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Original Article

The Effectiveness of Complicated Greif Treatment on Rumination, Emotion Regulation, and Coping Self-Efficacy in People with Prolonged Grief Disorder

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Abstract

Background and Aim: People who experienced bereavement during the first two surges of the COVID-19 pandemic are three times more likely to develop Prolonged Grief Disorder (PGD), which causes feelings of isolation and profound emotional distress. PGD is characterized by a persistent yearning for the deceased, intense emotional suffering that includes feelings of guilt and denial, as well as difficulties with social interaction and future planning that persist for more than six months. This study was designed and conducted to examine the effectiveness of Complicated Grief Treatment (CGT) on rumination, emotion regulation, and coping self-efficacy in people with prolonged grief disorder.

Materials and Methods: This study used a semi-experimental design that included pretest-posttest measurements with both experimental and control groups, followed by a two-month observation period. Initially, 30 participants were purposively selected based on a psychiatrist's diagnosis and a semi-structured interview guided by the DSM-5-TR diagnostic criteria for prolonged grief disorder. The participants were divided equally into experimental and control groups. The experimental group received "Complicated Grief Treatment," consisting of 16 sessions lasting 120 minutes each, while the control group received no intervention. After two months, the experimental group underwent a follow-up assessment to evaluate changes and improvements.

Results: The main hypothesis of this study was tested by multivariate analysis of covariance (MANCOVA) and univariate analysis of covariance (ANCOVA). Results supported the effectiveness of Complicated Grief Treatment (CGT) on rumination, emotion regulation, and coping self-efficacy in individuals with prolonged grief disorder in the experimental group ($F=11.356$, $P<0.001$). The results showed that CGT demonstrated greater effectiveness in reducing rumination, supported by the effect size in the post-test phase. Furthermore, these positive effects persisted even after a two-month follow-up period, as shown by the statistical analysis ($F=60.554$, $P<0.001$).

Conclusion: In general, results suggest that complicated grief treatment (CGT) was effective in addressing rumination, emotion regulation, and coping self-efficacy in individuals diagnosed with prolonged grief disorder. CGT aims to revitalize adjustment by identifying and resolving grief complications and facilitating three adjustment processes: acceptance of the reality of death, reconfiguration of the internalized relationship with the deceased, and redefinition of life goals and plans.

Keywords: Complicated grief Treatment (CGT), Rumination, Emotion regulation, Coping self-efficacy, Prolonged grief disorder

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Introduction

Bereavement is a universal experience and a significant life stressor that is associated with adverse mental and physical health outcomes, including increased mortality and high societal costs. Although most people recover from a loss without professional help, a minority of bereaved people in all cultures experience severe and disabling grief for a prolonged period (1). Estimates show that one in ten people bereaved by a natural event and one in two people bereaved by an unnatural event report severe and debilitating grief reactions that require clinical attention (2).

Freud (3), in his famous essay "Mourning and Melancholia," attempted to distinguish the normal mourning process from melancholia. He noted that despite their similarities, there are fundamental differences between these two phenomena: Mourning is recognized as a healthy and normal process necessary to recover from loss and would not be considered pathological or in need of medical intervention. Melancholia, on the other hand, is a pathological condition and a dangerous disease because of its poor prognosis and frequent suicidal tendencies (3).

When grief reactions persist and interfere with daily functioning, it may be considered a grief disorder. The definition, conceptualization, and assessment of grief disorder are topics of debate among scholars (4). These disabling grief reactions are referred to as Prolonged Grief Disorder (PGD) in the revised fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR) (5). This version improves diagnostic clarity for people struggling with mental health issues following bereavement. The core behavioral, cognitive, and emotional symptoms of PGD are the same as those in the acute stage of grief; however, the extreme prevalence and disruptive nature of the symptoms make them pathological. PGD is essentially a continuation of the acute stage of grief, with those affected failing to progress to the integrated stage.

SM-5-TR criteria include the development of a persistent grief reaction involving intense yearning or longing and/or preoccupation with thoughts or memories of the deceased, with at least three of the following accompanying symptoms: disruption of identity, marked disbelief in the death, avoidance of reminders of the deceased, intense emotional pain, problems reintegrating into previous relationships and activities, emotional numbness, a sense of loneliness, and intense loneliness (5). In addition, the DSM-5-TR stipulates that the death of the person close to the bereaved must have occurred at least 12 months ago, or 6 months, in the case of children and adolescents. Other diagnostic criteria include evidence of clinical impairment, duration, and severity that exceed social, cultural, or religious expectations or norms, and that symptoms are not better explained by alternative psychiatric diagnoses (5).

Alongside the constant and severe psychological symptoms, research has shown that PGD is associated with several physiological health problems. Increased levels of prolonged grief symptoms have been consistently associated with increased risk of cancer, heart problems, and elevated blood pressure (6, 7). In addition, sleep disturbances are common in people with PGD, with research suggesting an approximate 80% prevalence of long-term sleep disturbance (8).

