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Comparison of the Effectiveness of Acceptance and Commitment Therapy and Meaning-Centered Therapy Based on Rumi's Thoughts on Pain Catastrophizing and Distress Tolerance in Men with Gastric Cancer

Kosar. Ansari[1], Asghar. Noruzi[2*], Gholamreza. Khalili[3]

[1] PhD Student, Department of Psychology, Sari Branch, Islamic Azad University, Sari, Iran
[2] Assistant Professor, Department of Psychology, Sari Branch, Islamic Azad University, Sari, Iran
[3] Assistant Professor, Department of Psychology, Gorgan Branch, Islamic Azad University, Gorgan, Iran

*** Corresponding author email address**: 2091474029@iau.ir

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A B S T R A C T

The aim of the present study is to compare the effectiveness of Acceptance and Commitment Therapy (ACT) and Meaning-Centered Therapy (MCT) based on Rumi's thoughts on pain catastrophizing and distress tolerance in men with gastric cancer. The research method was quasi-experimental, conducted using a pretest-posttest design with two experimental groups and a control group, along with a follow-up phase. The statistical population of the study included all men with gastric cancer at Imam Khomeini Hospital in Sari during the years 2023-2024. Among the statistical population, 45 individuals were selected through convenience sampling and assigned to three groups. The research instruments included the Pain Catastrophizing Questionnaire (Rahmati et al., 2017) and the Distress Tolerance Scale (DTS-15) (Simons & Gaher, 2005). To analyze the hypotheses, assumption tests (Shapiro-Wilk, Mbox, Cook's distance) and multivariate analyses using repeated measures analysis of variance and the Bonferroni correction test were employed. The results indicated that Meaning-Centered Therapy based on Rumi's thoughts had a greater effect on improving the components of pain catastrophizing (magnification and rumination). Additionally, there was a significant difference in the scores of the components of distress tolerance (acceptance, absorption, evaluation, and regulation) between the Acceptance and Commitment Therapy and Meaning-Centered Therapy based on Rumi's thoughts groups, compared with the control group ($p < 0.01$). However, there was no significant difference in the scores of the four components of distress tolerance between the Acceptance and Commitment Therapy group and the Meaning-Centered Therapy based on Rumi's thoughts group.

Keywords: *Acceptance and Commitment Therapy, Meaning-Centered Therapy Based on Rumi's Thoughts, Pain Catastrophizing, Distress Tolerance, Gastric Cancer*

1. Introduction

Gastric cancer occurs when cancer cells develop on the inner lining of the stomach. The early symptoms of this disease include conditions such as heartburn, upper abdominal pain, nausea, and loss of appetite (World Health Organization, 2022). Gastric and colorectal cancers are among the most common cancers, causing over 1.8 million deaths annually worldwide. Gastric cancer is the fourth most common cancer and the second leading cause of cancer-related deaths. In Iran, in contrast to other countries, the incidence of gastric cancer is on the rise (Safari et al., 2019). This disease leads to an increase in anxiety among patients and can create other negative psychological consequences, one of which is a reduced distress tolerance. Distress tolerance refers to the ability to experience and endure negative psychological situations. Individuals with low distress tolerance find emotions intolerable and are unable to cope with distress and turmoil (Veilleux et al., 2022). These individuals do not accept the existence of emotions and feel disturbed and ashamed of them because they believe they lack the ability to cope with emotions (Lass et al., 2023). Individuals with low distress tolerance attempt to avoid negative emotions and seek immediate relief (Burr et al., 2021). It is noteworthy that if these individuals are unable to alleviate these emotions, their entire attention becomes fixated on the disturbing emotion, significantly impairing their performance (Sedighi Arfaee et al., 2021).

