<0.001	0.62	1
Total Quality of Life	Test Stages	6996.03	1.68	4117.43	588.22	<0.001	0.91	1
	Group Membership	13233.23	2	6616.62	69.55	<0.001	0.70	1
	Interaction	4002.03	3.35	1193.12	168.24	<0.001	0.86	1

As shown in Table 2, for physical health, significant effects were found for test stages ($F = 225.15$, $p < 0.001$, $\eta^2 = 0.80$), group membership ($F = 13.59$, $p < 0.001$, $\eta^2 = 0.32$), and the interaction between stages and groups ($F = 45.63$, $p < 0.001$, $\eta^2 = 0.62$). Similar patterns were observed across other quality of life domains, with significant differences for psychological health (test stages: $F = 149.88$, group membership: $F = 20.48$, interaction: $F = 77.67$, all $p < 0.001$), social relationships (test stages: $F = 66.60$, group membership: $F = 21.37$, interaction: $F = 20.47$, all $p < 0.001$), and environmental health (test stages: $F = 23.12$, group membership: $F = 42.79$, interaction: $F = 46.74$, all $p < 0.001$). For total quality of life, the results indicated substantial effects of test stages ($F = 588.22$, $p < 0.001$, $\eta^2 = 0.91$), group membership ($F = 69.55$, $p < 0.001$, $\eta^2 = 0.70$), and the interaction ($F = 168.24$, $p < 0.001$, $\eta^2 = 0.86$). These findings confirm the effectiveness of both interventions in significantly improving quality of life.

The results of the Bonferroni post-hoc comparisons, detailed in Table 3, indicate significant differences between the experimental groups (emotion-focused and cognitive-behavioral) and the control group across all four quality of life components (physical health, psychological health, social relationships, and environmental health) as well as the total quality of life score. Both intervention groups achieved significantly higher mean scores compared to the control group ($p < 0.05$). However, no significant differences were observed between the emotion-focused and cognitive-behavioral groups ($p > 0.05$), indicating comparable effectiveness.

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Table 3

Bonferroni Post-Hoc Tests Results

Variable	Source	Reference Group	Comparison Group	Mean Difference	Std. Error	p-value
Physical Health	Group	Emotion-Focused	CBT	0.05	0.71	1.000
		Emotion-Focused	Control	3.23	0.71	<0.001
		CBT	Control	3.18	0.71	<0.001
	Test Stage	Pretest	Posttest	-3.35	0.15	<0.001
		Pretest	Follow-Up	-3.17	0.20	<0.001
		Posttest	Follow-Up	0.18	0.18	0.910
Psychological Health	Group	Emotion-Focused	CBT	-0.23	0.76	1.000
		Emotion-Focused	Control	4.10	0.76	<0.001
		CBT	Control	4.33	0.76	<0.001
	Test Stage	Pretest	Posttest	-2.60	0.15	<0.001
		Pretest	Follow-Up	-2.33	0.19	<0.001
		Posttest	Follow-Up	-0.27	0.16	0.300
Social Relationships	Group	Emotion-Focused	CBT	-0.13	0.55	1.000
		Emotion-Focused	Control	3.05	0.55	<0.001
		CBT	Control	3.18	0.55	<0.001
	Test Stage	Pretest	Posttest	-2.68	0.25	<0.001
		Pretest	Follow-Up	-2.55	0.34	<0.001
		Posttest	Follow-Up	0.13	0.18	1.000
Environmental Health	Group	Emotion-Focused	CBT	-0.28	0.84	1.000
		Emotion-Focused	Control	6.55	0.84	<0.001
		CBT	Control	6.83	0.84	<0.001
	Test Stage	Pretest	Posttest	-1.27	0.27	<0.001
		Pretest	Follow-Up	-1.67	0.27	<0.001
		Posttest	Follow-Up	-0.40	0.22	0.240
Total Quality of Life	Group	Emotion-Focused	CBT	-0.82	1.78	1.000
		Emotion-Focused	Control	17.77	1.78	<0.001
		CBT	Control	18.58	1.78	<0.001
	Test Stage	Pretest	Posttest	-13.23	0.39	<0.001
		Pretest	Follow-Up	-13.22	0.53	<0.001
		Posttest	Follow-Up	0.02	0.40	1.000

The analysis also revealed significant differences between the pretest and posttest scores, as well as between the pretest and follow-up scores, across all variables ($p < 0.05$). However, no significant differences were found between the posttest and follow-up stages ($p > 0.05$), indicating that the observed improvements were maintained over time. These results underscore the sustained effectiveness of both intervention methods in improving the quality of life for patients.

