Title

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Journal

Depression and Anxiety, 37(1)

ISSN

1091-4269

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Publication Date

2020

DOI

10.1002/da.22981

Peer reviewed

HHS Public Access

Author manuscript

Depress Anxiety. Author manuscript; available in PMC 2021 January 01.

Published in final edited form as:

Depress Anxiety. 2020 January ; 37(1): 81–89. doi:10.1002/da.22981.

Changes in Typical Beliefs in Response to Complicated Grief Treatment

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Abstract

Background: Prolonged Grief Disorder (PGD) is a new diagnosis in ICD-11, estimated to affect 1 in 10 bereaved people and causing significant distress and impairment. Maladaptive thoughts play an important role in PGD. We have previously validated the Typical Beliefs Questionnaire (TBQ), which contains 5 kinds of thinking commonly seen in PGD: protesting the death, negative thoughts about the world, needing the person, less grief is wrong, grieving too much. The current paper examines the role of maladaptive cognitions as measured by the TBQ in PGD, and its change with treatment.

Methods: Among participants in a multisite clinical trial including 394 adults, we examined 1) the relationship between maladaptive thoughts at baseline and treatment outcomes, 2) the relationship between maladaptive thoughts and suicidality at baseline and post-treatment, 3) the effect of treatment with and without complicated grief therapy (CGT) on maladaptive thinking.

Results: TBQ scores were associated with treatment outcomes, and were strongly related to suicidal thinking before and after treatment. TBQ scores showed significantly greater reduction in participants who received CGT with citalopram versus citalopram alone (adjusted mean [SE]

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Conflicts of Interest:

Natalia Skritskaya, Angel Garcia de la Garza, Franziska Meichsner, Barry Lebowitz, Charles F. Reynolds III, & Sidney Zisook have no conflicts of interest to report.

difference, −2.45 [0.85]; $p = .004$) and those who received CGT with placebo versus placebo alone (adjusted mean [SE] difference, −3.44 [0.90]; $p < .001$).

Conclusions: Maladaptive thoughts, as measured by the TBQ, have clinical and research significance for PGD and its treatment.

Keywords

Grief/bereavement/complicated grief; treatment; cognition; suicide/self harm; assessment/diagnosis

Introduction

Prolonged Grief Disorder (PGD) is a new diagnosis in ICD-11 (World Health Organization) and provisionally included in the DSM-5 as Persistent Complex Bereavement Disorder (APA, 2013). PGD is a form of persistent intense grief that likely affects about 7–10% of bereaved people (Kersting, Brahler, Glaesmer, & Wagner, 2011; Lundorff, Holmgren, Zachariae, Farver-Vestergaard, & O'Connor, 2017), causing substantial suffering. Studies suggest about 20% of outpatient medical (Patel et al., 2018) and 30% of outpatient psychiatric (Piper, Ogrodniczuk, Azim, & Weideman, 2001; Prigerson et al., 2002) patients can be diagnosed with this condition. Importantly, patients with PGD are at risk for increased suicidality (e.g., Latham & Prigerson, 2004; Szanto et al., 2006; Tal et al., 2017).

Ruminative, maladaptive cognitions have been shown to occur in PGD and likely play a role in onset and maintenance of the disorder (e.g., Boelen, Reijntjes, Djelantik, & Smid, 2016; Boelen, van Denderen, & de Keijser, 2016; Eisma et al., 2015; Eisma et al., 2013; Kokou-Kpolou, Megalakaki, & Nieuviarts, 2018; Morina, 2011). For this reason, we developed a brief self-report questionnaire, the Typical Beliefs Questionnaire (TBQ), to examine maladaptive thoughts and demonstrated in a treatment study sample that this is a valid and reliable instrument with a 5-factor structure (Skritskaya et al., 2017). We have found that specific grief-related maladaptive thoughts, as assessed by the TBQ, differentiate between different kinds of loss experiences and are related to increased suicidality (Tal et al., 2017; Zetumer et al., 2015).

Complicated Grief Treatment (CGT) is short-term targeted treatment for PGD (Shear & Gribbin Bloom, 2017). We have previously shown that CGT is superior to both interpersonal psychotherapy and antidepressant medication for depression (Shear, Frank, Houck, & Reynolds, 2005; Shear, Reynolds, III, Simon, & et al., 2016; Shear et al., 2014).

The purpose of the present study is to further evaluate the role of maladaptive thoughts with treatment in our recent 4-site study comparing citalopram to placebo when administered with or without CGT. We did not find a difference between citalopram and placebo in grief symptoms, grief-related impairment, or suicidal thinking, whether administered with or without CGT. However, results showed significantly greater improvement in grief symptoms, impairment and suicidal thinking with CGT than with either antidepressant medication or placebo (Shear et al., 2016). The current report extends these findings by examining the role of maladaptive cognitions in the same sample, including 1) the

relationship between maladaptive thoughts at baseline and grief treatment outcomes, 2) the relationship between maladaptive thoughts and suicidality at baseline and post-treatment, and 3) the effect of treatment with and without CGT on maladaptive thinking.

Materials and Methods

Participants and procedures

Participants were 394 treatment-seeking bereaved adults who participated in a multisite clinical trial (Shear et al., 2016). Inclusion required a score of 30 or greater on the Inventory of Complicated Grief (ICG; Prigerson et al., 1995) and confirmation on clinical interview that grief was the primary problem in need of treatment. Participants were also assessed by a trained Independent Evaluator (IE) who administered the Structured Clinical Interview for Complicated Grief (SCI-CG; Bui et al., 2015) and the Structured Clinical Interview for DSM-IV Disorders (SCID; First, Spitzer, Gibbon, & Williams, 2002). Individuals with current substance use disorder, serious suicidal ideation requiring hospitalization, lifetime history of a psychotic disorder or bipolar I disorder, or those undergoing psychotherapy or antidepressant treatment were excluded.