Another area that can be impacted by cancer is pain catastrophizing. Pain catastrophizing is considered a precursor to pain-related fear. It is a maladaptive response to pain, characterized by an increased focus on pain-related thoughts, exaggerating the perceived threat of pain stimuli, and adopting a hopeless approach to coping with painful situations (Peralta et al., 2023). One of the most consistent findings regarding pain catastrophizing is its association with increased pain experience. Sullivan et al. (2008) demonstrated that catastrophizing explains 7-31% of the variance in pain intensity (Hooshmandi et al., 2024). Pain catastrophizing refers to a process in which pain is interpreted as a highly threatening event (Ezzatpanah & Latifi, 2019). It is considered a cognitive element of the fear process associated with pain, linked with disability caused by pain in patients (Firoozi & Suri, 2018). Initial levels of pain catastrophizing are associated with an inability to engage in subsequent activities and, in addition to being linked to physical disability, may also be associated with more severe pain and various pain-related issues, thus contributing to heightened health anxiety (Borsbo et al., 2019).

Among the therapeutic interventions aimed at improving the issues mentioned, Acceptance and Commitment Therapy (ACT) is notable. Evidence indicates that ACT increases psychological flexibility and thus proves effective in improving various psychological problems (Değerli & Odacı, 2023). Walser et al. (2023) conducted a study titled "Guided and Unguided Acceptance and Commitment Therapy for Anxiety Disorders," demonstrating that ACT (in an online format) significantly reduces anxiety disorders. Empirical evidence regarding the effectiveness of this therapy for various disorders is growing. For example, its efficacy has been established for conditions such as depression (Feizi Khah et al., 2021), psychoses (Gonçalves, 2023), and chronic pain. Additionally, ACT has been reported to be effective and beneficial in various areas such as anger and rage, anxiety, depression, and increasing life satisfaction among patients, as well as in addressing numerous other psychological disorders (Mami et al., 2020).

For cancer patients whose psychological states are critical, meaning-centered therapy can provide a philosophical perspective that transcends the past and enhances the life transitions. This approach directly relates to the concept and meaning of life. The philosophy of life is a central issue in human existence, and its meaning varies from one individual to another. In many cases, individuals lack a clear and understandable comprehension of life itself and its meaning. This approach seeks to help clients avoid wasting time, treating every moment of life as an opportunity for living, being, flourishing, and achieving, while clearly defining the various domains of life and pursuing goals within those domains. This approach aids the client in adapting effectively to life's challenges and developing an open and expansive outlook on life (Hassanzadeh & Talebi, 2023). This method emphasizes four important existential concerns that are rooted in human existence: death, freedom, loneliness, and meaninglessness (Faghih Khoshabi & Norouzi, 2022). In Persian mystical literature, there are thoughts and works, both poetic and prose, that can be utilized to develop and implement cultural therapeutic and educational programs based on meaning. The reason for selecting a cultural approach is that there is a growing need in psychotherapy for treatment that is supported both empirically and culturally. Experts have long recognized that the best treatment is one that considers the needs and cultural contexts of clients (Norouzi et al., 2023). Based on this, meaning-centered therapy based on Rumi's thoughts was

designed by Norouzi at Kharazmi University. The effectiveness of meaning-centered therapy on resilience and psychological well-being has been studied in various communities (Norouzi et al., 2019; Norouzi & Shabanpour, 2023). The results of this research may be useful for therapists, psychiatrists, and counselors in utilizing a more effective therapeutic approach. Accordingly, the present study seeks to answer the question: Is there a difference between the effectiveness of Acceptance and Commitment Therapy and Meaning-Centered Therapy based on Rumi's thoughts in terms of pain catastrophizing and distress tolerance in men with gastric cancer?

2. Methods and Materials

2.1. Study Design and Participants

This study employed a quasi-experimental research design with a control group and pre-test-post-test measurements. The sample was selected using voluntary and convenient sampling methods, and participants were randomly assigned to experimental and control groups.

The target population of the study consisted of all men diagnosed with gastric cancer at Imam Khomeini Hospital in Sari during the years 2023–2024. Forty-five male cancer patients were voluntarily and conveniently selected as the research sample from among those visiting Imam Khomeini Hospital in Sari. The sample was randomly assigned into three groups: 15 individuals in the first experimental group (Acceptance and Commitment Therapy), 15 individuals in the second experimental group (Meaning-Centered Therapy based on Rumi's thoughts), and 15 individuals in the control group.

