IPA
International Journal of Psychology
Vol. 20, No. 1, Winter & Spring, 2026
PP. 65-89

Iranian **P**sychological
Association

The Effectiveness of Group Acceptance and Commitment Therapy along with Group Complicated Grief Therapy on Hypertension in Bereaved Survivors of Cancer Patients

Article Type: *Research Article*

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Received: 2025/11/02 Revised: 2026/05/08 Accepted: 2026/05/09
Doi:10.61882/ijpb.20.1.65

Citation: Afzali Gorouh, A., Jenaabadi, H., & Fardin, M. A. (2026). The Effectiveness of Group Acceptance and Commitment Therapy along with Group Complicated Grief Therapy on Hypertension in Bereaved Survivors of Cancer Patients. *International Journal of Psychology (IPA), 20*(1), 65-89. Doi: 10.61882/ijpb.20.1.65

The present study aimed to compare the effectiveness of group Acceptance and Commitment Therapy (ACT) and group Complicated Grief Therapy (CGT) in lowering hypertension among bereaved survivors of cancer patients who exhibited. This research employed a quasi-experimental design with a pretest–posttest

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[DOI: 10.66224/ijpb.20.1.65]

control group. The study population consisted of bereaved survivors of cancer patients with pathological grief symptoms and hypertension who attended clinics as well as counseling centers in Kerman in 2023. A total of 36 eligible volunteers were recruited through convenience sampling and randomly assigned to three groups: 12 participants in the ACT group, 12 in the CGT group, and 12 in the control group. The study instruments included the group therapy protocol for complicated grief (Shear et al., 2005), the group therapy protocol for ACT (Hayes et al., 1999), and a blood pressure monitoring device. The blood pressure measurement followed a standardized clinical protocol. Systolic and diastolic blood pressure were measured using a calibrated mercury sphygmomanometer by a trained healthcare professional. Measurements were performed on two separate days at both pretest and posttest phases, between 9:00 and 11:00 a.m., to control for diurnal variations. The participants were seated comfortably with their back supported, feet flat on the floor, and the arm supported at heart level after at least 10 minutes of rest. Measurements were taken on the dominant arm. They were instructed to avoid caffeine, smoking, and vigorous physical activity for at least 30 minutes prior to the measurement. Antihypertensive medications were continued as prescribed, with participants asked not to alter their medication regimen along the study period. On each measurement day, blood pressure was recorded twice at five-minute intervals, with the average of the two readings employed for the statistical analysis. The MANCOVA and ANCOVA results indicated that both therapeutic interventions significantly lowered blood pressure compared to the control group ($P < .001$), with exceptionally large effect sizes (Partial Eta Squared = .84 to .82). Specifically, Complicated Grief Therapy (CGT) exhibited a superior clinical impact, lowering systolic pressure to 123.50 ± 3.25 mmHg, which was significantly more effective than Acceptance and Commitment Therapy (ACT) at 128.42 ± 3.10 mmHg ($P < .001$). Bonferroni post-hoc comparisons confirmed a hierarchical efficacy pattern (CGT > ACT > Control), highlighting that while both third-wave therapies could alleviate physiological stress; the targeted emotional processing in CGT provides enhanced hemodynamic regulation for bereaved survivors. Both psychological interventions were effective on managing hypertension linked to bereavement distress; nevertheless, Complicated Grief Therapy offers a more potent specialized approach. Integrating these therapies into the clinical care of cancer survivors can significantly mitigate the cardiovascular risks associated with pathological grief.

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[DOI: 10.66224/ijpb.20.1.65]

***Keywords**:* acceptance and commitment therapy, complicated grief therapy, hypertension, cancer survivors.

The loss of a loved one, particularly owing to prolonged illnesses such as cancer, can result in profound psychological and physiological changes in bereaved survivors. One of the common consequences is elevated blood pressure, often arising from stress and uncontrolled emotional responses. Complicated grief, characterized by symptoms such as guilt, social withdrawal, and rumination, may contribute to physical disorders, including chronic hypertension. Psychological interventions such as Acceptance and Commitment Therapy (ACT) and Complicated Grief Therapy (CGT) have proven to be effective tools in alleviating the negative impact of complicated grief on both physical and mental health (Howarth, 2011).