Currently, there is limited information regarding demographic risk factors for the development of prolonged grief disorder. Risk factors studied for the development of prolonged grief include demographic characteristics, pre-existing psychiatric conditions, type of death, and inadequate social support (9). The DSM-5-TR suggests that prolonged grief disorder might be more common among women, although the results are inconclusive (5). In the context of the COVID-19 pandemic, there is evidence that those bereaved secondary to COVID-19 are at increased risk for the development of prolonged grief symptoms (10). Due to

the pandemic, the number of PGD cases is expected to increase, and the prevalence rate among survivors may increase by 7 to 10% (11). Clinicians must, therefore, be knowledgeable about grief reactions, be able to distinguish normal from pathological manifestations of grief and be aware of proven treatment options.

The concept of grief rumination involves continuous and repetitive thinking about the causes and effects of a loss and the emotions associated with it. Grief rumination may consist of so-called "counterfactual thinking" about the events leading up to the death, i.e., imagining alternative past realities in which the person would not have died, ruminating about the unfairness of the loss, the meaning of the loss, one's own emotional reactions to the loss, and the reactions of others to the loss (12). Thimm et al. (13) proposed a concurrent association between grief-related rumination, prolonged grief disorder, and post-traumatic stress (PTS) symptoms. Grief-related rumination was found to be a significant predictor of PG symptoms at the 12-month mark, even after adjusting for baseline PG levels and demographic factors. Although rumination is often viewed as a mechanism by which repetitive thoughts maintain or reinforce negative affect, it also blocks other, more adaptive, cognitive and behavioral mechanisms for regulating emotions. For example, rumination is associated with cognitive inflexibility and negative autobiographical memories and may interfere with instrumental behavior and problem-solving approaches to emotion regulation (14).

For several compelling reasons, it is critical to prioritize research on emotion regulation (ER) processes in the context of studying prolonged bereavement. Grief is associated with intense emotional distress, especially for those who experience complications in their grieving process. In the DSM-5-TR diagnostic system, many of the core symptoms of PGD are emotional: longing, sadness, guilt, anger, emotional numbness, and blame. It is clear that emotional disturbances play a central role in such complicated grief reactions and that coping with these emotional experiences is crucial for recovery. Models proposed to explain the symptoms of prolonged grief disorder, thereby integrating emotion regulation as a central feature, along with attachment style, beliefs and appraisals, and personal identity (15-17). Models proposed to explain the symptoms of prolonged grief disorder, therefore, integrate emotion regulation as a central feature, along with attachment style, beliefs and appraisals, and personal identity (15-17).

Self-efficacy, a belief in one's ability to exert control over events that affect one's life to manage one's own functioning and environmental demands, plays a significant role in stress reactions and adaptive coping with threatening situations [18]. Bereavement coping self-efficacy (CSE) predicted lower emotional distress, higher psychological and spiritual well-being, and better physical health in widows whose husbands had died of cancer (19). In addition, Benight and Bandura (18) concluded that CSE is a mediator in recovery from traumatic experiences. Therefore, integrating emotion regulation and loss-related coping self-efficacy can be included in current bereavement coping models as a way to bring about change.

A promising treatment for PGD developed by Shear, Frank, Houck, and Reynolds (20) is Complicated Grief Treatment (CGT), a manualized treatment protocol used in the context of individual psychotherapy that includes phases of psychoeducation, the use of a dual-process model of grief (loss and restoration oriented) (21, 22), focused attention on trauma-like symptoms, revisiting of the relationship with the deceased, and planning for the future. Shear's study (23) compared CGT with interpersonal psychotherapy in older adults in an outpatient psychiatric clinic who met the criteria for complicated grief. The results suggest that both treatments significantly reduced CG symptoms, but the response rate was higher, and the duration of response was shorter in those who received CGT (24). CGT is a well-specified 16-session psychotherapy that has demonstrated strong positive results in three randomized clinical trials funded by the National Institute of Mental Health (20, 25, 26).

After reviewing the theoretical literature and related studies, we concluded that we needed to determine whether CGT was effective in treating prolonged grief. Because prolonged grief disorder is associated with constant rumination about painful thoughts and memories, emotional dysregulation, and cognitive and coping problems in bereaved individuals, Complicated Grief Treatment (CGT) was selected to assess its effectiveness in treating prolonged grief disorder. CGT

integrates several theoretical approaches to help the bereaved adjust to new life situations, acknowledge their grief, manage the emotions associated with grief, and redefine goals for the future.

Significant loss can change lives forever. However, it is possible to rediscover a sense that life can be fulfilling and rewarding even when grief is not over. In light of this, this study aimed to identify a treatment for the symptoms of prolonged grief in bereaved individuals by examining and evaluating the effectiveness of the Complicated Grief Treatment. The current study examined the effectiveness of CGT in reducing rumination and improving coping self-efficacy and effective emotion regulation in individuals with persistent grief disorder, marking it as one of the pioneering studies in this field in Iran.

