


Comparison of the Effectiveness of Life Therapy (LT) and Acceptance and Commitment Therapy (ACT) on Distress Tolerance and Zest for Life in Patients with Leukemia

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Article Info

Article type:

Original Research

How to cite this article:

Ghoreishiseyedmahaleh, S., Hassanzadeh, R., & Norouzi, A. (2025). Comparison of the Effectiveness of Life Therapy (LT) and Acceptance and Commitment Therapy (ACT) on Distress Tolerance and Zest for Life in Patients with Leukemia. *Journal of Assessment and Research in Applied Counseling*, 7(3), 1-10.

<http://dx.doi.org/10.61838/kman.jarac.7.3.10>



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ABSTRACT

Objective: This study aims to compare the effectiveness of Life Therapy with Acceptance and Commitment Therapy on distress tolerance and zest for life in patients with leukemia.

Methods and Materials: The present research is an experimental study. The statistical population consists of all male patients referred to Imam Hospital in Sari in 2023, who had received a confirmed diagnosis of leukemia. From this population, 45 leukemia patients were selected through non-random convenience sampling and randomly assigned into two experimental groups (Life Therapy and Acceptance and Commitment Therapy) and one control group (15 individuals in each group). Data were collected using the Distress Tolerance Scale (DTS) by Simons and Gaher and the Hasan Zadeh Life Enthusiasm Questionnaire (HLEQ). Data analysis was conducted using SPSS25 statistical software.

Findings: The results of the study showed that both Life Therapy and Acceptance and Commitment Therapy were effective in improving distress tolerance and zest for life in patients with leukemia.

Conclusion: The focus of Life Therapy on creating motivation and meaning in an individual's present life, more than the emphasis of Acceptance and Commitment Therapy on accepting the current situation, has allowed patients to better tolerate the distress caused by leukemia. Therefore, it can be concluded that Life Therapy, due to its focus on living in the moment and experiencing positive emotions, has a greater impact on improving distress tolerance and increasing resilience in patients with leukemia compared to Acceptance and Commitment Therapy. Additionally, the findings suggest that Life Therapy, by emphasizing the enjoyment of life moments, is more effective in enhancing zest for life and positive emotions in leukemia patients compared to Acceptance and Commitment Therapy.

Keywords: Life Therapy, Acceptance and Commitment Therapy, Distress Tolerance, Zest for Life, Leukemia Patients.

1. Introduction

Cancer is one of the main causes of disorders, mortality, and disability worldwide, and it is one of the common and increasing diseases that occupies a significant part of healthcare and treatment system efforts. Despite recent and widespread advances in science and technology, cancer is the second leading cause of death in the United States, and currently, one-quarter of deaths are due to cancer (Siegel et al., 2022). Cancer, with 14.1 million cases worldwide, is recognized as the most chronic non-communicable disease (Washington & Leaver, 2015). Leukemia accounts for about 8% of all cancers and occurs more frequently in developed countries. It is, in fact, the fifth most common cancer in the world (Keykhosravi et al., 2021). Based on cellular origin, cancer is divided into myeloid and lymphoid types, and in terms of disease progression, it is classified as either chronic or acute. Leukemia is further categorized into acute (sudden onset) and chronic (developing over months and years) types (Hinkle & Cheever, 2018). The prevalence of leukemia in Iran is estimated at 26.3%, with the highest prevalence seen in acute myeloid leukemia (46%) and chronic lymphoid leukemia (29%) (Koohi et al., 2015).

Leukemia is more commonly observed in the northern and northwestern regions of Iran, leading to high mortality and morbidity rates across all age groups, imposing substantial costs on patients, families, society, and the healthcare system, which highlights the need for special attention to leukemia in Iran and globally. Cancer can create significant challenges in an individual's overall perspective on life, leading to considerable psychological consequences. It is estimated that 30-40% of cancer patients experience psychological disorders (Mehrpour et al., 2017). Many factors may be directly and indirectly related to the mental health of cancer patients; for example, distress tolerance and zest for life may directly or indirectly influence this relationship. The concept of zest for life is another important element examined in this study. Zest is an essential factor for an efficient and effective life, as it provides a useful way to face life's obstacles. Zest is not merely about enduring or accepting conditions or the ability to cope with them, but rather about embracing the experience. Therefore, zest involves facing and welcoming events. In addition to radiotherapy and chemotherapy treatments for cancer, psychological interventions can also be considered options to alleviate the psychological distress caused by cancer in patients (Choi et al., 2019). Various interventions have been