ACT boosts psychological flexibility and facilitates acceptance of negative emotions, thereby lowering stress and supporting physiological regulation. In contrast, CGT focuses on processing emotions linked to loss and fostering cognitive restructuring, ultimately aiding individuals in returning to normal life. The present study aims to explore and compare the effects of these two therapeutic approaches on blood pressure among bereaved survivors of cancer patients.

One of the additional factors affecting the health of bereaved individuals is hypertension. Hypertension is defined as the increased force exerted by blood flow against the walls of blood vessels (Mirhosseini, Mazloumi Mahmoudabad, et al., 2016). The early symptoms of hypertension include headache, dizziness, and facial flushing. Left untreated, it can damage the kidneys and eyes, or lead to heart attack and stroke, which may ultimately result in death (Banks et al., 2024). Hypertension

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accounts for 45% of deaths caused by heart disease, 51% of deaths owing to stroke, and approximately 9.5 million deaths annually. It is projected that by 2030, hypertension will be responsible for one-fourth of all global mortality (Wei Yi et al., 2015). Given the increasing prevalence of hypertension in Iran and worldwide, as well as its deleterious impact on patients' quality of life, there is an urgent need to develop and expand effective, empirically validated psychological interventions for this population (Miri et al., 2024).

Babayi Sis et al. (2016) noted in their study that lifestyle modification training interventions are effective on controlling hypertension among patients with high blood pressure. Various investigations have indicated that individuals suffering from complicated grief often experience elevated blood pressure, which tends to become chronic and poses serious risks to health. Meanwhile, chronic diseases account for approximately 60% of all deaths (Paltsky et al., 2023). Hypertension, known as the "silent killer," is one of the most prevalent chronic conditions in both developed and developing countries, imposing substantial treatment and care costs (Arabshehi et al., 2020; Boustani Mavi, 2023). It is projected that by 2025, the prevalence of hypertension will grow by 60%, with the number of affected individuals reaching 1.56 billion worldwide (Kassa et al., 2017).

Complicated Grief Therapy is grounded in attachment theory and the dual-process model proposed by Stroebe and Schut (1999), which addresses the complexities of grief while also facilitating the mourning process. The core strategies and techniques of pathological grief therapy are derived from interpersonal psychotherapy, cognitive-behavioral therapy, and

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motivational interviewing, highlighting both loss orientation and restoration orientation (Shear et al., 2007)

The intervention and treatment of complicated grief as well as its associated disorders and illnesses are of great importance, as grief symptoms are closely linked to depression, disrupt various aspects of daily functioning, and contribute to other health problems such as hypertension. In addition to pharmacological treatments, psychological interventions have proven effective on alleviating symptoms and ameliorating the condition of grief-related disorders. Currently, the field has entered the era of third-wave therapies, broadly referred to as acceptance-based models (Morris et al., 2024). Among these, Acceptance and Commitment Therapy (ACT) has gained considerable attention and popularity among clinicians in recent years (Dindo, 2017).

The ultimate goal of ACT is to help patients achieve a more meaningful life through six core processes: acceptance, cognitive defusion, contact with the present moment, self-as-context, values, and committed action. Even though ACT was initially developed for the treatment of physical pain, over the past two decades it has been applied across diverse populations and clinical contexts, with strong empirical support. Several studies have indicated that ACT is an effective therapeutic approach for distress alleviation. Overall, these findings suggest that grief-related distress and dysfunction not only impair interpersonal relationships but also highlight the need for targeted interventions. Concurrently, many studies have acknowledged their methodological limitations, emphasizing that the effectiveness of ACT in addressing grief and distress is heavily influenced by cultural differences and religious factors,

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and thus caution needs to be exercised when generalizing findings to other populations (Abtahi et al., 2022)

Since complicated grief can result in other disorders and ailments such as depression, anxiety, sleep disturbances, and hypertension, its intervention and treatment are of critical importance. Whereas some studies have demonstrated that Acceptance and Commitment Therapy (ACT) is moderately effective on mitigating psychological symptoms of grief, the present study also incorporates Complicated Grief Therapy (CGT), a relatively new and less frequently examined approach. By applying both ACT and CGT, this research seeks to compare their effectiveness and determine which intervention provides greater therapeutic benefit.