The present study proposes the following hypotheses. The primary Hypothesis is "Complicated grief treatment (CGT) has an impact on rumination, emotional regulation, and coping self-efficacy in individuals suffering from prolonged grief disorder. The first sub-hypothesis is that CGT influences rumination in individuals diagnosed with prolonged grief disorder. The next sub-hypothesis suggests that CGT influences emotion regulation in individuals suffering from prolonged grief disorder. Finally, the third sub-hypothesis proposes that CGT influences coping self-efficacy in individuals diagnosed with prolonged grief disorder.

Methods

The study used a semi-experimental design that included pretest-posttest measures with both experimental and control groups, followed by a two-month follow-up. The experimental group received a complicated grief treatment as a therapeutic intervention, while the control group received no intervention. The experimental group was also followed up for two months to see if any changes occurred. The research included a population of adults aged 18 years and older living in Tehran who had sought help at psychiatric and psychological clinics in Tehran between January and March 2023. Participants in this study were diagnosed with prolonged grief disorder through semi-structured interviews according to the diagnostic criteria outlined in the DSM-5-TR. A total of 30 individuals were selected using purposive or convenience sampling methods. The primary inclusion criteria include the loss of a significant other at least 12 months before participation in the study, the presence of a psychiatric diagnosis for prolonged grief disorder, the ability to read and write, attainment of legal adulthood, and being at least 18 years old. Primary exclusion criteria included severe mental or somatic disorders requiring urgent treatment, acute suicidality, concomitant psychotherapy, and/or use of medications for depression or anxiety if there was a change in prescription or dosage within the month before or during the procedure

Materials

Clinical interview

Study participants underwent a semi-structured clinical interview that followed the diagnostic criteria for prolonged grief disorder outlined in the DSM-5-TR.

Rumination Questionnaire

The Ruminative Response Scale (RRS) of Nolen-Hoeksema and Morrow's Response Styles Questionnaire (27) was used to evaluate rumination. The Ruminative Response Scale includes 22 items describing responses to depressed mood that are self-focused, symptom-focused, and focused on the possible causes and consequences of dysphoric mood. Each item is rated on a Likert scale ranging from 1 (almost never) to 4 (almost always). Based on empirical evidence, RRS has high internal reliability. Cronbach's alpha coefficient ranges from 0.88 to 0.92. Various studies show that the test-retest correlation for RRS is 0.67. Therefore, it is a reliable and valid indicator of rumination (28). Bagherinejad and colleagues (29) conducted a study in Iran to assess the reliability of the questionnaire. They found a Cronbach's alpha coefficient of 0.88 for the Ruminative Responses Scale (RRS), indicating strong internal consistency.

Emotion Regulation Questionnaire

This study utilized the Difficulty in Emotion Regulation Scale - Short form (DERS-16) (30), a measurement tool developed and validated by Bjureberg et al. The Difficulty in Emotion Regulation Scale-16 (DERS-16) (30) is a brief version of the original DERS (31). The DERS-16 consists of 16 items that assess the facets of emotion regulation difficulties, including (1)

nonacceptance of negative emotions (three items, labeled NONACCEPT); (2) inability to engage in goal-directed behaviors when experiencing negative emotions (three items, labeled GOALS); (3) difficulties controlling impulsive behaviors when experiencing negative emotions (three items, labeled IMPULSE); (4) limited access to emotion regulation strategies (five items, labeled STRATEGIES); and (5) lack of emotional clarity (two items, labeled CLARITY). The items are rated on a 5-point Likert scale (from 1: almost never to 5: almost always). This DERS-16 demonstrated good internal consistency (Cronbach's alpha = 0.92) (30) and was strongly associated with the original 36-item version (r = 0.93) in the original validation sample (31). Fallahi et al. (32) conducted a study in Iran in which the scale was standardized for adolescents for the first time. The results showed that the short form of the Emotion Regulation Difficulty Scale had strong reliability and validity. The Cronbach's alpha coefficient was 0.77 for the absence of emotional clarity, 0.68 for the goal-oriented behavior factor, 0.70 for the control of impulsive behaviors, 0.74 for limited access to strategies, and 0.71 for the non-acceptance of emotional responses, and the overall scale resulted in a value of 0.91.

Coping Self-Efficacy Scale

Self-efficacy for coping with threats and challenges was assessed using the Coping Self-Efficacy Scale (CSES) (33). The measure consists of 26 items rated on a 10-point Likert scale ranging from 0 (cannot do at all), 5 (moderately certain can do), to 10 (certain can do). Items tap into three subscales: stopping unpleasant emotions and thoughts, using problem-focused coping, and getting support from family and friends, with higher scores indicating greater CSE. The total score of this scale has demonstrated strong internal consistency ($\alpha = 0.95$) and robust construct validity, as indicated by its association with measures of psychological distress, well-being, and social support (33). By using confirmatory factor analysis, Bahramian, Morovati et al. (34) reported high validity for the scale.