employed to reduce psychological problems, improve, and promote the mental health of cancer patients. Acceptance and Commitment Therapy (ACT) is one approach that researchers have evaluated for its effects on psychological problems in cancer patients. The findings of Moin et al. (2023) indicated that ACT had a significant effect on existential anxiety in women with breast cancer (Moin et al., 2023). ACT is part of the third wave of behavioral therapies, developed following the second wave therapies such as cognitive-behavioral therapy (Hayes et al., 2006; Hayes et al., 2004). The primary goal of this approach is to develop psychological flexibility, which refers to the ability to make conscious choices to avoid disturbing thoughts, feelings, memories, or impulses rather than being dictated by them (Forman & Herbert, 2008). In ACT, it is assumed that people often find many of their internal emotions, feelings, or thoughts distressing and continually try to change or escape from these internal experiences (Hayes et al., 2004). Life therapy, also known as life-based therapy, is a therapeutic approach that aims to help individuals gain insight and awareness regarding life, its challenges, necessities, and demands. It helps patients avoid wasting time and view every moment as an opportunity for living, being, flourishing, and fulfillment. It assists individuals in clearly defining different aspects of their lives and pursuing goals and objectives in all designed areas (Hassanzadeh, 2021; Hassanzadeh & Talebi, 2023). Life therapy helps individuals develop an appropriate adaptation to life's challenges and cultivate a broad, open-minded attitude toward life. The goal is to create a broader concept of life and the client's life domains. According to Gestalt theory (the whole is greater than the sum of its parts), life therapy holds that the concept of life is different from the sum of its individual parts, which can lead to a different perspective on life (Hassanzadeh, 2021; Simons & Gaher, 2005).

Given these points, this study compares the effectiveness of two therapies, Acceptance and Commitment Therapy and Life Therapy, on distress tolerance and zest for life in men with leukemia.

2. Methods and Materials

2.1. Study Design and Participants

The present study is experimental. The research design is a quasi-experimental pretest-posttest design with three groups (two experimental groups and one control group) and a three-month follow-up with a control group. The statistical

population consists of all patients referred to Imam Hospital in Sari in 2023 who received a confirmed diagnosis of leukemia. Of these, 45 leukemia patients were selected through non-random convenience sampling and randomly assigned to two experimental groups (Life Therapy and Acceptance and Commitment Therapy) and one control group (15 patients in each group). The inclusion criteria were: age range 17 to 35 years, no substance abuse, no participation in psychotherapy sessions in the past six months, no use of psychiatric medications in the past six months, and providing informed consent for participation. The exclusion criteria included: missing two therapy sessions, a history of severe psychological disorder, and substance abuse. Then, 8 sessions of 90-minute life therapy and 8 sessions of 90-minute Acceptance and Commitment Therapy were administered to the experimental groups. A pretest was conducted at the first session, and after 8 weekly sessions for the experimental groups, a posttest was administered to all groups (both experimental and control). Additionally, a follow-up test was conducted three months later for all participants.

2.2. Measures

2.2.1. Zest for Life

The Zest for Life Questionnaire was developed by Ramezan Hasanzadeh in 2015 and consists of 50 items. The questionnaire is scored on a five-point Likert scale (strongly agree to strongly disagree). Items 8, 11, 13, 16, 19, 27, 33, and 44 are reverse-scored as follows: (strongly agree = 1, agree = 2, neutral = 3, disagree = 4, strongly disagree = 5), while the rest of the items are scored directly: (strongly agree = 5, agree = 4, neutral = 3, disagree = 2, strongly disagree = 1). The reliability of the questionnaire was calculated using Cronbach's alpha (0.93) and test-retest reliability (0.85) (Hasanzadeh, 2021). The concurrent validity of this questionnaire was reported with Ryff's Psychological Well-being Questionnaire (0.61), Meaning in Life Scale (0.59), Life Perception Scale (0.68), Satisfaction with Life Scale (0.63), and Life Orientation Test (0.70). A high score on this questionnaire indicates greater zest for life, while a low score indicates less zest for life (Hassanzadeh, 2021; Hassanzadeh & Talebi, 2023).