Method

This study utilized a quasi-experimental design with a pretest–posttest control group. The statistical population was composed of bereaved survivors of cancer patients who had experienced the loss at least one year prior and continued to exhibit persistent symptoms of complicated grief. A total of 36 participants were recruited from the eligible individuals through convenience sampling and randomly assigned (via software-based lottery) into three groups of 12: Acceptance and Commitment Therapy (ACT), Complicated Grief Therapy (CGT), and control.

Randomization and control of confounding variables were implemented to enhance internal validity. After confirming eligibility, the participants were randomly allocated to the ACT, CGT, and control groups using a computer-generated random number sequence, ensuring equal group sizes. For preventing allocation bias, an independent researcher who was not involved in the intervention executed the randomization process. All

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therapy sessions were undertaken at the same clinical center, on identical days of the week, and at comparable times (late afternoons) to eliminate time-related confounding effects. Environmental conditions, session duration (45 minutes), and therapist expertise were standardized across treatment groups to minimize variability. The participants were instructed to maintain their routine lifestyle, medication regimen, and daily activities throughout the study. No additional psychological treatment, counseling, or grief-related intervention was permitted along the intervention period. Attendance was monitored to ensure treatment fidelity, whereby absences exceeding two sessions resulted in exclusion from the analysis.

Demographic characteristics of the participants revealed that the sample included bereaved survivors of cancer patients aged between 30 and 60 years (M = 45.18, SD = 7.62). Among the participants, 22 (61.1%) were female and 14 (38.9%) were male. Regarding marital status, 25 participants (69.4%) were married, 7 (19.4%) were widowed, and 4 (11.1%) were single. Concerning educational level, 9 participants (25%) had completed high school, 17 (47.2%) held a bachelor's degree, and 10 (27.8%) had postgraduate education. Most participants (58.3%) reported being first-degree relatives of the deceased patient (spouse, parent, or child), while the remainder were other close relatives. The duration since the loss ranged from 12 to 36 months. All participants had a clinical diagnosis of hypertension confirmed by a physician prior to their inclusion in the study.

Inclusion criteria were as follows: minimum literacy skills sufficient to complete questionnaires, diagnosis of hypertension as confirmed by a specialist, informed consent to participate in the study, at least 12 months having passed since the

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bereavement, and no prior psychological treatment (based on medical records and self-report). Exclusion criteria included: illiteracy, prior participation in educational classes or psychological treatments, absence from more than two therapy sessions, unwillingness to continue the treatment, and failure to complete the questionnaires.

For both treatment groups, 12 in-person sessions were conducted on a weekly basis, each lasting 45 minutes. The Acceptance and Commitment Therapy (ACT) group was trained in techniques such as cognitive defusion, emotional acceptance, and present-moment awareness. The Complicated Grief Therapy (CGT) group focused on cognitive restructuring, processing emotions linked to loss, and controlled exposure. Systolic and diastolic blood pressures were measured along the pretest and posttest phases using a standard mercury sphygmomanometer as performed by a specialist.