Procedure

After randomly assigning participants (N=30) into two groups of 15, all participants were invited to a meeting where they were asked to sign the informed consent form to participate in the study. During the meeting, participants were assured that the content and results of the treatment sessions would be kept confidential. In addition, all research questionnaires were distributed to both groups as a pretest. The intervention consisted of 16 weekly sessions lasting 120 minutes each, delivered by a licensed psychologist, with all sessions under supervision. The study ethics approval code is IR.PNU.REC.1402.177 and can also be accessed on the website https://ethics.research.ac.ir/IR.PNU.REC.1402.177.

After the treatment sessions were completed, a post-test was conducted on both the control and experimental groups. Table 1 lists the treatment sessions conducted as part of this study.

Table 1. CGT Intervention, sessions summery

Session	Content
1	Introductions; discussing early relationships, school, work, and current family and friends; discussing talents, achievements, values, and other strengths; discussing relationship with the deceased, the story of the death, and experience with grief; introducing interval plans (interval notes about what is most troubling about the death, think about who to invite to session 3, begin grief monitoring); explaining grief monitoring diary.
2	Discussing attachment theory; describing the attachment theory model of loss, grief, and mourning; explaining CGT using the preliminary formulation to personalize this; discussing the rationale for CGT and procedures used; beginning work on long-term aspirations and goals; giving the patient the interval notes and interval plans forms; deciding who to invite to session.
3	Discussing visitor's relationship with the patient; discussing visitor's observations about the patient before, during and after the death; providing information about prolonged grief disorder and CGT; considering ways the visitor might be helpful; meeting with the patient alone debrief; reviewing GMD and other interval plans make plans for the week.
4	The intermediate phase of CGT (4-9) begins with the first revisiting exercise, usually in the 4th session of the treatment. This phase includes focused work on loss and restoration designed to revitalize the natural healing process. The sessions are structured such that Imaginal Revisiting begins with session four and continues for about 4-5 sessions. At the same time, working on long-term aspirations is ongoing throughout the treatment. The main goal of revisiting exercises is to bolster the patient's capacity to reflect on the death.

5	Discussing Grief Monitoring Diary; reviewing past week interval plans, and orient patient to session; continuing imaginal revisiting; introducing situational revisiting list discuss goals work; continuing grief monitoring and interval plans.
6	Third revisiting session, reflecting on the revisiting, putting away, plan rewarding activity; situational revisiting; introducing memories forms; continuing aspirational goals work.
7	Doing Imaginal Revisiting exercise; reviewing situational revisiting; reviewing memories; continuing aspirational goals work.
8	Revisiting exercise (possibly with hot spots); situational revisiting; reviewing memories; discuss goals work; Form-2 Continuation of grief monitoring and interval plans.
9	Continuing Imaginal Revisiting; continuing situational revisiting; discuss goals work; discussing Memories Form-3; continuing Grief Monitoring and Interval plans.
10	Mid-treatment review and discussion; reviewing and discussing other difficult losses (Loss Summary form) and consider repeating the ICG for another loss; reviewing and discussing status of current relationships with respect to identifying disputes with significant others or role transition problems; continuing Situational Revisiting; reviewing Memories Form-4; continuing Aspirational Goals work.
11-15	Closing sequence including: discussing thoughts and feelings about ending treatment; conducting imaginal conversation or imaginal revisiting exercise (possibly with hot spots) as indicated; reviewing and planning situational revisiting; discussing memories Form-5 (Session 11 only); working on interpersonal focus as indicated; continuing Aspirational Goals work.
16	Summarizing and reviewing treatment progress; reviewing principles, strategies, and procedures of CGT; discussing progress on PGD symptoms, including avoidance and cognitive problems; if relevant, reviewing and discussing progress on interpersonal work and status of current relationships; identifying personal strengths; summarizing use of these strengths in the treatment; discussing use of strengths in planning for the future; discussing thoughts and feelings about termination; discussing plans for the future including any upcoming difficult times.

Results

Questionnaires were administered to the participants before and after intervention. After two months, the experimental group underwent a follow-up examination. The results were then subjected to a comparative analysis.

The study sample consisted of 30 people randomly assigned to experimental and control groups. The participants included 24 females and six males, 12 females and three males in both groups. In the study, the age distribution of the participants showed that 33.3% belonged to the age group of 35 to 45 years, while 43.3% belonged to the age group of 45 to 55 years. In addition, 23.4% of the participants were between 55 and 65 years old. Turning our attention to the educational background of the participants, we found that 26.7% had a graduate degree, 53.3% had a bachelor's degree, and 20% had either a master's degree or a doctorate.

