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Comparing the Effectiveness of Barlow's Unified Transdiagnostic Treatment and Acceptance and Commitment Therapy on Cognitive Emotion Regulation and Psychological Flexibility in Women Bereaved by COVID-19

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A B S T R A C T

Objective: The present study aimed to compare the effectiveness of Barlow's Unified Transdiagnostic Treatment (UTT) and Acceptance and Commitment Therapy (ACT) on cognitive emotion regulation and psychological flexibility in women who lost their spouses due to COVID-19.

Method: This study employed a quasi-experimental design with a pretest-posttest and a 2-month follow-up, including a control group. The statistical population consisted of women who experienced spousal bereavement due to COVID-19 and were referred to Imam Khomeini Hospital in Tehran in 2022. Using purposive sampling, 51 participants were selected and randomly assigned to three groups of 17. Due to attrition in the ACT group, one participant was randomly removed from each of the other two groups to equalize group sizes. Consequently, data from 16 participants in each group were analyzed. The first experimental group received Acceptance and Commitment Therapy based on the protocol of Hayes et al. (2004), and the second experimental group received Barlow's Unified Protocol over nine weekly 90-minute sessions. The research instruments included the Cognitive Emotion Regulation Questionnaire (Garnefski & Kraaij, 2007) and the Cognitive Flexibility Inventory (Dennis & Vander Wal, 2010). Data were analyzed using repeated measures ANOVA.

Results: The findings indicated that both interventions significantly improved cognitive emotion regulation and psychological flexibility in women bereaved by COVID-19, and these treatment effects remained stable at follow-up ($p < .001$). Furthermore, no significant difference was observed between the two interventions in improving emotion regulation; however, ACT was significantly more effective than UTT in enhancing psychological flexibility.

Conclusion: Both Acceptance and Commitment Therapy and Barlow's Unified Transdiagnostic Treatment can be considered effective interventions for improving cognitive emotion regulation and psychological flexibility in women who have lost their spouses to COVID-19.

Keywords: *Psychological flexibility, Emotion regulation, Unified Transdiagnostic Treatment, Acceptance and Commitment Therapy, COVID-19*

1. Introduction

During the COVID-19 pandemic, millions of people around the world experienced the loss of a loved one (Padhan & Prabheesh, 2021). Due to restrictive regulations on funeral and mourning ceremonies, as well as public health guidelines requiring quarantine and social distancing, most individuals were deprived of the opportunity to say goodbye to their loved ones. As a result, they became highly vulnerable to mood and anxiety disorders (Cutajar & Bates, 2024; Du, 2024). In this regard, some experts consider deficits in cognitive emotion regulation to be a primary factor contributing to the onset of psychological disorders, particularly depression (de la Fuente et al., 2024; Duru & Balkıs, 2024). Emotion regulation refers to the set of strategies through which individuals manage which emotions they experience, when they experience them, and how they express them. Emotions play a crucial role in various aspects of life, such as adapting to life changes and coping with stressful events (Huang & Huang, 2024).

Beyond emotion regulation, another concept closely associated with emotional disorders in grieving individuals is psychological flexibility. Psychological flexibility is defined as the awareness of internal experiences, such as thoughts and feelings, in the present moment without attempting to avoid them, while acting in accordance with personal values (Hosseinzadeh oskooei et al., 2022; Mansouri Koryani et al., 2022). Psychological flexibility helps individuals disengage from the cycle of experiential avoidance and cognitive fusion—not by challenging or changing their thoughts, but by learning to respond to such experiences more mindfully, so they no longer appear as barriers (Tayebi Naieni et al., 2017). In this regard, research has shown that psychological flexibility is associated with better mental health, whereas psychological inflexibility is linked to emotional difficulties such as anxiety and depression, as well as impaired functioning (Alahdadian Falavarjani & Izadi, 2021).