Session Content – Acceptance and Commitment Therapy (ACT)

Table 1
Summary of ACT interventions based on Hayes et al. (2004, as cited in Maryam Ester Abadi's thesis)

Session	Content of session
Session 1	Establishing rapport and building connections, psychoeducation, introduction to Acceptance and Commitment Therapy and its objectives, defining the research components, and explaining the purpose of the program to participants.
Session 2 & 3	Discussion and evaluation of participants' experiences, introducing effectiveness as a criterion for the appraisal, fostering creative hopelessness through metaphors such as the "farm" and the "toolbox," challenging the client's change agenda, and assigning homework tasks.
Session 4	Introducing control as a problem; presenting willingness, emotions, memories, and physical sensations as responses

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	through the metaphor of the "uninvited guest"; assigning homework.
Session 5 & 6	Applying cognitive defusion techniques and weakening the client's alliance with thoughts as well as emotions, accompanied by mindful walking exercises; assigning homework
Session 7	Observing the self as context, reducing the conceptualized self, and presenting the self as an observer using the metaphor of the "bus and passengers"; assigning homework.
Session 8	Practicing mindfulness techniques and modelling cognitive disengagement through the metaphor of "trains under the bridge"; assigning homework.
Session 9	Introducing the concept of values, highlighting the risks of focusing solely on outcomes, and exploring practical life values using the metaphor of the "mental compass"; assigning homework.
Session 10	Applying acquired experiences to real-life situations, summarizing the therapeutic process, and assigning lifelong homework.

Baseline: Establishing rapport with participants; conducting diagnostic interviews based on criteria for complicated grief; collecting personal history, family relationships, other losses, as well as the relationship with the deceased; administering questionnaires on complicated grief symptoms and attachment to assess baseline measures.

Table 2
Complicated Grief Therapy – Session Content

Session	Content of session
Session1	Reviewing the narrative of the death and current interpersonal relationships; discussing the client's present life circumstances, including stressors and coping resources; providing a brief overview of other processes involved in complicated grief therapy; introducing the treatment, its goals, and the significance of completing assignments; examining factors that have contributed to maladaptive grief (e.g., painful emotions, guilt, shame, anxiety about the future, dysfunctional thoughts, and avoidant or persistent searching behaviors related to the deceased); familiarizing the client with daily grief monitoring.
Session 2	Reviewing daily grief monitoring, identifying triggers, and noting times along the week when grief was manageable. Explaining the model of complicated grief and how it relates to the client's

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	current situation. Providing an overview of the treatment again, encouraging the client to reflect on personal goals and activities that could restore joy as well as meaning in life. Examining maladaptive behaviors, thoughts, and emotions that contribute to complicated grief. A summary of the treatment model is given to the client to enhance motivation for continued participation. Introducing self-compassion practices.
Session 3	Engaging with a supportive individual (e.g., a family member) to hear the narrative of the loss along with its internal and external impact on the client's life from the supporter's perspective. Exploring avoidance behaviours and the client's reactions as observed by the supporter. Asking the supporter to describe the client's condition after the loss, including their responses and any avoidance of situations or behaviours. Outlining the treatment goals and briefly explaining the CGT model to the supporter. In the final 15 minutes, conducting an individual session with the client to begin working on negative emotions.
Session 4	Performing an imaginal "reunion" exercise (a form of guided imagery to facilitate an imagined meeting with the deceased). Discussing factors that hinder the client's ability to form new relationships with others. Continuing therapeutic work on negative emotions.
Session 5	Administering one or more structured questionnaires on complicated grief to assess progress and identify areas of difficulty. Reviewing daily grief monitoring as well as setting new goals for the client. Conducting situational "reunion" exercises to address avoidance behaviours.
Sessions 6–9	Continuing daily grief monitoring, engaging in both imaginal and situational reunion exercises, and setting new client goals. Exploring new interpersonal relationships. Developing a collection of pleasant memories and positive aspects of the deceased, as well as unpleasant memories and less favourable qualities. Ongoing work on dysfunctional thoughts. (Clients may bring photos or mementos of the deceased to these sessions.)
Session 10	Administering one or more structured questionnaires on complicated grief to ascertain progress and identify persistent difficulties. Addressing interpersonal problems, role changes, and the client's coping strategies in relation to other losses.
Sessions 11–12	Conducting imaginal conversations with the deceased, analyzing problematic interactions, and engaging in role-play exercises. If necessary, continuing work on dysfunctional thoughts or introducing self-compassion practices.