In addition, when looking at the participants' relationship to the deceased, 16.7% were children of the deceased, 43.3% were parents of the deceased, 10% were siblings of the deceased, and 30% were spouses of the deceased. The causes of death of the relatives in this study varied. About 6.7% of the deaths were due to old age, while 50% were due to disease; 33.3% of the deaths were due to accidents and 10% were due to suicide. It also was found that 40% had experienced the loss of a loved one within one year. Another 40% had experienced this loss over one to five years. In addition, 13.3% grieved for five to ten years, and 6.7% for more than ten years.

Table 2 shows each group's pretest, posttest, and follow-up scores for each dependent variable. As shown in Table 2, the mean scores for all dependent variables in the experimental group were lower at the posttest than at the pretest, and a trend was also observed at the follow-up.

The first step in conducting the inferential analysis was to check the assumptions to ensure accurate testing of the research hypotheses. Therefore, initially, the required assumptions for the covariance analysis were checked, and then, the inferential analysis of the hypotheses was performed. Normality tests were performed to determine whether a given data set followed a normal distribution. In this study, the results of the skewness and kurtosis tests ranged from (2 to -2). It was concluded that the skewness and kurtosis values of the data in both experimental and control groups have a proportional relationship with the normal

distribution. The assumption of normal distribution of the variables in both experimental and control groups was also checked using the Shapiro-Wilk test. Based on the results obtained and considering a significance level of 0.05, the data collected from the research variables and their components in both groups follow a normal distribution. Consequently, our null hypothesis remains unchallenged, thereby confirming the applicability of parametric statistical models. The present data support the validity of the assumption regarding the normal distribution of the data (P≥0.05).

Table 2. pretest, posttest, and follow-up scores for the dependent variables for each group.

Variable		Experimental Group				Control Group			
		M	S	min.	max.	M	S	min.	max.
Rumination	Pretest	42.4	3.2	35	65	44.1	2.05	35	57
	Posttest	31.9	2,9	28	50	42.2	2.1	34	56
	Follow-up	32.6	3.7	29	50	42.3	2.8	34	54
Difficulty in Emotion Regulation	Pretest	53.8	4.3	41	67	50.06	3.7	43	60
	Posttest	44.6	3.5	28	60	49.9	2.9	42	58
	Follow-up	43.6	3.3	27	56	49.6	2.2	43	58
Coping self-efficacy	Pretest	79.4	1.9	66	90	75.8	1.4	53	95
	Posttest	91.1	2.3	80	100	76.3	1.5	52	99
	Follow-up	90.9	3.2	81	100	74.3	1.5	51	98

Levine's test was used to test the assumption of equal variances of the variables in the two groups (homogeneity of variance). The results showed that Levene's test showed no significance for rumination, difficulty in emotion regulation, and coping self-efficacy. Therefore, no significant difference was observed in the variance of the experimental and control groups concerning the mentioned variables. As a result, the homogeneity assumption for data variances was confirmed in both groups. The M-box test was employed to examine the variance-covariance matrix and yielded a non-significant calculated F value, indicating the presence of homogeneity in the variance-covariance matrix.

Before analyzing the independent variables and the group variables (experimental or control), the relationship between the variables (rumination, emotion regulation challenge, and coping self-efficacy) was examined. Examining the homogeneity of the regression slope between the covariate and the dependent variable in the different groups showed that there was no significant interaction at any level of the variable. Therefore, a multivariate analysis of covariance (MANCOVA) was appropriate to perform. Table 3 shows the results of MANCOVA used to assess the variances between group means for various dependent variables. The results of Table 3 confirm the primary hypothesis of this study. The results of the statistical analysis of the posttest and follow-up phases revealed a significant F value. It indicates the effectiveness of complicated grief treatment on rumination, emotion regulation, and coping self-efficacy in individuals diagnosed with prolonged grief disorder in the experimental group. The grouping variables at the posttest showed an effect size of 0.58, indicating that 58% of the variation in the rumination, emotion regulation, and coping self-efficacy variables was attributable to CGT. In contrast, the grouping variables at follow-up showed an effect size of 0.88, suggesting that CGT accounted for 88% of the variation in the rumination, emotional regulation, and coping self-efficacy variables during the follow-up period. In addition to the significant effects of complicated grief treatment on improving rumination, emotion regulation, and self-efficacy at posttest, these effects were sustained over time.

Based on the results presented in Table 4, it is evident that the calculated F values for the post-test and follow-up assessments are statistically significant. Therefore, it is safe to say with 99% confidence that cognitive grief therapy (CGT) had a positive impact on reducing rumination in individuals diagnosed with prolonged grief disorder. The post-test yielded an effect size of 0.479 for the grouping variable, suggesting that approximately 48% of the changes in the rumination variable were due to the effects of complicated grief treatment. In contrast, the follow-up analysis revealed an effect size of 0.699 for the grouping variables. It implies that approximately 70% of the fluctuations in the rumination variable observed during the follow-up

period are due to CGT. Consequently, not only was CGT successful in increasing ruminant levels after testing, but it also managed to maintain this positive effect over time. It also confirmed the original sub-hypothesis of this study.