Inclusion Criteria:

- Male patients diagnosed with gastric cancer at Imam Khomeini Hospital in Sari
- Ages between 45 and 75 years
- Written consent to participate in the study

Exclusion Criteria:

- Failure to attend therapy sessions
- Absence from more than one therapy session

2.2. Measures

2.2.1. Pain Catastrophizing

This questionnaire was developed by Rahmati and colleagues in 2017 to assess the catastrophic thoughts and behaviors of patients when faced with pain. The scale includes 13 items and two dimensions: magnification (items 2, 3, 4, 5, 6, 7, 13) and rumination/helplessness (items 1, 8, 9, 10, 11, 12). Participants are asked to indicate how often they experience each of the 13 items based on their previous experiences with pain. Each item is scored on a five-point Likert scale, with 0 for "never" and 4 for "always." The subscale scores are obtained by summing the scores of related items, and the total score is the sum of all items. Construct validity has been confirmed in various studies, and exploratory and confirmatory factor analysis generally supports the structure of rumination, magnification, and helplessness. Reliability, measured via test-retest, was reported as 0.75, with subscale reliabilities ranging from 0.82 to 0.89 (Ezzatpanah & Latifi, 2019; Firoozi & Suri, 2018).

2.2.2. Distress Tolerance

Distress Tolerance Scale (DTS-15) is a 15-item self-report scale developed by Simons and Gaher (2005) to assess distress tolerance across four components: tolerance (items 1, 3, and 5), absorption (items 2, 4, and 15), appraisal (items 6, 7, 9-12), and regulation (items 8, 13, 14). It is scored on a five-point Likert scale (1 = strongly agree to 5 = strongly disagree), with higher scores indicating greater distress tolerance. Simons and Gaher reported Cronbach's alpha coefficients for the subscales as 0.73, 0.66, 0.74, and 0.87, respectively, and a convergent validity coefficient of 0.61. Shams et al. (2010) reported significant correlations between the DTS-15 and problem-focused, emotion-focused, less effective, and ineffective coping strategies, as well as with positive emotion, negative emotion, and cigarette dependence (Ezzatpanah & Latifi, 2019; Sedighi Arfaee et al., 2021).

2.3. Interventions

2.3.1. Acceptance and Commitment Therapy (ACT)

Session 1: Introduction to the Group and ACT

In the first session, group members are introduced to the therapist and to each other. The session focuses on providing an overview of Acceptance and Commitment Therapy (ACT), outlining the objectives of the therapy and the rules for participation. The discussion revolves around the members' thoughts and perspectives on anxiety and stress in their daily lives, encouraging open dialogue about how stress manifests and its impact.

Session 2: Creative Hopelessness

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This session addresses the concept of "creative hopelessness," aiming to help participants recognize the inefficacy of control strategies and avoidance behaviors. Participants are guided to gain insight into their attempts to control anxiety and stress, challenging their assumptions about the usefulness of these strategies. The goal is to highlight the futility of control and move toward acceptance.

Session 3: Acceptance vs. Control

The focus of this session is on the concept of acceptance. Participants are introduced to the difference between acceptance and control. Techniques for embracing negative emotions and experiences are taught, emphasizing the importance of willingness to experience emotions rather than avoiding or controlling them. The "healing hands" technique is introduced to facilitate the acceptance of difficult emotions.

Session 4: Fusion and Defusion

This session explores the concepts of fusion and defusion. Participants are encouraged to reflect on their experiences of avoidance and fusion with their thoughts. The "observing without judgment" exercise is introduced to help individuals practice mindfulness and break free from the automatic fusion with distressing thoughts.

Session 5: Mindfulness

Mindfulness is defined and its importance for living in the present moment is highlighted. Techniques for practicing mindfulness, including grounding exercises and self-awareness, are introduced. The session helps participants understand the value of being present and considering themselves as the context for their experiences, rather than identifying solely with their thoughts and emotions.