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Results

The results revealed that both therapeutic groups were significantly effective on lowering systolic and diastolic blood pressure. Complicated Grief Therapy (CGT) demonstrated a greater impact on lowering systolic blood pressure ($p < .01$), while Acceptance and Commitment Therapy (ACT) not only reduced blood pressure but also contributed to improved emotional regulation. The control group did not present any significant changes in blood pressure values.

The following table presents the mean systolic and diastolic blood pressure across the three groups:

Table 3
Mean and Standard Deviation of Systolic and Diastolic Blood Pressure Across the Three Groups

Group	Pre-Test Systolic	Post-Test Systolic	Pre-Test Diastolic	Post-Test Diastolic
ACT	140.83 ± 2.40	128.42 ± 3.10	91.58 ± 1.97	85.25 ± 2.40
CGT	141.75 ± 1.86	123.50 ± 3.25	91.25 ± 2.22	81.58 ± 2.35
Control	142.00 ± 2.66	141.25 ± 3.15	90.58 ± 1.92	90.08 ± 2.05

Table 3 outlines the mean ± standard deviation of systolic and diastolic blood pressure for three groups—Acceptance and Commitment Therapy (ACT), Complicated Grief Therapy (CGT), and a Control group—before (pre-test) and after (post-test) the interventions.

At baseline, all three groups indicated similar hypertensive profiles, with systolic blood pressure ranging from 140.83 to 142.00 mmHg and diastolic blood pressure from 90.58 to 91.58 mmHg. This indicates that the groups were comparable before the start of the interventions.

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Following the interventions: The ACT group demonstrated a decline in systolic BP from 140.83 to 128.42 mmHg and in diastolic BP from 91.58 to 85.25 mmHg. This reflects a moderate but clinically meaningful improvement in both systolic and diastolic blood pressure. The CGT group indicated the largest reduction, with systolic BP decreasing from 141.75 to 123.50 mmHg and diastolic BP from 91.25 to 81.58 mmHg. This suggests that CGT was highly effective on lowering both markers of hypertension among bereaved survivors. The control group remained largely unchanged, with systolic BP shifting slightly from 142.00 to 141.25 mmHg and diastolic BP from 90.58 to 90.08 mmHg. This confirms that without intervention, participants' blood pressure remained relatively stable.

Overall, the data suggest that both ACT and CGT interventions effectively lowered blood pressure, with CGT showing the most pronounced effect, while the control group experienced minimal change. This pattern reflects the efficacy of psychological interventions in managing physiological stress responses in bereaved cancer survivors.

Table 4
Multivariate Analysis of Covariance (MANCOVA) Results for the Dependent Variables

Test	Value	F	df	p	Partial η^2
Wilks' Lambda	.29	73.545	30.00	.001	.831
Pillai's Trace	.975	14.736	32.00	.001	.487

Table 4 reports the multivariate effects of the intervention on the combined dependent variables, analyzed using MANCOVA while controlling for the covariates. Both multivariate tests—

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Wilks' Lambda and Pillai's Trace—indicate statistically significant overall group effects.

Wilks' Lambda was .29, corresponding to a highly significant multivariate effect (F = 73.545, df = 30, p = .001), demonstrating that the intervention groups differed significantly on the combined outcome variables. The associated partial eta squared (η^2 = .831) reflects a very large multivariate effect size, suggesting that a substantial portion of variance in the combined dependent variables is explained by group membership.

Likewise, Pillai's Trace yielded a significant result (V = .975, F = 14.736, df = 32, p = .001), confirming the robustness of the multivariate group differences. The corresponding partial eta squared value (η^2 = .487) also indicates a large effect, further supporting the conclusion that the interventions yielded meaningful changes across the dependent variables.

Taken together, these multivariate statistics indicate that the intervention groups differ significantly when the dependent variables are considered concurrently, providing strong evidence for the overall impact of the treatment conditions.

Table 5
Univariate Analysis of Covariance (ANCOVA) Results for Systolic Blood Pressure

Source	Sum of Squares	df	Mean Square	F	Partial η^2	p
Pre-test	262.12	1	262.12	42.34	.58	.001
Group	1378.54	2	689.27	111.35	.82	.001
Error	198.00	32	6.19	—	—	—

Table 5 provides the results of a univariate ANCOVA investigating the effect of the intervention on systolic blood pressure while statistically controlling for pre-test (baseline)

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systolic values. After adjusting for baseline differences, a significant main effect of group emerged.