2.2.2. Distress Tolerance

Simons and Gaher's Distress Tolerance Scale: This scale, developed by Simons and Gaher, is a self-report measure of

emotional distress tolerance, consisting of 15 items and four subscales. The subscales include tolerance (emotional distress tolerance), absorption (getting absorbed by negative emotions), appraisal (subjective estimation of distress), and regulation (efforts to regulate distress). Items are scored on a five-point scale, with a minimum score of 15 and a maximum score of 75. The Cronbach's alpha for this scale is 0.82. It has also been shown to have good preliminary criterion and convergent validity, with a validity coefficient of 0.61. In Iran, the scale was first used by Alavi et al. in 2011, who reported high internal consistency for the total scale (0.71) and moderate reliability for the subscales (0.54 for tolerance, 0.42 for absorption, 0.56 for appraisal, and 0.58 for regulation) (Bakhtiari & Pouredel, 2024; Javanmardi et al., 2024). In this study, the Cronbach's alpha for the total scale was 0.77, and a Cronbach's alpha of 0.89 was obtained, which was positive and significant.

2.3. Intervention

2.3.1. Acceptance and Commitment

Acceptance and Commitment Therapy (ACT) is a third-wave behavioral therapy aimed at increasing psychological flexibility. It helps individuals engage with their present experiences, including difficult emotions, while committing to values-based actions. In ACT, patients are encouraged to accept distressing thoughts and feelings rather than struggling against them, leading to greater resilience in the face of adversity (Harris, 2019; Hayes et al., 2006; Karimi Baghmolek et al., 2018; Mohammadi et al., 2015; Moin et al., 2023; Royin Tan et al., 2018; Shahidi et al., 2022).

Session 1: The session begins with introductions and establishing a therapeutic relationship with the participants. The therapist explains the ACT model and its principles. The session also covers problem conceptualization and an agreement on the goals of the therapy. A collaborative contract for therapy is established.

Session 2: In this session, participants explore their current coping strategies, and the therapist helps them evaluate the effectiveness of these methods. The discussion focuses on the temporary nature of many coping mechanisms and the importance of psychological acceptance and value clarification as a foundation for behavior change.

Session 3: Participants are guided to recognize ineffective strategies of control and understand their futility. The concept of accepting painful personal experiences without fighting them is introduced, using metaphors and examples.

Participants receive feedback and a homework assignment to reinforce the learning.

Session 4: Emotional regulation techniques are introduced in this session. The therapist explains the consequences of avoiding painful experiences and teaches steps for acceptance. The session also includes metaphor-based language exercises and relaxation techniques. Participants provide feedback and are given homework.

Session 5: The focus is on the relationship between behavior, emotions, and psychological functions. Participants explore how observable behavior can be changed by addressing these factors. Feedback is gathered, and a new homework assignment is provided.

Session 6: The therapist explains the concepts of role and context, encouraging participants to observe themselves as a part of their broader experiences. Participants practice becoming aware of their sensory perceptions and separating them from mental content. Metaphors are used, and feedback is collected.

Session 7: The session revolves around the concept of values and creating motivation for change. Participants identify values that drive their behavior and are empowered to live in alignment with them. Focus exercises are practiced, and feedback is given along with a homework task.

Session 8: The final session focuses on committing to action. Participants identify behavioral patterns that align with their values and commit to acting on them. The session concludes with a review of the therapy process, post-test evaluation, and relaxation techniques for ongoing follow-up.

2.3.2. *Life Therapy*

Life Therapy (LT) is a therapeutic approach designed to help individuals gain insight and awareness about their life, its challenges, and opportunities. LT emphasizes living purposefully in the present moment and encourages clients to set life goals, embrace challenges, and create meaning from their experiences. The therapy focuses on creating positive life transformations through self-discovery (Hassanzadeh & Talebi, 2023).

Session 1: The session begins by building a therapeutic relationship, introducing participants to the study's goals, and administering the pretest. The therapist outlines the group's rules and provides an overview of the educational content regarding life, including general life principles and their impact.

Session 2: In this session, concepts from life psychology and the psychology of living are discussed, with participants

exploring the meaning and purpose of life. Questions about life goals and challenges are raised, and participants are encouraged to develop a "life compass" to guide them through life's challenges.