Based on the results presented in Table 5, the calculated F values for both the post-test and follow-up examinations are statistically significant. Therefore, it is safe to say with 99% certainty that CGT (Complicated Grief Treatment) had a significant impact on emotion regulation in individuals diagnosed with prolonged grief disorder. The effect size of the CGT was 0.156 in the post-test and 0.74 in the follow-up. This suggests that complicated grief treatment improved emotion regulation during the post-test and maintained this positive effect over time.

According to the results presented in Table 6, the calculated F values for the post-test and follow-up assessments are statistically significant. Therefore, we can state with 99% certainty that CGT had a positive impact on increasing self-efficacy in individuals experiencing prolonged grief. In addition, the effect size of the grouping variables at the post-test stage was 0.295. It indicates that approximately 30% of the variation observed during the post-test in the coping self-efficacy variable was due to the implementation of CGT. Nevertheless, the follow-up examination revealed a significant effect size of 0.531 for the grouping variable. It indicates that approximately 53% of the variation observed in the coping self-efficacy variable during the follow-up period is due to the effects of complicated grief treatment, suggesting that CGT not only increased coping self-efficacy at the post-test but also maintained this positive effect over time.

Table 3. MANCOVA analysis to examine the combined effect of the variables

	Test	Value	F	group's df	error's df	Sig.	Effect Size
Post-test	wilk's lambda	0.433	11.354	3	26	0.001	0.58
Follow-up	wilk's lambda	0.112	60.554	3	23	0.001	0.88

Table 4. ANCOVA analysis in the context of MANCOVA for the first sub-hypothesis

	Source of changes	ss	d.f	ms	F	sig	Effect size
Post-test	Group effect	800.883	1	800.833	25.719	0.001	0.479
	Error effect	871.867	28	31.138			
	Total effect	42965	30				
Follow-Up	Group effect	509.625	1	509.625	58.063	0.001	0.699
	Error effect	219.429	28	8.777			
	Total effect	43515	30				

Table 5. ANCOVA analysis in the context of MANCOVA for the second sub-hypothesis

	Source of changes	ss	d.f	ms	F	sig	Effect size
Post-test	Group effect	213.333	1	213.333	5.165	0.03	0.156
	Error effect	1156.533	28	41.305			
	Total effect	42965	30				
Follow-Up	Group effect	618.720	1	618.720	28.283	0.001	0.74
	Error effect	546.894	28	21.876			
	Total effect	66789	30				

Table 6. ANCOVA analysis in the context of MANCOVA for the third sub-hypothesis

	Source of changes	ss	d.f	ms	F	sig	Effect size
Posttest	Group effect	1642.800	1	1642.800	11.713	0.002	0.295
	Error effect	3927.067	28	140.252			
	Total effect	215908	30				
Follow-up	Group effect	862.686	1	618.720	73.856	0.002	0.531
	Error effect	291.981	28	11.679			
	Total effect	210617	30				

Discussion

This study aimed to examine the effects of complicated grief treatment on rumination, emotion regulation, and coping self-efficacy in individuals diagnosed with prolonged grief disorder. Results showed that CGT demonstrated efficacy in addressing rumination, emotional regulation, and coping self-efficacy in individuals diagnosed with persistent grief

disorder. Furthermore, the results confirm the findings of previous studies by Shear et al. (20, 25, 26, 35), Supiano and Luptak (24), Nam (36), Mousavi, Zargar et al. (37), Ngesa et al. (38), Skritskaya et al. (39), Mauro and Tumasian et al. (40), and Kalakovic et al. (41) have demonstrated the effectiveness of CGT on symptoms of grief disorders. However, no research within or outside Iran has specifically examined the impact of this treatment on rumination, emotion regulation, and coping self-efficacy in people with prolonged grief disorder, and the present study is the first to analyze and address this issue in people with prolonged grief disorder.

If external factors, such as specific thoughts or behaviors or overly painful emotions, disrupt the process of adjusting to a loss and derail the transition from acute to integrated grief, acute grief will not progress, and the bereaved will be caught up in troubling concerns about the circumstances or consequences of the death or preoccupied with trying to manage intense, uncontrollable emotions. Based on the fundamental principle that grief is a natural and adaptive process, CGT focuses on promoting acceptance, removing barriers to progress, and helping individuals adapt to their loss. CGT promotes successful grief work that includes self-observation and reflection, problem-solving, and supportive accompaniment, oscillating between confronting the painful reality of the loss and all its implications and putting it aside (26). The overall goal of the treatment is to release and facilitate the bereaved natural adjustment process. CGT integrates strategies derived from interpersonal psychotherapy (IPT), cognitive behavioral treatment for PTSD (CBT), and motivational interviewing (MI) to include both loss-related and restoration-related strategies (23). In general, CBT techniques target loss-related processes and focus on symptoms of painful, intrusive memories and behavioral avoidance. IPT elements focus on restoration by helping clients restore relationships and connections to valued life goals (42).