To date, various pharmacological and non-pharmacological treatments have been used for individuals exhibiting grief symptoms and those who develop depression or other psychological problems in response to bereavement. One such treatment developed in recent years for individuals with emotional disorders—especially anxiety and mood disorders—is Unified Transdiagnostic Treatment (Johnson et al., 2016). This approach applies common therapeutic principles and protocols across various emotional disorders. Although rooted in the cognitive-behavioral tradition, it places strong emphasis on emotions and maladaptive emotion regulation strategies. Emotional experiences and responses to emotions form the core of the transdiagnostic approach (Barlow et al., 2017). The primary goal of Unified Transdiagnostic Treatment is to help patients acquire skills to effectively manage negative emotions (Ito et al., 2023). In this context, findings from various studies have confirmed the efficacy of this treatment in addressing emotional disorders (Aguilera-Martín et al., 2022), depression (Ito et al., 2023), anxiety (Alahdadian Falavarjani & Izadi, 2021; Ito et al., 2023), emotion regulation (Alavi et al., 2022; Bielinski et al., 2020; Firoozi & Biranvandi, 2018), anxiety sensitivity and distress tolerance (Nargesi et al., 2019), and psychological flexibility (Alahdadian Falavarjani & Izadi, 2021).

Another effective treatment for psychological problems is Acceptance and Commitment Therapy (ACT). ACT originates from a philosophical theory known as functional contextualism (McCracken et al., 2013). Using six core processes—acceptance, cognitive defusion, self-as-context, contact with the present moment, values, and committed action—ACT enhances psychological flexibility in clients (Mansouri Koryani et al., 2022). Regarding its effectiveness, a review of the literature reveals that ACT has demonstrated clinical efficacy in improving perfectionism (Mansouri Koryani et al., 2022), psychological flexibility (Garivani et al., 2020; Hosseinzadeh oskooei et al., 2022; Mansouri Koryani et al., 2022; Masoudi Marghmaleki et al., 2023; McCracken et al., 2013; Smith et al., 2021; Tayebi Naieni et al., 2017), emotional distress (Mansouri Koryani et al., 2022), self-esteem (Hosseinzadeh oskooei et al., 2022), rumination and emotional turmoil (Garivani et al., 2020), as well as depression and post-traumatic stress (Smith et al., 2021). However, no research to date has compared the effectiveness of Barlow's Unified Transdiagnostic Treatment and Acceptance and Commitment Therapy on cognitive emotion regulation and psychological flexibility in spouses of COVID-19 victims. This gap in the literature is particularly evident and warrants further investigation. Therefore, given the aforementioned context, the necessity and importance of addressing the issues and psychological challenges facing these families becomes increasingly clear. Accordingly, the main objective of this study was to answer the following question: Do Barlow's Unified Transdiagnostic Treatment and Acceptance and Commitment Therapy differ in their effectiveness on cognitive emotion regulation and psychological flexibility in women bereaved by COVID-19?

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2. Methods and Materials

2.1. Study Design and Participants

This study utilized a quasi-experimental design with a pretest-posttest structure, including a control group and a two-month follow-up phase. The research population consisted of all women who had experienced the death of their spouse due to COVID-19 and referred to Imam Khomeini Hospital in Tehran in 2022. Considering that a minimum sample size of 15 participants per group is deemed adequate for quasi-experimental studies, and accounting for two experimental groups and one control group, a sample of 45 participants was determined to be sufficient. However, to allow for possible attrition, a total of 51 participants were selected (17 per group). Accordingly, 51 women who had lost their spouses to COVID-19 were recruited through purposive sampling based on inclusion criteria, provided informed consent, and were randomly assigned to experimental and control groups using a random numbers table. Prior to inclusion, participants were interviewed clinically by the researcher to confirm eligibility. Inclusion criteria were: (1) full consent to participate in the intervention sessions, (2) age range of 25 to 55 years, (3) absence of acute psychiatric disorders as determined by a clinical interview, (4) minimum education level of a high school diploma, and (5) at least three months since the spouse's death. Exclusion criteria included: (1) lack of cooperation during the study, (2) absence from more than two sessions, and (3) concurrent participation in other psychological interventions. Due to the withdrawal of one participant, two participants from the other groups were also randomly excluded to maintain group equivalence, resulting in the analysis of data from 16 participants per group. Initially, the pretest phase involved completion of the Cognitive Emotion Regulation Questionnaire by Garnefski and Kraaij (2007) and the Cognitive Flexibility Inventory by Dennis and Vander Wal (2010). Participants in the experimental groups subsequently received nine weekly 90-minute sessions of either Acceptance and Commitment Therapy based on Hayes et al. (2004) or Unified Transdiagnostic Treatment based on Barlow et al. (2017), both of which have validated protocols. The control group was placed on a waitlist. All three groups were reassessed at the end of the intervention and again at follow-up.