The covariate (pre-test systolic blood pressure) was a significant predictor of post-test systolic blood pressure, $F(1, 32) = 42.34$, $p = .001$, with a large effect size (partial $\eta^2 = 0.58$). This indicates that baseline systolic blood pressure accounted for a substantial portion of the variance in post-intervention values, confirming the appropriateness of controlling for this variable.

After adjusting for the covariate, the effect of group remained highly significant, $F(2, 32) = 111.35$, $p = .001$, indicating that the intervention groups differed reliably in their post-test systolic blood pressure levels. The associated partial eta squared ($\eta^2 = 0.82$) reflects a very large effect size, suggesting that group membership explained a substantial proportion of the adjusted variance.

Together, these results suggest that the interventions had a marked and statistically significant influence on systolic blood pressure beyond what could be attributed to baseline differences. The magnitude of the group effect reflects meaningful clinical relevance, with strong evidence that the treatment conditions generated distinct and substantial reductions in systolic blood pressure.

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Table 6
Univariate Analysis of Covariance (ANCOVA) Results for Diastolic Blood Pressure

Source	Sum of Squares	df	Mean Square (MS)	F	p	Partial η^2
Pre-test	6.811	1	6.811	.569	.456	.017
Group	2069.228	2	1034.614	86.438	.001	.844
Error	383.023	32	11.969	—	—	—

Table 6 presents the results of the univariate Analysis of Covariance (ANCOVA) conducted to explore the impact of the intervention groups on post-test diastolic blood pressure while controlling for baseline (pre-test) diastolic blood pressure.

The covariate (pre-test diastolic blood pressure) did not significantly predict post-test diastolic blood pressure, $F(1, 32) = .569$, $p = .456$, with a very small effect size (partial $\eta^2 = .017$). This suggests that baseline diastolic blood pressure explained only a negligible proportion of the variance in post-test values.

In contrast, the main effect of group was highly significant, $F(2, 32) = 86.438$, $p = .001$. The associated partial eta squared ($\eta^2 = .844$) reveals a very large effect size, suggesting that group membership accounted for a substantial share of the variance in adjusted post-test diastolic blood pressure.

These findings indicate that, after controlling for baseline measurements, significant differences existed between the study groups in terms of diastolic blood pressure following the intervention. The magnitude of the group effect suggests that the treatments yielded meaningful changes in diastolic blood pressure levels. Subsequent post-hoc comparisons are required to determine the specific between-group differences.

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Table 7
Pairwise Comparisons of Systolic Blood Pressure Using the Bonferroni Post-hoc Test

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig	95% Confidence Interval² Lower Bound / Upper Bound
CGT	ACT	-4.920*	1.416	.001	-8.497 / -1.343
	Control	-18.805*	1.443	.001	-22.450 / -15.160
ACT	CGT	4.920*	1.416	.001	-1.343 / 8.497
	Control	-13.885*	1.426	.001	-17.490 / -10.280
Control	CGT	18.805*	1.443	.001	15.160 / 22.450
	ACT	13.885*	1.426	.001	10.280 / 17.490

Table 7 outlines the Bonferroni-adjusted pairwise comparisons of post-intervention systolic blood pressure among the three study groups (CGT, ACT, and Control). The results signal statistically significant differences between all pairs of groups ($p < .001$), suggesting that the interventions generated distinct effects on systolic blood pressure levels. Specifically, the participants in the CGT group demonstrated significantly lower systolic blood pressure compared with those in the ACT group (Mean Difference = −4.920, SE = 1.416, 95% CI: −8.497 to −1.343). This negative mean difference suggests that systolic blood pressure in the CGT group was lower than in the ACT group post-intervention.