According to the dual-process model of bereavement (21), emotion regulation skills may be specifically significant for loss-oriented work, such as experiencing the pain of loss. Improving emotion regulation skills such as self-soothing or self-encouragement can make these processes more tolerable by allowing individuals to regulate overwhelming or more persistent emotions. In addition, alternation between loss-oriented and restoration-oriented tasks may be facilitated by better emotion regulation skills. The results highlight the critical importance of emotion regulation for grief interventions and confirm previous studies (43), suggesting that emotion regulation was a mediator in an Internet stress management intervention. Loss-related emotion regulation resulted in significant indirect effects on improving psychopathological symptoms in prolonged grief disorder, suggesting that ER may be an influential factor in ameliorating psychological trauma. This finding is consistent with Benight et al. (44), who found that changes in emotion regulation predicted reductions in posttraumatic stress disorder.

Inadequate skills and the inability to deal with life problems following a bereavement are often associated with low self-efficacy. Effective coping strategies can increase self-efficacy and give individuals the energy they need to tackle future challenges. Another significant factor is the sense of personal growth that can be achieved when the bereaved person learns to manage daily responsibilities independently and, during the grieving process, develops new skills to achieve success (45). Given that CGT employs a restoration-focused intervention strategy, the results provide potential support for theoretical elucidation of how restoration-focused coping strategies ameliorate prolonged grief disorder, particularly by incorporating notions of self-efficacy and personal growth. The results of this study are consistent with previous research (36), highlighting the significant connections between self-efficacy, a sense of personal growth, and complicated grief. We recommend that interventions to prevent and alleviate complicated grief focus on strengthening self-efficacy and promoting personal growth.

Another problem with PGD is excessive preoccupation with the circumstances of the loss and the memories of the deceased. Although this behavior protects against painful feelings of grief, it prevents patients from re-engaging in social activities and relationships. In this case, the exposure exercises aim to acknowledge the reality of loss, separation anxiety, and guilt (46). CGT therapists help patients observe and reflect on these thoughts and promote self-compassion. The result is a

reassessment of the counterfactual possibility and/or the self-blame aspect. Counterfactual reflection is typically conducted in the context of imaginative revisiting, a technique adapted from prolonged exposure therapy for PTSD (47). Imaginal revisiting exercises are completed for about 15 minutes during the first half of sessions four to eight. Previous research conducted worldwide has consistently shown that incorporating exposure therapy in combination with cognitive behavioral therapy (CBT) results in more significant relief from grief and depression symptoms while improving psychological well-being and social functioning (20, 17, 48, 49). The results in this domain are consistent with prior research (48), indicating that administering exposure therapy before cognitive restructuring yields more significant enhancements in bereavement symptoms than when the sequence of these components is reversed.

The first sub-hypothesis of this study was validated, suggesting that CGT has an impact on rumination in individuals suffering from prolonged grief disorder. The results showed that the therapeutic approach used in this study had the highest impact on rumination during the post-test stage compared to the effects of other factors. The results obtained in this study confirmed the findings of Skritskaya, Mauro, and colleagues (39). In explaining this result, we can argue that this treatment approach targets and combats the repetitive negative thought by using imaginal and situational revisiting exercises, such as prolonged exposure therapy (PE) and imaginal conversation with the lost one. Numerous studies have shown that cognitive restructuring of the self and the external environment is a crucial component of Prolonged Exposure Therapy and leads to symptom reduction (50-52). CGT practitioners encourage patient involvement in enjoyable activities and employ techniques to explore opportunities for empowerment. These approaches, similar to those used in behavioral activation, were shown to be effective in reducing maladaptive ruminative thinking in depression (53) and could potentially serve a comparable function in the context of CGT. During this therapeutic intervention, individuals are directed to recognize how specific automatic responses to grief are reinforced, such as the belief that they are incapable of coping with the loss of a significant other.

The second sub-hypothesis of the research assumes that CGT impacts emotion regulation in people diagnosed with prolonged grief disorder. These results are consistent with the findings of Shear et al. (20, 26, 25, 35), suggesting that CGT benefits from emotion regulation therapies and emotion regulation theory (54) in addressing and treating grief disorders. Effective emotion regulation, which involves finding a balance between confronting painful reality and temporarily setting it aside, appears to help individuals adapt to loss. This result was consistent with the findings of Mousavi et al.'s study (37), which indicated that complicated grief treatment had a positive impact on alleviating symptoms of pathological grief, such as enhancing emotion regulation and emotional processing. Furthermore, the findings of this study are in line with the research of Yousefi and Ashouri (55), who examined the impact of emotion regulation difficulties and rumination on the association between attachment styles and prolonged grief symptoms. The results of both studies were consistent and supported the notion that emotion regulation and rumination play a significant role in the manifestation of grief symptoms. CGT utilizes strategies derived from CBT, including the use of a grief monitoring diary, homework, and imaginal and ‘in vivo’ exercises to facilitate emotion processing, reduce situational avoidance, identify psychological and social impediments to grief, and assist in coming to terms with the loss (23). One reason for revisiting is to help people with prolonged grief symptoms feel less afraid of their emotions and thoughts about death.