2.2. Measures

2.2.1. Cognitive Emotion Regulation

The Cognitive Emotion Regulation Questionnaire (CERQ) was developed by Garnefski and Kraaij (2007). It is a multidimensional self-report instrument consisting of 36 items, with versions available for both adults and children. The questionnaire assesses nine emotion regulation strategies: negative strategies include self-blame (4 items), blaming others (4 items), catastrophizing (4 items), and rumination (4 items), while positive strategies include acceptance (4 items), positive refocusing (4 items), planning (4 items), positive reappraisal (4 items), and putting into perspective (4 items). Each strategy score is calculated by summing the responses to the corresponding items, with scores ranging from 4 to 20. Items are rated on a 5-point Likert scale: 1 (never), 2 (rarely), 3 (sometimes), 4 (often), 5 (always). Garnefski and Kraaij (2018) reported satisfactory validity and reliability for the CERQ, with Cronbach's alpha coefficients for subscales ranging from .71 to .81. In a study by Nargesi et al. (2019), Cronbach's alpha ranged from .79 to .94 for the subscales (Nargesi et al., 2019). In the present study, Cronbach's alpha coefficients ranged from .83 to .94 across subscales.

2.2.2. Cognitive Flexibility

The Cognitive Flexibility Inventory (CFI), developed by Dennis and Vander Wal (2010), is a brief 20-item self-report instrument designed to assess a specific type of cognitive flexibility relevant to replacing dysfunctional thoughts with more adaptive ones. The CFI includes three subscales: Alternatives (items 3, 5, 6, 12, 13, 14, 16, 18, 19, 20), Control (items 1, 2, 4, 7, 9, 11, 15, 17), and Alternatives for Human Behavior (items 8, 10). Responses are scored on a 7-point Likert scale: 1 (strongly disagree) to 7 (strongly agree), yielding a total score ranging from 20 to 140. The CFI has demonstrated concurrent validity with the Beck Depression Inventory (r = -0.39) and convergent validity with the Martin and Rubin Cognitive Flexibility Scale (r = 0.75). Masoudi Marghmaleki et al. (2023) reported a test-retest reliability coefficient of .74 and a Cronbach's alpha of .95 (Masoudi Marghmaleki et al., 2023). In the present study, Cronbach's alpha for the full scale was calculated at .88.

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2.3. Interventions

2.3.1. Unified Transdiagnostic Treatment Protocol

The Unified Transdiagnostic Treatment was administered based on the protocol developed by Barlow et al. (2017) in nine weekly sessions of approximately 90 minutes each (Barlow et al., 2017) for the first experimental group.

Session 1: Introduction, rapport building, group norms and expectations, overview of transdiagnostic treatment, emphasis on psychoeducation, self-help, and group interaction, summary and feedback.

Session 2: Feedback from previous session, problem conceptualization, psychoeducation on symptoms of complicated grief, progressive muscle relaxation, and positive mental imagery, summary and homework.

Session 3: Homework review, training in emotional awareness, mindfulness-based observation of emotional experiences, nonjudgmental thought exercises, and present-moment awareness techniques, summary and homework.

Session 4: Feedback and review, inducing positive emotions, reducing emotional suppression, fostering psychological acceptance, cognitive reappraisal training, identifying maladaptive automatic thoughts and common cognitive traps, summary and homework.

Session 5: Review, training on emotional avoidance strategies and their paradoxical effects, cognitive assessment related to grief, identification and restructuring of thought patterns to increase flexibility, summary and homework.

Session 6: Review, analysis of emotion-driven behaviors (EDBs), identifying maladaptive EDBs and introducing adaptive alternatives, focus on cognitive distortions linked to grief-related anxiety and depression, probability overestimation, and catastrophizing, summary and homework.

Session 7: Review, awareness and tolerance of physical sensations, visceral exposure tasks, addressing depression-related behaviors, and emotional confrontation, summary and homework.

Session 8: Review, progressive muscle relaxation, positive mental imagery, optimism-building regarding grief recovery, summary.

Session 9: Final review and feedback, introduction of the three-dimensional behavioral model, replacing negative emotions with positive ones, situational and visceral emotional exposure, hierarchy planning for fear and avoidance, repeated emotional exposure training, post-test assessment, and appreciation.

2.3.2. Acceptance and Commitment Therapy

The Acceptance and Commitment Therapy protocol based on Hayes et al. (2004) was delivered in nine weekly 90-minute sessions.

Session 1: Overview of session structure, group rules, introductions, summary of session goals, emphasis on psychoeducation, self-help, and group interaction.