Session 6: Values Identification

Participants are guided to identify their core values, with a clear distinction made between goals and values. Barriers to living in alignment with these values are discussed, and the importance of clarifying values for life satisfaction and motivation is emphasized.

Session 7: Committed Action

In this session, participants define their goals and engage in the concept of committed action. They identify specific actions they can take to align their behavior with their values, planning concrete steps to commit to these actions. The focus is on fostering a sense of personal responsibility and intentional action toward valued outcomes.

Session 8: Summary and Post-Test

The final session reviews the lessons and exercises learned throughout the therapy. A summary of key concepts is provided, followed by the post-test to assess the progress and changes in participants' perceptions and behaviors since the beginning of the therapy.

2.3.2. Meaning-Centered Therapy Based on Rumi's Teachings

Session 1: Understanding the Source of Existence

The first session introduces the approach and establishes a learning contract with participants. The theoretical foundation of this therapy is rooted in psychology and the cultural philosophy of Rumi. This session covers topics such as self-control in the process of change, acceptance, reconciliation with suffering, meaning-making, mindfulness, the fear of death, love, patience in pain, and gratitude. The story of Soroush Mehr and Rumi's poetry are used as metaphors to initiate discussions about the source of existence. Participants are encouraged to reflect on their life experiences and apply Rumi's ideas in finding meaning in their own journey.

Session 2: Self-Control in the Process of Change

Change is central to human life and personal growth. This session discusses how failure to change leads to stagnation, and how embracing change with self-control can lead to new, meaningful experiences. Participants are introduced to the concept that change is driven by self-discipline, and how self-control is essential for achieving personal transformation. The session emphasizes the importance of continuous growth and adaptation, avoiding repetitive, monotonous patterns in life.

Session 3: Acceptance

In this session, participants are guided to reflect on situations in life where solutions to problems may not be readily available. The session explores the notion that the inability to solve every issue is not a sign of weakness, but rather a consequence of the circumstances. The discussion focuses on how to interact with problems when they appear insurmountable, and the importance of acceptance and coping strategies in dealing with life's challenges.

Session 4: Reconciliation with Pain and Meaning Making

This session deals with the universal experience of pain and suffering. The discussion revolves around how to experience pain meaningfully, without letting it derail one's life path. Participants explore how to stay focused on life's meaning and pleasures even in the midst of hardship. The session encourages growth through pain and emphasizes the importance of maintaining a positive perspective despite difficulties.

Session 5: Prayer and Meditation (Mindfulness)

This session introduces the role of mindfulness in reducing stress and enhancing well-being. It addresses the tendency of human minds to become distracted by past regrets or future anxieties, which prevent individuals from fully experiencing the present. Participants are taught mindfulness techniques to help them remain in the present moment, focusing on the meanings of their immediate experiences rather than dwelling on distractions.

Session 6: Death Anxiety and Finding the Meaning of Love

The existential fear of death is discussed in this session, where participants explore their feelings toward death and the anxiety it provokes. Drawing on Rumi's teachings, participants are encouraged to reframe death as a natural and inevitable part of life, and to develop a mindset that can reduce the fear surrounding it. The session also emphasizes the importance of love as a transformative force that transcends the fear of death.

Session 7: Patience and Endurance in Pain and Suffering

Patience is presented as a key virtue for managing pain and suffering. The session explores how enduring suffering with patience can lead to personal growth and spiritual maturity. Drawing from cultural and spiritual traditions, participants are encouraged to develop resilience and patience as tools for coping with life's challenges.

Session 8: Gratitude

In the final session, participants reflect on the importance of gratitude in fostering a positive mindset. The session encourages individuals to adopt an attitude of appreciation for the positive aspects of their lives, no matter how small. By focusing on gratitude, participants are guided to enhance their well-being and maintain a positive perspective in both challenging and prosperous times.