According to the cognitive-behavioral model proposed by Boelen et al. (17), the main factors contributing to symptoms of prolonged grief disorder are maladaptive emotion regulation strategies, specifically anxiety and depressive avoidance. Essentially, individuals suffering from prolonged grief disorder find the internal emotional encounter associated with bereavement (such as thoughts, emotions, and memories) unbearable, leading them to actively avoid any reminders of death and adopt patterns of withdrawal. Similarly, in McCallum and Bryant's cognitive attachment model (56), symptoms of prolonged grief disorder are maintained by the inflexible use of emotion regulation strategies and avoidance of the reality of loss, altered identity, and new life situations. Participants in this

study who had difficulty understanding and accepting their emotions, as well as difficulty regulating their reactions and emotional expression, had higher levels of symptoms associated with persistent grief disorder. Nevertheless, the results suggest that following the therapeutic intervention, individuals experienced reduced severity of symptoms associated with prolonged grief disorder, along with improved understanding and acceptance of emotions and improved regulation of emotional responses. It can be concluded that CGT is effective in managing emotions in individuals suffering from prolonged grief disorder and that this effect can be maintained and enhanced over the long term.

The third sub-hypothesis proposed in this research suggests that CGT influences coping self-efficacy in individuals suffering from prolonged grief disorder. Building on the research of Caserta et al. (57) and Lund and Caserta (44), the results of this study show that the development of restoration-oriented processing can lead to the formation of self-efficacy beliefs. These beliefs go a long way toward fostering greater self-confidence, autonomy, and self-reliance, which are essential for overcoming daily challenges. Furthermore, the dual process model of grief that serves as the core principle of CGT emphasizes the importance of engaging in restoration-oriented tasks. Restoration-oriented tasks can be perceived as very stressful, and high levels of loss-related CSE and belief in the ability to achieve these goals can facilitate the completion of these tasks and increase feelings of autonomy, self-determination, and perceived environmental mastery, which leads to less avoidant behavior and less aversive rumination (58). Consequently, loss-related coping self-efficacy has the potential to improve the ability to positively adapt to life after the loss of a loved one while alleviating symptoms associated with grief and loss.

The active involvement of a supportive person during CGT treatment sessions is an important aspect. This involvement serves two primary purposes: first, to assist the bereaved individual in restoring a sense of connection that may have been interrupted after losing a loved one, and second, to facilitate the healing process. Typically, the bereaved person tends to avoid this therapeutic approach due to the immense pain and challenges involved. By encouraging the participation of a trusted person in treatment sessions, and also incorporating interpersonal psychotherapy techniques, CGT can effectively promote seeking support from friends and family. It, in turn, contributes to improving coping self-efficacy, as Nam (36) pointed out. The results of this study provide potential evidence for a theoretical understanding of how restoration-focused therapy can alleviate symptoms associated with prolonged grief disorder. In particular, using self-efficacy concepts seems to play an important role in this therapeutic approach. It is commonly observed that people experiencing bereavement often struggle with low self-efficacy due to the lack of necessary skills and the inability to cope with the challenges of life after the loss. However, if the coping process is successful, self-efficacy can serve as a valuable resource in dealing with future difficulties and maintaining a sense of well-being.

Conclusion

CGT believes that coping with loss does not change the reality of the loss, but it does change the quality of the grief. The permanence of death is reflected in the permanence of grief. We never forget our loved ones, nor do we cease to want them or to be sad about their absence. However, the form and intensity of our longing and grief usually evolve and mature over time as grief seeks its rightful place in our lives. It usually means that thoughts and feelings about the loss decrease in frequency and intensity.

Because CGT sessions are focused and relatively short, the greatest treatment effect comes from what the patient does between sessions. An important challenge of this intervention was that the therapist had to convince the avoidant and/or guilt-ridden patients to participate in the planned activities. The therapist may need to develop creative alternatives for people who do not want or cannot do exercises between sessions.

Research on acute grief during the COVID-19 pandemic has found that those grieving due to COVID-19 experience higher levels of grief symptoms than people who experienced natural grief during the same period (59, 60). Effective and evidence-based treatment such as Complicated Grief Treatment is needed to help these bereaved people understand and accept grief, deal with painful emotions, think about a meaningful and

fulfilling future, strengthen existing relationships, tell the story of death, learn to live with reminders and to build a lasting connection with memories of the deceased person. We believe that the availability of this evidence-based grief treatment would bring significant benefits to those who experience overwhelming, prolonged, and debilitating grief and feelings of isolation and hopelessness.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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