Session 2: Feedback and homework review, fostering realistic perspectives on death and grief, psychoeducation on the uncontrollability of thoughts, discussion of positive and negative beliefs and their impact on flexibility, summary and participant reflection, homework.

Session 3: Review, challenging beliefs, acceptance of helpful thoughts, worry postponement technique, thought defusion and mindfulness training, metaphor-based techniques, summary and homework.

Session 4: Feedback, introducing control as a problem using metaphors (e.g., polygraph, clean/dirty feelings), promoting willingness and acceptance with behavioral commitment tasks, summary and homework.

Session 5: Review, introducing self-as-context and defusion using the "passengers on the bus" metaphor, observational exercises, and continuation of willingness practices, homework.

Session 6: Review, wandering mind exercise, metaphors (e.g., chessboard, furniture), summary and homework.

Session 7: Review, cloud imagery and train station metaphors, participant reflection, homework assignment to evaluate impact on thoughts and life.

Session 8: Review, attentional training, clarifying values, committed action, summary and reflection.

Session 9: Final review and feedback, verbal repetition exercise, “persistent beggar” metaphor, session recap, post-test assessment, and group appreciation.

2.4. Data Analysis

Statistical analysis was conducted using SPSS version 27. Repeated measures analysis of variance (ANOVA) was employed to assess the data. To test statistical assumptions, the Shapiro-Wilk test, Mauchly's test, Levene's test, and the Bonferroni post hoc test were used.

3. Findings and Results

In the analysis of demographic characteristics, the mean and standard deviation of participants' age in the Unified Transdiagnostic Treatment group were 39.65 ± 4.39 years;

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in the Acceptance and Commitment Therapy group, 41.23 ± 4.36 years; and in the control group, 38.89 ± 5.23 years. Educational attainment in the Unified Transdiagnostic Treatment group consisted of 24% with a high school diploma, 11.5% with an associate degree, 30.35% with a bachelor's degree, and 32.25% with a master's degree. In the Acceptance and Commitment Therapy group, 14.5% held a high school diploma, 16.75% an associate degree, 42.75% a bachelor's degree, and 25% a master's degree. In the control group, 13.5% held a high school diploma, 22.5% an associate degree, 47.5% a bachelor's degree, and 16.5% a master's degree. The descriptive statistics, including means and standard deviations of the study variables, are presented below.

Table 1

Descriptive Statistics of Study Variables in Acceptance and Commitment Therapy, Unified Transdiagnostic Treatment, and Control Groups

Variable	Group	Control (M/SD)	ACT Group (M/SD)	UTT Group (M/SD)
Positive Emotion Regulation	Pretest	59.93 / 3.76	60.62 / 4.09	59.06 / 4.69
	Posttest	61.00 / 3.98	69.81 / 4.15	66.37 / 5.26
	Follow-up	61.56 / 4.96	68.43 / 4.44	67.31 / 4.68
Negative Emotion Regulation	Pretest	52.75 / 3.87	52.87 / 3.57	53.50 / 4.01
	Posttest	53.25 / 3.62	42.68 / 2.57	45.50 / 4.22
	Follow-up	53.75 / 3.58	43.50 / 2.75	45.81 / 3.35
Psychological Flexibility	Pretest	67.37 / 7.43	66.75 / 8.48	68.13 / 4.92
	Posttest	67.43 / 7.08	88.06 / 7.74	78.62 / 6.93
	Follow-up	68.37 / 7.81	88.62 / 7.39	77.18 / 10.94

As shown in Table 1, there are differences between the pretest, posttest, and follow-up scores for positive emotion regulation, negative emotion regulation, and psychological flexibility among the groups. To examine these differences, repeated measures analysis of variance (ANOVA) was conducted.

Prior to conducting the test, its assumptions were assessed and confirmed. The normality of data distribution was verified using the Shapiro–Wilk test, and the results for positive emotion regulation, negative emotion regulation, and psychological flexibility at the three time points (pretest, posttest, follow-up) were nonsignificant (P > .05), indicating a normal distribution. Levene's test showed that the assumption of homogeneity of variances was met. Mauchly's test indicated a violation of the sphericity assumption; therefore, the Greenhouse-Geisser correction was applied for negative emotion regulation and psychological flexibility.