2.4. Data Analysis

For hypothesis testing, assumptions were tested using the Shapiro-Wilk, M Box, and Mauchly's tests, and multivariate analysis of variance (MANOVA) was conducted with Bonferroni adjustments. All statistical operations were performed using SPSS software version 24.

3. Findings and Results

The descriptive statistics for magnification, mental rumination/hopelessness, distress tolerance, absorption, evaluation, and regulation across groups and stages reveal significant changes between pre-test and post-test for all variables in the experimental groups. Magnification decreased significantly in both the Acceptance and Commitment (M = 15.42 → 12.12) and Meaning Therapy (M = 15.39 → 18.12) groups, compared to the Control group, which showed little change (M = 16.25 → 16.10). A similar pattern was observed for mental rumination/hopelessness, where both experimental groups showed a significant decrease (Acceptance and Commitment: M = 14.81 → 12.15; Meaning Therapy: M = 14.79 → 17.88) compared to the control group. Distress tolerance decreased in both intervention groups post-test, with the Acceptance and Commitment group showing a more pronounced decrease (M = 21.75 → 18.89), and the Meaning Therapy group showing a moderate decline (M = 21.75 → 19.56). Absorption scores also showed significant reductions in both intervention groups (Acceptance and Commitment: M = 23.12 → 20.78; Meaning Therapy: M = 23.12 → 21.50), whereas the Control group showed minimal change (M = 22.65 → 22.40). Both the Acceptance and Commitment and Meaning Therapy groups displayed a marked improvement in evaluation and regulation, with significant decreases in the post-test and consistent scores during follow-up, suggesting sustained improvements. The Control group exhibited stable scores across all stages for most variables. These results demonstrate the effectiveness of both therapeutic interventions in improving the targeted psychological outcomes (Table 1).

Table 1

Descriptive Statistics (M and SD) for All Variables Across Groups and Stages

Component	Group	Stage	M	SD
Magnification	Acceptance and Commitment	Pre-test	15.42	3.45
		Post-test	12.12	2.88
		Follow-up	12.58	3.21
	Meaning Therapy	Pre-test	15.39	3.62
		Post-test	18.12	3.45
		Follow-up	16.56	3.56
	Control	Pre-test	16.25	3.55

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		Post-test	16.10	3.52
		Follow-up	16.25	3.60
Mental Rumination /Hopelessness	Acceptance and Commitment	Pre-test	14.81	3.34
		Post-test	12.15	3.12
		Follow-up	12.67	3.21
	Meaning Therapy	Pre-test	14.79	3.27
		Post-test	17.88	3.35
		Follow-up	15.60	3.14
	Control	Pre-test	15.00	3.24
		Post-test	14.90	3.19
		Follow-up	15.00	3.25
Distress Tolerance	Acceptance and Commitment	Pre-test	21.75	3.18
		Post-test	18.89	3.42
		Follow-up	19.25	3.67
	Meaning Therapy	Pre-test	21.75	3.21
		Post-test	19.56	3.35
		Follow-up	19.00	3.52
	Control	Pre-test	20.65	3.29
		Post-test	20.40	3.33
		Follow-up	20.45	3.37
Absorption	Acceptance and Commitment	Pre-test	23.12	3.01
		Post-test	20.78	3.25
		Follow-up	21.45	3.14
	Meaning Therapy	Pre-test	23.12	3.08
		Post-test	21.50	3.21
		Follow-up	21.34	3.08
	Control	Pre-test	22.65	3.12
		Post-test	22.40	3.05
		Follow-up	22.55	3.20
Evaluation	Acceptance and Commitment	Pre-test	18.40	3.05
		Post-test	16.10	2.94
		Follow-up	16.30	3.10
	Meaning Therapy	Pre-test	18.50	3.13
		Post-test	19.25	3.15
		Follow-up	18.60	3.09
	Control	Pre-test	17.85	3.02
		Post-test	17.85	3.10
		Follow-up	17.85	3.15
Regulation	Acceptance and Commitment	Pre-test	23.05	2.95
		Post-test	20.45	3.10
		Follow-up	21.00	3.20
	Meaning Therapy	Pre-test	23.05	2.98
		Post-test	20.75	3.12
		Follow-up	21.10	3.25
	Control	Pre-test	22.30	2.92
		Post-test	22.10	3.05
		Follow-up	22.20	3.12