4. Discussion and Conclusion

The findings of this study highlight the significant impact of both Cognitive-Behavioral Therapy (CBT) and Emotion-Focused Therapy (EFT) on improving the quality of life in women with cervical cancer. Both interventions demonstrated substantial improvements across physical, psychological, social, and environmental domains of quality of life compared to the control group. These improvements were not only statistically significant but also sustained over the follow-up period, indicating the long-term effectiveness of these therapies.

The results are consistent with previous studies that have established the efficacy of CBT in enhancing quality of life across various health conditions. For instance, Bagheri Sheikhanghasheh et al. (2023) found that CBT significantly improved psychological capital and quality of life in patients with chronic headaches (Bagheri Sheikhanghasheh et al., 2023). Similarly, Khazaei et al. (2023) demonstrated that CBT effectively enhanced the quality of life in patients undergoing dialysis (Khazaei et al., 2023). These findings support the notion that CBT's structured approach to modifying negative thought patterns and promoting adaptive coping mechanisms can lead to meaningful improvements in overall well-being.

EFT also emerged as an effective intervention, aligning with studies that have emphasized its role in addressing emotional and relational challenges. Haghayegh et al. (2015) reported that EFT significantly improved quality of life and sleep quality in patients with irritable bowel syndrome

KMAN-CPN KMAN-Counseling & Psychology Nexus
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(Haghayegh et al., 2015), a finding echoed by Hedayati et al. (2021) in their study on couples coping with breast cancer. The current study's findings further validate the utility of EFT in cancer care, highlighting its capacity to enhance emotional awareness, facilitate emotional expression, and foster healthier relational dynamics (Hedayati et al., 2021).

While both therapies proved effective, the lack of significant differences between CBT and EFT aligns with Jamalomidi et al. (2021), who found similar outcomes for these interventions in obese women with polycystic ovary syndrome (Jamalomidi et al., 2021). This suggests that both approaches offer unique but equally valuable mechanisms for improving quality of life. CBT's focus on cognitive restructuring and problem-solving complements EFT's emphasis on emotional processing and relational healing, making them both suitable options depending on individual patient needs and preferences.

The sustained improvements observed in this study are particularly noteworthy. Unlike the control group, which showed minimal changes, both intervention groups maintained their gains over the follow-up period. This finding is consistent with research by Mehraban et al. (2022), which highlighted the long-term benefits of CBT in improving the quality of life of patients with diabetes (Mehraban et al., 2022). Similarly, the enduring effects of EFT observed in this study align with Khajeh et al. (2022), who reported sustained improvements in marital quality of life following a combined EFT and compassion-based therapy intervention (Khajeh et al., 2022).

Despite the significant findings, this study has several limitations. First, the sample size was relatively small, limiting the generalizability of the results to larger populations. Additionally, the study relied on self-reported measures of quality of life, which may be subject to social desirability bias or inaccuracies in self-assessment. Another limitation was the lack of a double-blind design, as the nature of psychological interventions made it impractical to blind participants to their group assignments. Finally, the study's follow-up period, while sufficient to demonstrate sustained effects, was relatively short and did not account for potential long-term challenges or relapses.

Future studies should consider larger sample sizes and diverse populations to enhance the generalizability of findings. Longitudinal designs with extended follow-up periods are also recommended to assess the durability of therapeutic effects over time. Additionally, exploring the integration of CBT and EFT into combined or hybrid interventions could provide valuable insights into their complementary mechanisms and potential synergistic effects. Finally, future research should investigate the role of individual differences, such as personality traits or cultural factors, in moderating the effectiveness of these therapies.

The findings of this study underscore the importance of incorporating psychological therapies like CBT and EFT into comprehensive cancer care programs. Healthcare providers should prioritize access to these interventions for patients with cervical cancer, tailoring therapy plans to individual needs and preferences. Training programs for therapists should emphasize the unique strengths of both CBT and EFT, enabling practitioners to deliver evidence-based care. Additionally, integrating these therapies with other supportive interventions, such as nutritional counseling or physical rehabilitation, can further enhance patient outcomes and quality of life. These findings highlight the potential for CBT and EFT to play a pivotal role in improving holistic care for cancer patients.

Authors' Contributions

Authors contributed equally to this article.

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.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for

ethical research involving human participants. This study was approved by the Ethics Committee of Islamic Azad University, Khomeini Shahr Branch, Isfahan, under the ethics code IR.IAU.KHSH.REC.1403.015.

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