Table 2

Results of Repeated Measures ANOVA for Positive Emotion Regulation

Variable	Effect	Source	SS	df	MS	F	P	η²	Power
Positive Regulation	Within-subjects	Time	270.281	1	270.281	116.633	.0001	.722	1.000
		Time × Group	136.271	2	68.135	29.402	.0001	.566	1.000
	Between-subjects	Group	730.167	2	365.083	6.749	.003	.231	.899
Negative Regulation	Within-subjects	Time	1019.542	1.590	641.211	182.665	.0001	.802	1.000
		Time × Group	671.292	3.180	211.095	60.136	.0001	.728	1.000
	Between-subjects	Group	1216.292	2	608.146	18.907	.0001	.457	1.000
Psychological Flex.	Within-subjects	Time	3619.597	1.625	2227.964	129.756	.0001	.742	1.000
		Time × Group	2403.778	3.249	739.796	43.086	.0001	.657	1.000
	Between-subjects	Group	4321.556	2	2160.778	14.044	.0001	.384	.998

Based on Table 2, the between-subjects effects indicate that the main effect of group was statistically significant for all study variables (P < .001). The findings showed that 23.1% of the variance in positive emotion regulation, 45.7% in negative emotion regulation, and 38.4% in psychological flexibility was attributable to group differences. Within-subject effects also revealed that the main effect of time was significant for all variables (P < .001). In other words, the changes in mean scores across pretest, posttest, and follow-up in the entire sample accounted for 72.2% of the variance in positive emotion regulation, 82.2% in negative emotion regulation, and 74.2% in psychological flexibility. Moreover, the interaction effect between time and group was also significant (P < .001), indicating that the trajectory of

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change across time points differed significantly among the three groups.

Table 3

Bonferroni Post Hoc Test Results for Comparison of Group Means in Emotion Regulation and Psychological Flexibility

Scale	Groups A vs B	A–B Mean Difference	Std. Error	p-value
Positive Regulation	UTT vs. ACT	–2.042	1.501	.542
	Control vs. ACT	3.417	1.501	.083
	Control vs. UTT	5.458	1.501	.002
Negative Regulation	UTT vs. ACT	1.917	1.158	.314
	Control vs. UTT	–4.979	1.158	.0001
	Control vs. ACT	–6.896	1.158	.0001
Psychological Flexibility	UTT vs. ACT	–6.500	2.532	.041
	Control vs. UTT	6.917	2.532	.027
	Control vs. ACT	–13.417	2.532	.0001

As shown in Table 3, the Bonferroni post hoc test indicated a significant difference between the Acceptance and Commitment Therapy group and the control group in positive emotion regulation, whereas no such difference was found between the Unified Transdiagnostic Treatment group and the control group. Additionally, significant differences were observed between both experimental groups and the control group in negative emotion regulation and psychological flexibility ($P < .001$). The results also demonstrated that Acceptance and Commitment Therapy was more effective than Unified Transdiagnostic Treatment in enhancing psychological flexibility ($P < .001$).

4. Discussion and Conclusion

This study aimed to compare the effectiveness of Acceptance and Commitment Therapy (ACT) and Unified Transdiagnostic Treatment (UTT) on cognitive emotion regulation and psychological flexibility. The results indicated no significant difference between the two interventions in their effect on cognitive emotion regulation. Both interventions significantly improved negative cognitive emotion regulation. However, only ACT showed a significant and sustained effect on positive emotion regulation over time.

A review of the literature revealed no prior studies comparing the effectiveness of ACT and UTT on the variables examined in this research. Nonetheless, the present findings regarding the efficacy of ACT on cognitive emotion regulation are consistent with previous research (Garivani et al., 2020; Hosseinzadeh oskooei et al., 2022; Mansouri Koryani et al., 2022; Masoudi Marghmaleki et al., 2023; McCracken et al., 2013; Smith et al., 2021; Tayebi Naieni et al., 2017).

This result may be explained by the fact that ACT provides an alternative approach to confronting dysfunctional thoughts and associated emotions such as anxiety, anger, shame, pain, distress, and depression. This intervention helps individuals disengage from automatic thoughts and maladaptive behavioral patterns, playing a crucial role in stress reduction and emotional and behavioral regulation. Through mindfulness practices, individuals become aware of their mental processes in each moment and acquire skills to identify more adaptive ways to confront and accept emotional experiences. Mindfulness techniques—by providing a meditative opportunity—can effectively promote muscular relaxation and reduce worry, stress, and anxiety. Mindfulness may shield individuals from mood dysfunction associated with stress by enhancing cognitive coping processes such as positive reappraisal and strengthening skills in positive emotion regulation, including distress tolerance (Mansouri Koryani et al., 2022). Therefore, during treatment, individuals learn to interact differently with their irrational thoughts and negative emotions (e.g., anxiety, anger, shame) rather than relying on maladaptive strategies such as self-blame, blaming others, catastrophizing, and rumination, thereby improving their cognitive emotion regulation skills.