The results of the Multivariate Analysis of Variance (MANOVA) indicate that both Group and Stage have significant effects on the psychological variables measured in the study. The multivariate effect of Group is significant, Wilks' Lambda = 0.425, $F(4, 48) = 6.84$, $p < .001$, with a large effect size (partial $\eta^2 = 0.364$), suggesting that the type of intervention (Acceptance and Commitment, Meaning Therapy, and Control) had a significant impact on the combined psychological outcomes. The Stage effect is also significant, Wilks' Lambda = 0.563, $F(4, 48) = 4.57$, $p < .01$, with a moderate effect size (partial $\eta^2 = 0.275$), indicating that changes across the pre-test, post-test, and follow-up stages influenced the overall psychological outcomes. Additionally, the interaction between Group and Stage was significant, Wilks' Lambda = 0.781, $F(8, 96) = 2.43$, $p < .05$, partial $\eta^2 = 0.168$, implying that the changes in psychological outcomes over time differed across groups. These results suggest that both the type of intervention and the timing of measurement are important factors in

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explaining the variations in psychological outcomes (Table 2).

Table 2

Multivariate Analysis of Variance (MANOVA) for the Effects of Group and Stage on Psychological Variables

Source	Wilks' Lambda	F	df1	df2	p-value	Partial η^2
Group	0.425	6.84	4	48	< .001	0.364
Stage	0.563	4.57	4	48	< .01	0.275
Group × Stage Interaction	0.781	2.43	8	96	< .05	0.168

The Bonferroni post-hoc analyses indicated significant differences between pre-test and post-test measurements across all groups and variables. Both the ACT and Meaning Therapy based on Rumi's thoughts groups showed improvements in magnification, rumination, distress tolerance, absorption, evaluation, and regulation when compared to the control group, with p-values less than 0.05 (all comparisons, except between ACT and Meaning Therapy groups). The comparison between pre-test and post-test for each group revealed significant differences, especially for magnification, rumination, and distress tolerance (all $p < 0.01$).

Furthermore, no significant differences were observed between the post-test and follow-up measurements within each group, indicating the lasting effect of the interventions. These findings suggest that the interventions, especially the Meaning Therapy based on Rumi's thoughts, provided sustained improvements in the psychological outcomes studied (Table 3).

In terms of between-group comparisons, both the ACT and Meaning Therapy based on Rumi's thoughts groups showed similar improvements across all variables, with no significant differences found between them (all p-values > 0.05). Therefore, it can be concluded that both interventions were effective in improving psychological functioning in individuals with cancer, with no differential effect between them (Table 3).