Also, the CGT group exhibited a substantially greater reduction in systolic blood pressure compared with the Control group (Mean Difference = −18.805, SE = 1.443, 95% CI: −22.450 to −15.160). The confidence interval does not include

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zero, confirming a statistically significant and clinically meaningful difference in favor of the CGT intervention. Likewise, the ACT group also presented significantly lower systolic blood pressure than the Control group (Mean Difference = −13.885, SE = 1.426, 95% CI: −17.490 to −10.280), indicating that ACT was also effective on diminishing systolic blood pressure compared with no intervention. The reverse comparisons (ACT vs. CGT and Control vs. CGT/ACT) yielded equivalent differences with opposite signs, which is statistically expected and confirms the consistency of the pairwise comparisons.

Overall, the pattern of results indicates a clear hierarchy of effectiveness among the groups. The CGT intervention yielded the greatest reduction in systolic blood pressure, followed by the ACT intervention, whereas the Control group indicated the highest systolic blood pressure levels after the intervention. These findings suggest that both psychological interventions were effective on lowering systolic blood pressure, with CGT demonstrating the strongest influence.

Table 8
Pairwise Comparisons of Diastolic Blood Pressure Using the Bonferroni Post-hoc Test

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig	95% Confidence Interval[2] Lower Bound / Upper Bound
CGT	ACT	-3.67*	1.28	.001	-6.90 / -.44
	Control	-8.50*	1.30	.001	-11.78 / -5.22
ACT	CGT	3.67*	1.28	.001	.44 / 6.90
	Control	-4.83*	1.29	.001	-8.08/ -1.58
Control	CGT	8.50*	1.30	.001	5.22 / 11.78
	ACT	4.83*	1.29	.001	1.58 / 8.08

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The Bonferroni post-hoc test presented significant differences between all groups in terms of diastolic blood pressure. The CGT group indicated significantly lower diastolic blood pressure compared with the ACT group (Mean Difference = -3.67, $p < .001$). Further, both treatment groups demonstrated significantly lower diastolic pressure than the control group. The CGT group revealed the largest reduction compared to the control group (Mean Difference = -8.50, $p < .001$), followed by the ACT group (Mean Difference = -4.83, $p < .001$). These results confirm a hierarchical treatment effectiveness pattern (CGT > ACT > Control) in curtailing diastolic blood pressure among bereaved cancer survivors.

Discussion

The present study aimed to compare the effectiveness of group Acceptance and Commitment Therapy (ACT) and group Complicated Grief Therapy (CGT) in lowering blood pressure among bereaved cancer survivors. The findings demonstrated that both therapeutic interventions significantly diminished systolic and diastolic blood pressure compared to the control group. Meanwhile, a key finding of this research is that Complicated Grief Therapy (CGT) exhibited a decisive clinical superiority over ACT in mitigating hypertension, establishing a hierarchical efficacy pattern (CGT > ACT > Control).

The results of the Bonferroni post-hoc analysis for diastolic blood pressure revealed significant differences among all three groups. Specifically, the Complicated Grief Therapy (CGT) group presented significantly lower diastolic blood pressure compared with the Acceptance and Commitment Therapy (ACT) group. Further, both intervention groups exhibited

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significantly greater reductions in diastolic blood pressure as compared with the control group, which indicated almost no meaningful change. Among the interventions, CGT yielded the largest reduction, followed by ACT, reflecting a clear hierarchical pattern of effectiveness (CGT > ACT > Control). These findings suggest that while both psychological treatments are effective on alleviating physiological stress responses associated with complicated grief, the grief-focused mechanisms of CGT provide a stronger influence on regulating diastolic blood pressure in bereaved survivors of cancer patients.

The superior physiological influence of CGT can be ascribed to its specialized focus on the core mechanisms of pathological grief. Complicated grief keeps the autonomic nervous system in a chronic state of hyperarousal, resulting in the sustained release of stress hormones such as cortisol and adrenaline, which directly heighten blood pressure. CGT directly addresses this by facilitating the targeted emotional processing of loss-related trauma and confronting grief-specific avoidance. Through systematically helping survivors process the reality of the loss and restoring a sense of meaning, CGT effectively neutralizes the primary source of chronic psychological distress. This targeted emotional resolution may give rise to a more profound downregulation of the sympathetic nervous system, resulting in superior hemodynamic regulation.