Regarding the effectiveness of UTT on cognitive emotion regulation, the results of this study are aligned with findings from previous research (Alavi et al., 2022; Barlow et al., 2017; Ito et al., 2023; Nargesi et al., 2019; Osma et al., 2022; Tonarely-Busto et al., 2023).

Given the emerging nature of UTT, the significant clinical improvements observed in negative emotion regulation may be attributed to targeting shared underlying mechanisms such as emotional regulation of anxiety and

other negative affect, as well as improved cognitive-emotional processing of recurrent thoughts emphasized in the protocol. This approach is effective in helping patients reassess and accept their emotions through emotion regulation techniques. Therefore, it may assist individuals in achieving greater mastery in identifying, recognizing, and modifying negative emotional components (Ito et al., 2023). Furthermore, the use of transdiagnostic interventions such as cognitive reappraisal training and the avoidance of emotional suppression may help bereaved spouses of COVID-19 victims learn to confront their maladaptive cognitive and emotional processes, such as catastrophizing, and respond to them in more adaptive ways.

Another finding of this study was the significant difference in the effectiveness of ACT and UTT on psychological flexibility. ACT was more effective than UTT, and the group-based impact of both interventions on psychological flexibility remained stable over time.

No prior study comparing these two interventions specifically on psychological flexibility was found. However, the findings of this study are consistent with portions of prior research (Azadmanesh et al., 2021; Kazemipour et al., 2021).

The greater effectiveness of ACT in enhancing psychological flexibility can be attributed to its core mechanisms, including acceptance, confrontation, letting go, nonjudgmental observation, increased awareness, and present-moment attention. This approach helps group participants attend to and observe their internal and external experiences without judgment. Participants are trained to become aware of the dysfunctional nature of their current behavioral patterns and, instead of avoiding thoughts or social situations, improve their quality of life by increasing psychological acceptance, aligning with personal values, and overcoming unavoidable challenges. In essence, active and effective confrontation with emotions, avoidance reduction, revised self-perceptions, reassessment of life goals and values, and a strong commitment to goals are among the factors that, through enhanced social skills and relationships, contribute to improved psychological flexibility.

Although no study was found specifically examining the impact of UTT on psychological flexibility, this finding can be explained by the fact that UTT helps individuals better understand the interaction among thoughts, emotions, and behaviors in shaping internal emotional experiences. It enables them to challenge negative cognitive appraisals of physical sensations and emotions, identify and modify emotion-driven behaviors, develop awareness and tolerance of bodily sensations through interoceptive exposure, and confront their emotional experiences in situational and internal contexts. These capabilities, by altering habitual emotional processing and regulation patterns, reduce the intensity of maladaptive emotional experiences (Tonarely-Busto et al., 2023) and enhance psychological flexibility. Such processes may also contribute to the sustained therapeutic effects observed.

5. Suggestions and Limitations

Like other studies, the present research had certain limitations, including the restriction of the sample to spouses of COVID-19 victims referred to Imam Khomeini Hospital in Tehran and the use of non-random sampling methods. Therefore, it is recommended that future research employ random sampling to enhance generalizability.

Given the demonstrated effectiveness of both ACT and UTT in improving cognitive emotion regulation and psychological flexibility among bereaved spouses of COVID-19 victims, it is recommended that psychologists and counselors consider these two interventions as primary treatment options for addressing the psychological difficulties of this population, thereby improving their mental health and overall quality of life.

Authors' Contributions

All authors have contributed significantly to the research process and the development of the manuscript.

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. The ethical approval for this study was obtained from the Organizational Ethics Committee in Research at Islamic Azad University, Isfahan Branch (IR.IAU.KHUISF.REC.1401.0154). Ethical considerations included obtaining informed consent from all participants, maintaining confidentiality of data, and providing written consent forms. Upon completion of the follow-up period, the control group was also offered Unified Transdiagnostic Treatment. All interventions were conducted by the researcher.

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