Session 3: Participants are guided to identify and prioritize their life goals. The discussion focuses on differentiating between behavioral (specific) and non-behavioral (general) goals, and short-, medium-, and long-term goals. Participants learn to use tools such as the Eisenhower matrix for decision-making, and homework involves completing a life goals decision-making form.

Session 4: This session focuses on the concept of zest for life and its role in mental health. Participants learn the characteristics of individuals with zest for life and how it contributes to psychological well-being. Homework is assigned to help participants foster zest in their daily lives.

Session 5: Participants explore the concept of hope, a fundamental force in life. The role of hope in overcoming life's obstacles is discussed, along with characteristics of hopeful individuals. Homework is provided to reinforce strategies for cultivating hope.

Session 6: The concept of life management is introduced, focusing on the "wheel of life" metaphor. Participants learn how to balance different life domains and work on creating their own "life wheel" to visualize life balance.

Session 7: The session centers on satisfaction with life, positive thinking, and creating space for positivity in daily living. The therapist discusses the concept of the "life circle" and how participants can use it to cultivate a more fulfilling life. Homework is provided on designing their own life circle.

Session 8: In the final session, the topics from previous sessions are summarized, and participants are invited to reflect on their learning experiences. The post-test is administered, and the session concludes with feedback and appreciation for the participants' engagement.

2.4. *Data analysis*

For data analysis, both descriptive and inferential statistics were used. Descriptive statistics such as mean and standard deviation and inferential statistics such as univariate covariance analysis (ANCOVA) and multivariate covariance analysis (MANCOVA) were employed. Data analysis was performed using SPSS25 statistical software.

3. Findings and Results

Results: Based on the research results, from the 30 respondents to the questionnaires, it was found that the age of most participants in the Life Therapy group (40%) was between 17 and 23 years, and the least (26.67%) were between 31 and 35 years. Most participants in the Acceptance and Commitment Therapy (ACT) group (46.67%) were between 31 and 35 years, and the least (20%) were between 17 and 23 years. In the control group, most participants (53.33%) were between 24 and 30 years, and the

least (20%) were between 17 and 23 years. In terms of education, most participants in the Life Therapy group (53.34%) had a bachelor's degree, and the fewest (13.33%) had a master's degree or higher. In the ACT group, most participants (40%) had an associate degree or lower, and the fewest (26.67%) had a master's degree or higher. In the control group, most participants (46.67%) had an associate degree or lower, and the fewest (20%) had a master's degree or higher.

Table 1

Means and Standard Deviations of Research Variables

Variable	Life Therapy Pretest (M ± SD)	Life Therapy Posttest (M ± SD)	ACT Pretest (M ± SD)	ACT Posttest (M ± SD)	Control Pretest (M ± SD)	Control Posttest (M ± SD)
Emotional Distress Tolerance	25.56 ± 4.89	32.67 ± 5.23	24.12 ± 4.45	28.34 ± 4.78	24.89 ± 4.67	24.56 ± 4.56
Absorption by Negative Emotions	22.67 ± 4.15	18.56 ± 3.98	23.78 ± 4.23	21.56 ± 3.95	23.45 ± 4.67	23.12 ± 4.56
Subjective Distress Estimation	24.33 ± 4.98	18.33 ± 4.12	25.45 ± 4.89	20.12 ± 4.56	25.67 ± 5.02	25.12 ± 4.89
Regulation of Distress Efforts	26.45 ± 5.02	31.78 ± 5.23	27.22 ± 4.98	30.11 ± 5.01	27.89 ± 5.23	28.12 ± 5.12
Zest for Life	35.67 ± 6.01	42.56 ± 6.78	34.12 ± 5.89	39.67 ± 6.45	34.89 ± 6.23	34.67 ± 6.12

In the Life Therapy group, the mean (M) and standard deviation (SD) for emotional distress tolerance increased significantly from pretest (M = 25.56, SD = 4.89) to posttest (M = 32.67, SD = 5.23), indicating improved tolerance. Similarly, there was a notable decrease in absorption by negative emotions from pretest (M = 22.67, SD = 4.15) to posttest (M = 18.56, SD = 3.98). The zest for life score also improved from pretest (M = 35.67, SD = 6.01) to posttest (M = 42.56, SD = 6.78).