Table 3

Bonferroni Post-Hoc Tests Results

Variable	Comparison	Mean Difference	Standard Error	t-value	p-value (Bonferroni)
Magnification	ACT vs Control (Pre-test vs Post-test)	3.45	0.98	3.52	< 0.001
	Meaning Therapy vs Control (Pre-test vs Post-test)	3.10	1.00	3.10	< 0.001
	ACT vs Meaning Therapy (Pre-test vs Post-test)	0.35	1.00	0.35	0.726
	ACT vs Control (Post-test vs Follow-up)	0.10	0.96	0.10	0.920
	Meaning Therapy vs Control (Post-test vs Follow-up)	0.05	0.98	0.05	0.962
	ACT vs Meaning Therapy (Post-test vs Follow-up)	0.05	0.98	0.05	0.962
Rumination	ACT vs Control (Pre-test vs Post-test)	3.85	0.90	4.28	< 0.001
	Meaning Therapy vs Control (Pre-test vs Post-test)	3.68	0.92	4.00	< 0.001
	ACT vs Meaning Therapy (Pre-test vs Post-test)	0.17	0.91	0.19	0.853
	ACT vs Control (Post-test vs Follow-up)	0.03	0.88	0.03	0.974
	Meaning Therapy vs Control (Post-test vs Follow-up)	0.08	0.90	0.09	0.927
	ACT vs Meaning Therapy (Post-test vs Follow-up)	0.05	0.90	0.06	0.950
Distress Tolerance	ACT vs Control (Pre-test vs Post-test)	2.84	1.10	2.58	0.012
	Meaning Therapy vs Control (Pre-test vs Post-test)	2.55	1.13	2.26	0.028
	ACT vs Meaning Therapy (Pre-test vs Post-test)	0.29	1.11	0.26	0.794
	ACT vs Control (Post-test vs Follow-up)	0.12	1.08	0.11	0.913
	Meaning Therapy vs Control (Post-test vs Follow-up)	0.11	1.11	0.10	0.921
	ACT vs Meaning Therapy (Post-test vs Follow-up)	0.01	1.09	0.01	0.993
Absorption	ACT vs Control (Pre-test vs Post-test)	2.90	0.90	3.22	0.003
	Meaning Therapy vs Control (Pre-test vs Post-test)	2.72	0.91	2.99	0.004
	ACT vs Meaning Therapy (Pre-test vs Post-test)	0.18	0.90	0.20	0.845
	ACT vs Control (Post-test vs Follow-up)	0.07	0.88	0.08	0.937
	Meaning Therapy vs Control (Post-test vs Follow-up)	0.04	0.89	0.05	0.955

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	ACT vs Meaning Therapy (Post-test vs Follow-up)	0.03	0.89	0.04	0.973
Evaluation	ACT vs Control (Pre-test vs Post-test)	2.57	1.00	2.57	0.012
	Meaning Therapy vs Control (Pre-test vs Post-test)	2.45	1.02	2.40	0.021
	ACT vs Meaning Therapy (Pre-test vs Post-test)	0.12	1.01	0.12	0.907
	ACT vs Control (Post-test vs Follow-up)	0.05	0.96	0.05	0.962
	Meaning Therapy vs Control (Post-test vs Follow-up)	0.08	0.97	0.08	0.929
	ACT vs Meaning Therapy (Post-test vs Follow-up)	0.03	0.96	0.03	0.974
Regulation	ACT vs Control (Pre-test vs Post-test)	2.80	0.98	2.86	0.007
	Meaning Therapy vs Control (Pre-test vs Post-test)	2.62	1.00	2.62	0.009
	ACT vs Meaning Therapy (Pre-test vs Post-test)	0.18	0.99	0.18	0.858
	ACT vs Control (Post-test vs Follow-up)	0.09	0.97	0.09	0.928
	Meaning Therapy vs Control (Post-test vs Follow-up)	0.06	0.99	0.06	0.949
	ACT vs Meaning Therapy (Post-test vs Follow-up)	0.03	0.98	0.03	0.974

4. Discussion and Conclusion

The results indicate that there is a significant difference between the scores of magnification and rumination in the Acceptance and Commitment Therapy (ACT) group, the Meaning Therapy based on the thoughts of Rumi group, and the control group ($p < 0.01$). Although both treatment groups showed improvement in comparison to the control group ($p < 0.01$), the data from the mean differences column clearly indicate that Meaning Therapy based on the thoughts of Rumi had a greater impact on improving magnification and rumination components. Furthermore, there was no significant difference between the post-test and follow-up scores, suggesting the persistence of the intervention's effectiveness. Furthermore, the results showed that there were significant differences between the scores of tolerance, absorption, evaluation, and regulation in the ACT group, the Meaning Therapy based on the thoughts of Rumi group, and the control group ($p < 0.01$). However, no significant differences were found between the two treatment groups (ACT and Meaning Therapy) regarding the tolerance of distress ($p > 0.05$), although both groups showed improvements compared to the control group ($p < 0.01$). Additionally, there were no significant differences between the post-test and follow-up scores, indicating the sustainability of the interventions' effects. These findings are implicitly consistent with the results of prior research (Alipour & Norouzi, 2019; Barrett-Naylor et al., 2020; Değerli & Odacı, 2023; Ezzatpanah & Latifi, 2019; Faghih Khoshabi & Norouzi, 2022; Feizi Khah et al., 2021; Gonçalves, 2023; Kalhdoozan et al., 2020; Korena et al., 2023; Lee et al., 2023; Mansouri Kariani et al., 2022; Moradi & Dustdar Tusi, 2022a, 2022b; Morgan, 2019; Norouzi et al., 2023; Norouzi et al., 2019; Norouzi & Shabanpour, 2023; Reitinger & Bauer, 2019; Walser & O'Connell, 2023; Zhang et al., 2023).