Nevertheless, Acceptance and Commitment Therapy (ACT) also proved to be a highly effective intervention for managing blood pressure and boosting emotional regulation. These findings are in line with previous research (e.g., Gholami et al., 2016; Babaei Sis, 2016; Kalbasi et al., 2023). ACT operates through a broader transdiagnostic mechanism. Via fostering

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psychological flexibility, mindfulness, and cognitive defusion, ACT helps bereaved individuals accept their painful emotions rather than expending energy attempting to suppress or avoid them. This reduction in experiential avoidance diminishes secondary psychological tension, which in turn alleviates cardiovascular strain and lowers blood pressure.

Overall, the data suggest that while ACT is highly beneficial for ameliorating general emotional regulation and mitigating physiological reactivity through acceptance, the trauma-focused and grief-specific techniques inherent in CGT provide a more potent "autonomic reset" for patients suffering from physical health complications induced by severe bereavement.

This study provides robust empirical evidence that psychological interventions are crucial in managing the physical health consequences of bereavement, specifically hypertension. Both CGT and ACT successfully lower the cardiovascular risks linked to complicated grief, though Complicated Grief Therapy serves as the most potent specialized approach for this population.

Clinically, these findings highlight the necessity of integrating targeted psychological therapies into the comprehensive cardiovascular and survivorship care of bereaved individuals. A tailored clinical approach—utilizing CGT as the primary intervention for severe grief-induced physiological distress, while incorporating ACT techniques for broader emotional regulation—could bring about optimal psychosomatic outcomes.

Limitations and Future Directions: As with all research, this study had certain limitations. The primary limitation was the relatively small sample size, which warrants caution in

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generalizing the findings. Further, the absence of a longitudinal follow-up prevents conclusions considering the long-term sustenance of the blood pressure reductions. Future studies should employ larger sample sizes and incorporate follow-up assessments over extended periods (e.g., 3 to 6 months post-intervention) to further validate these findings.

When an individual experiences complicated grief, the nervous system becomes engaged in intense stress responses, typically accompanied by the release of stress hormones such as adrenaline and cortisol. These hormones directly elevate heart rate, constrict blood vessels, and heighten blood pressure. Hence, those suffering from complicated grief may struggle with hypertension and cardiovascular problems.

Acceptance and Commitment Therapy (ACT) is recognized as an effective intervention in such circumstances, helping individuals confront unpleasant emotions and thoughts rather than attempting to suppress or avoid them. ACT teaches clients to accept grief-related feelings as part of the human experience rather than focusing on controlling or changing them. This shift in perspective can mitigate psychological tension and anxiety, thereby diminishing the negative effect of stress on the nervous system.

These findings suggest that psychological interventions can be considered as part of a comprehensive program for managing blood pressure in individuals experiencing complicated grief. Treatment programs are recommended to employ a combination of these two approaches to achieve optimal outcomes: Complicated Grief Therapy (CGT) for bereaved individuals with elevated systolic blood pressure, and Acceptance and Commitment Therapy (ACT) for those with emotional

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difficulties related to grief and blood pressure. Integration of psychological interventions with medical care may result in better management of blood pressure among bereaved individuals.

As with other studies, this research faced certain limitations, one of which was the relatively small sample size, indicating the need for further investigations with larger samples. Further, the long-term effects of these interventions were not assessed. Future studies could examine the influence of these interventions over extended periods of time.

Acknowledgment

The authors of this article deem it their utmost responsibility to express their most sincere gratitude to all the researchers, experts, and companions who assisted us throughout the various stages of this study. We also extend our appreciation to the esteemed participants of this research who played an instrumental role in advancing and conducting this study through their valuable time, sincere cooperation, and provision of significant information. Undoubtedly, achieving the results of this research would not have been possible without the contribution and support of these individuals.

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