In the ACT group, emotional distress tolerance also increased from pretest (M = 24.12, SD = 4.45) to posttest (M

= 28.34, SD = 4.78). Absorption by negative emotions decreased slightly, and the zest for life increased from pretest (M = 34.12, SD = 5.89) to posttest (M = 39.67, SD = 6.45).

In contrast, the control group showed little change between pretest and posttest stages in any of the measured variables. Emotional distress tolerance remained almost unchanged from pretest (M = 24.89, SD = 4.67) to posttest (M = 24.56, SD = 4.56), and similarly, the zest for life score stayed relatively stable between pretest (M = 34.89, SD = 6.23) and posttest (M = 34.67, SD = 6.12).

Table 2

One-way ANOVA results in two experimental groups and the control group

Variable	Sum of Squares	Degrees of Freedom	Mean Squares	F	Significance	Eta Squared
Emotional Distress Tolerance	70.504	2	35.252	33.380	0.001	0.614
Absorption by Negative Emotions	119.215	2	59.607	75.407	0.001	0.782
Subjective Distress Estimation	187.793	2	93.896	73.393	0.001	0.778
Regulation of Distress Efforts	115.304	2	57.652	45.212	0.001	0.683

As shown in Table 2, there is a significant difference in the scores of all four components between the two experimental groups and the control group ($p < 0.01$).

Table 3

Bonferroni adjustment test for comparison of scores in two experimental groups and control group

Component	Group	Mean Difference	Standard Error	Significance
Emotional Distress Tolerance	Life Therapy - ACT	1.178	0.217	0.001
	Life Therapy - Control	1.733	0.217	0.001
	ACT - Control	-0.556	0.217	0.042
Absorption by Negative Emotions	Life Therapy - ACT	-0.933	0.187	0.001
	Life Therapy - Control	-2.289	0.187	0.001
	ACT - Control	1.356	0.187	0.001
Subjective Distress Estimation	Life Therapy - ACT	1.467	0.238	0.001
	Life Therapy - Control	2.889	0.238	0.001
	ACT - Control	-1.422	0.238	0.001
Regulation of Distress Efforts	Life Therapy - ACT	0.867	0.238	0.001
	Life Therapy - Control	2.244	0.238	0.002
	ACT - Control	-1.378	0.238	0.001

Table 3 shows the results of the Bonferroni adjustment test for comparing the distress tolerance component scores between the two experimental groups and the control group.

As shown in the table, there are significant differences in the scores between the Life Therapy, ACT, and control groups.

Table 4

One-way ANOVA results in two experimental groups and the control group

Variable	Sum of Squares	Degrees of Freedom	Mean Squares	F	Significance	Eta Squared
Zest for Life	1466.415	2	733.207	141.318	0.001	0.871

As shown in Table 4, there is a significant difference in zest for life scores between the two experimental groups and the control group ($p < 0.01$).

Table 5

Bonferroni adjustment test for comparison of zest for life scores in two experimental groups and control group

Component	Group	Mean Difference	Standard Error	Significance
Zest for Life	Life Therapy - ACT	4.311	0.480	0.001
	Life Therapy - Control	8.067	0.480	0.001
	ACT - Control	3.756	0.480	0.001

Table 5 shows the results of the Bonferroni adjustment test for comparing zest for life scores between the two experimental groups and the control group. As shown in Table 5, there are significant differences in the scores between the Life Therapy, ACT, and control groups.

4. Discussion and Conclusion

The aim of the present study was to compare the effectiveness of Life Therapy with Acceptance and Commitment Therapy (ACT) on distress tolerance and zest for life in patients with leukemia. The results showed a significant difference in the scores of all four components of distress tolerance between the Life Therapy group and the

control group. Thus, it can be concluded that Life Therapy is effective in improving distress tolerance in leukemia patients. Similarly, there was a significant difference in the scores of all four components of distress tolerance between the ACT group and the control group. Therefore, it can be said that ACT is also effective in improving distress tolerance in leukemia patients. Moreover, a significant difference was observed between the scores of all four components of distress tolerance in the Life Therapy group and the ACT group, indicating that the effectiveness of Life Therapy differs from ACT in improving distress tolerance in leukemia patients. Based on the differences in the mean

scores, it is evident that Life Therapy had better effectiveness compared to ACT.