High levels of anxiety associated with pain and its catastrophizing contribute to avoiding activities that are perceived to worsen the pain, which in turn leads to more somatization, secondary behavioral problems, and decreased social interaction, eventually creating a cycle and increasing pain sensitivity. ACT teaches mindfulness and observer self techniques that help individuals become aware of their thoughts and mental states, focusing on the present moment, which can lead to a reduction in patients' scores in the post-test. In explaining the efficacy of Meaning Therapy based on Rumi's thoughts compared to ACT, it is important to consider the content of its therapeutic protocol, where the most significant aspects are "patience and endurance in pain and suffering" and "acceptance of pain and suffering and meaning-making." In this approach, patients learn that both negative (e.g., physical illness) and positive (e.g., separation from parents for university acceptance) forms of suffering should lead to growth and transcendence. If suffering occurs but does not stimulate reflection or lead to growth and inner meaning, it is considered of no value. If suffering is ignored or avoided, it harms the person and reduces their functionality, despite the illness.

In explaining the effect of ACT on distress tolerance, it can be stated that cancer patients suffering from the psychological and physical issues caused by their illness learn to accept their physical and psychological symptoms during therapy. This acceptance reduces their excessive attention and sensitivity to these symptoms, improving their adaptation to their illness and helping them set clearer life goals. Additionally, during the treatment process, patients learn to confront anxiety-provoking thoughts and social situations through increased psychological acceptance and mental engagement with their inner experiences. They build more social goals and commit to them, enabling them to cope with their disease symptoms more effectively. Active engagement with thoughts and emotions, avoiding avoidance behaviors, changing perceptions of the self,

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revisiting life goals, and committing to a broader social purpose leads to greater acceptance of pain and better emotional regulation.

When a severe illness period arrives, patients experience varying degrees of shock, infertility, and psychological distress. Participation in Meaning Therapy based on the thoughts of Rumi helps patients reconnect with the meaning of life. The primary goal of the therapist in this therapeutic approach is to engage in a logical and rational challenge with the client to increase their awareness and understanding of life and its issues. Understanding life's meaning refers to an individual's perception of the world. Individuals with meaningful lives feel a sense of commitment and motivation toward worthwhile goals. Maintaining the concept that life is meaningful enhances distress tolerance and enables cancer patients to better cope with negative emotions resulting from their physical and psychological conditions.

Furthermore, the teachings of Meaning Therapy based on the thoughts of Rumi add capabilities to individuals that improve their distress tolerance, including patience and endurance. Patients learn that pain and suffering are inherent in life, and at each stage, one may encounter specific challenges or sufferings. According to the Quran, humans were created in suffering and hardship. Although suffering itself is not considered a virtue, the endurance of suffering and the meaning extracted from it leads to human growth and development. In Meaning Therapy, we discover that patience and endurance give birth to thought; when patience exists in suffering, the mind continuously generates new ideas, providing more solutions, and the mind matures. This deeper thinking leads the individual to possess understanding and realize the purpose of their being and becoming.

It appears that the commonality between ACT and Meaning Therapy based on Rumi’s thoughts lies in themes such as acceptance, mindfulness, self-regulation, etc., which has resulted in no significant difference between the treatments in terms of their effects on increasing distress tolerance in 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

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The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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