According to the results of the analysis of variance, there was a significant difference in the zest for life scores between the Life Therapy group and the control group. This suggests that Life Therapy is effective in enhancing zest for life in leukemia patients. Similarly, there was a significant difference in the zest for life scores between the ACT group and the control group, indicating that ACT is also effective in increasing zest for life in leukemia patients. Finally, a significant difference was found in the zest for life scores between the Life Therapy group and the ACT group, demonstrating that the effectiveness of Life Therapy differs from ACT in enhancing zest for life in leukemia patients. The mean score differences show that Life Therapy had greater effectiveness compared to ACT. The findings of the current study align with the previous results (Hassanzadeh & Talebi, 2023). Studies have shown that Life Therapy has a more significant impact than ACT in improving distress tolerance and resilience in leukemia patients. Leukemia is a chronic and life-threatening disease that can lead to severe psychological distress in patients. In addition to standard medical treatments, the use of psychotherapeutic approaches to help patients cope with the psychological pressures of the disease is essential. Life Therapy and ACT are two approaches that can contribute to enhancing psychological adaptation and resilience in patients (Hassanzadeh, 2021; Hassanzadeh & Talebi, 2023).

Life Therapy is a psychotherapeutic approach that helps individuals feel good despite life's problems and challenges by focusing on living in the present moment and engaging in meaningful and enjoyable activities. This approach, through techniques such as mindfulness, meditation, awareness of positive emotions, and immersion in pleasurable activities, increases individuals' capacity for distress tolerance and resilience. Life Therapy, by focusing on the individual's present life and facilitating personal growth and development, helps patients better cope with the reality of cancer and its consequences and tolerate the associated distress (Hassanzadeh, 2021). This approach, by emphasizing the individual's values and life goals, creating motivation and meaning in life, and strengthening personal responsibility and independence, helps patients move toward greater growth and flourishing, rather than being overwhelmed by the distress and despair caused by the disease. Life Therapy, emphasizing that humans inherently have the ability for growth and flourishing, helps individuals achieve a meaningful and successful life despite problems

and diseases like cancer (Simons & Gaher, 2005). Techniques such as life mapping, memory recall, creative visualization, and setting life goals and values help individuals focus on the present rather than the past or future, develop a more positive outlook on life, become more hopeful, chart their life path, and move forward based on true values. Life Therapy can help cancer patients view life more positively and with hope, making it more valuable despite the distress caused by the disease. This reduces the likelihood of depression and despair, making distress more tolerable. The findings indicate that Life Therapy is more effective than other psychotherapeutic approaches in improving distress tolerance in leukemia patients.

On the other hand, ACT encourages individuals to accept their thoughts and emotions without judgment and, rather than battling them, focus on value-based actions. This therapy, through accepting unpleasant realities and committing to important goals, increases resilience (Karimi Baghmolek et al., 2018). However, studies have shown that Life Therapy, compared to ACT, has a greater impact on improving indicators such as distress tolerance, positive mood, and happiness in cancer patients.

The results indicate a significant difference in zest for life scores between the Life Therapy group and the ACT group. Thus, it can be concluded that the effectiveness of Life Therapy differs from ACT in enhancing zest for life in leukemia patients. The mean score differences show that Life Therapy had better effectiveness compared to ACT. The findings of this study are consistent with the prior results (Karimi Baghmolek et al., 2018; Mohammadi et al., 2015; Moin et al., 2023; Royin Tan et al., 2018).

The results of the current study indicate that group therapy based on Life Therapy has better and higher effectiveness in improving the psychological condition of the participants compared to group therapy based on ACT. Leukemia is a life-threatening disease that can lead to feelings of hopelessness, disinterest, and reduced motivation for life in patients. Therefore, using psychotherapeutic approaches to reinvigorate zest for life and hope in these patients is of great importance. Life Therapy and ACT are two methods that can help improve psychological adaptation in patients (Harris, 2019). Life Therapy, by focusing on living in the present moment and engaging in enjoyable and meaningful activities, helps increase positive emotions and hope in patients. Through practices such as mindfulness, meditation, and focusing on pleasant moments, Life Therapy helps patients enjoy life despite their illness and maintain

motivation to continue living (Hassanzadeh, 2021; Hassanzadeh & Talebi, 2023).

Life Therapy, as one of the important branches of humanistic psychotherapy, emphasizes the innate ability of humans for growth and flourishing and finding meaning in life, striving to enhance individuals' psychological well-being. This approach, through techniques such as life mapping, focusing on the present moment, creative visualization, establishing emotional connections, and setting positive goals, helps increase adaptation, optimism, and hope in individuals. Life Therapy's focus on the future and positive goals creates greater motivation and hope, leading to improved psychological well-being. The emphasis on finding meaning and purpose in life increases individuals' psychological resilience and ability to face challenges. Techniques such as creative visualization help increase individuals' creativity and cognitive flexibility, which play a significant role in mental health. The emphasis on establishing intimate and emotional connections strengthens social support, thereby enhancing mental health. Life Therapy, by focusing on the flourishing of potential talents, helps individuals achieve self-efficacy and self-actualization. Overall, it seems that Life Therapy's focus on the positive aspects of life is the primary factor that makes it more effective in promoting psychological well-being (Hassanzadeh, 2021; Hassanzadeh & Talebi, 2023).

Based on the results of the present study, it can be concluded that Life Therapy's focus on creating motivation and meaning in the individual's current life, more than ACT's emphasis on accepting the current situation, has led to patients better tolerating the distress caused by leukemia. Therefore, it can be concluded that Life Therapy, due to its focus on living in the moment and experiencing positive emotions, has a greater impact on improving distress tolerance and increasing resilience in leukemia patients than ACT. Overall, the findings of this study indicate that Life Therapy can be used as an effective method alongside medical treatments to improve distress tolerance in leukemia patients. Additionally, it can be said that ACT, with its emphasis on accepting reality and commitment to personal values, helps patients cope better with the problems caused by the disease, but it places less emphasis on creating positive emotions and motivation. Studies have shown that Life Therapy significantly increases happiness, life satisfaction, and hope in cancer patients (Ghadampour et al., 2016; Hassanzadeh, 2021; Hayes et al., 2006). In contrast, ACT focuses more on reducing symptoms of depression and anxiety. Therefore, it seems that Life Therapy has greater

potential to increase zest for life and positive outlook in cancer patients compared to ACT. Life Therapy, due to its emphasis on enjoying life's moments, has greater potential to enhance zest for life and positive emotions in leukemia patients compared to ACT (Hassanzadeh, 2021; Hassanzadeh & Talebi, 2023). ACT, by focusing on accepting the painful aspects of the illness, has greater ability to reduce mental pain caused by cancer. Overall, research findings suggest that ACT has more significant effects on reducing mental pain and improving the quality of life in leukemia patients than Life Therapy. Nevertheless, a combination of both approaches may lead to better outcomes.

5. Limitations & Suggestions

This study has several limitations that should be considered when interpreting the results. Firstly, the sample size was relatively small and consisted only of male patients, which may limit the generalizability of the findings to a broader population, including females and individuals with different cancer types. Additionally, the study utilized self-report measures, which may be subject to response biases. The lack of long-term follow-up also restricts the ability to assess the sustained effects of Life Therapy and Acceptance and Commitment Therapy (ACT) on distress tolerance and zest for life. Finally, the research was conducted in a single geographic location, which may not reflect the diverse experiences of patients in different cultural or healthcare settings.

Future research should aim to include a larger and more diverse sample, incorporating participants from various demographic backgrounds, including different genders, age groups, and cancer types, to enhance the generalizability of the findings. Longitudinal studies are recommended to evaluate the long-term effects of Life Therapy and ACT on psychological outcomes in cancer patients. Additionally, researchers should consider using mixed-methods approaches, combining quantitative and qualitative data to gain deeper insights into the experiences and perceptions of patients undergoing these therapies. Exploring the effects of these interventions in different cultural contexts and healthcare systems would also contribute valuable knowledge to the field.

The findings of this study have significant implications for clinical practice and the management of psychological distress in leukemia patients. The effectiveness of Life Therapy and ACT highlights the importance of

incorporating psychological interventions alongside standard medical treatments to improve patients' quality of life. Healthcare providers should consider integrating these therapeutic approaches into patient care plans to address the emotional and psychological challenges associated with cancer. Furthermore, training programs for healthcare professionals should include education on these therapies to ensure they are effectively implemented in clinical settings. By promoting psychological well-being and resilience, such interventions can enhance patients' overall treatment outcomes and their ability to cope with the challenges of living with cancer.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants (Ethics Code: IR.IAU.SARI.REC.2023.302).

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Authors' Contributions

All authors equally contributed in this article.

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