In a 2 × 2 factorial design, eligible participants were randomly assigned to receive antidepressant medication (citalopram) or placebo with grief-focused clinical management and additionally randomly assigned to receive concurrent CGT or no CGT. Medication was administered in a double-blind fashion by pharmacotherapists, who were trained to use the same model for understanding complicated grief as used in CGT, to monitor grief symptoms and to provide brief grief-informed supportive clinical management. CGT was administered in a 16-session manualized protocol as in prior studies (Shear et al., 2005; Shear et al., 2014). CGT is an evidence-based psychotherapy that aims to release and facilitate a bereaved person's natural adaptive response to the loss (Shear & Gribbin Bloom, 2017). It combines empirically-supported principles of attachment theory with a structured cognitive-behavioral approach, including exposure procedures (i.e., revisiting the story of the death and reminders of the loss). Additionally, it uses strategies and procedures from other evidence-based approaches, for example, motivational interviewing and positive psychology.

Measures

The Typical Beliefs Questionnaire (TBQ) was initially developed during our first NIMH-funded randomized trial (Shear et al., 2005), based upon clinical observations by our research team. At that time (mid 1990's) no other grief cognitions instrument was available. The validated version of the TBQ is a 25-item self-report measure of maladaptive thinking common in people with complicated grief and with good performance characteristics (Skritskaya et al., 2017). Individuals rate their agreement with statements like "You should have done something to prevent the death or make it easier" or "You should stop grieving so much" on a 5-point scale (from 0-not at all to 4- very strongly). The TBQ has a five-factor structure (Skritskaya et al., 2017), which divides the instrument into five subscales. The factors (subscales) are labeled as 1- Protesting the death, 2 - Negative thoughts about the world, 3 - Needing the person, 4 - Less grief is wrong, 5 - Grieving too much (Table1). We used a dichotomized version of this scale (for both total and subscale scores) in which items

were counted as endorsed when rated as agreed with “strongly” or “very strongly” (score of 3 or 4) because this is a simpler way for clinicians to understand and to be consistent with the scale validation paper. Focusing only on the strongly endorsed items makes it easier to identify the most prominent beliefs of a patient and track their change with treatment. For the TBQ dichotomized total score range is 0–25. Additionally, all item scores can be summed up for a raw total score (range 0–100). Subscale raw scores are the sum of respective items within a factor. The current analytic sample was the same as the sample of the original TBQ validation paper (Skritskaya et al., 2017), where the TBQ demonstrated good internal consistency and test-retest reliability (ICC=0.70). Cronbach’s alpha coefficients were 0.83 for the overall scale and 0.59 – 0.79 for individual factors (subscales).

The Complicated Grief Clinical Global Impression Scale – Improvement (CG-CGI-I) is a version of the Clinical Global Impressions – Improvement scale (CGI-I; Guy W, 1976) modified to include anchors for evaluating improvement in CG symptoms (Shear et al., 2016). The scores range from 1 (very much improved) to 7 (very much worse). An IE blind to treatment assignment and trained to reliability on the CG-CGI-I completed the rating. Participants with scores of 1(very much improved) or 2(much improved) at week 20 were considered treatment responders. Inter-rater agreement in this sample was good (k=0.89).

The Inventory of Complicated Grief (ICG) is a 19-item self-report measure of complicated grief symptoms (Prigerson et al., 1995) and has been widely used as a screening tool for clinically impairing grief. Items, such as “*I think about this person so much that it’s hard for me to do the things I normally do,*” are rated on a 0 to 4 Likert scale. Total score ranges from 0 to 76 with higher scores indicating greater severity. Current sample Cronbach’s alpha was 0.75. A score of 25 or higher is considered an indicator for requiring clinical care (American Psychological Association; Prigerson et al., 1995). All study participants scored 30 or higher on the ICG (M= 43; SD=9) at baseline.

The Work and Social Adjustment Scale (WSAS) is a 5-item, valid and reliable self-report measure of impairment in different areas of functioning (Mundt, Marks, Shear, & Greist, 2002). Cronbach’s alpha in the current sample was 0.81. Each item is rated on a 0 to 8 Likert scale (from “not at all” to “severe interference”) with a total score adding up to 40. Participants were specifically requested to rate how five areas of functioning (work, home management, private leisure activities, social leisure activities, and close relationships) are impaired “because of your grief.”

The Columbia Suicide Severity Rating Scale - Revised (C-SSRS-R) is a revised version of the Columbia Suicide Severity Rating Scale (Posner et al., 2011), modified for bereavement. Item 1c (*Since your last assessment, did you wish that you were dead or wish that you could go to sleep and not wake up?*) was used for current analyses.

Clinician-rated suicide assessment is a 1-item rating by a treating clinician of perceived level of suicidal risk of a participant, completed before starting treatment at week 1. The rating uses a scale from 0 – “Patient has no wish to be dead” to 5 – “Patient has thoughts of suicide with details of plan fully or partially worked out and some intent to carry it out.” This assessment was used to track current suicide risk of participants during treatment.

Study instruments were administered at baseline, weeks 8, 16 and 20 (end of treatment). For current analyses primarily baseline and week 20 data were used.

Statistical procedures

Analyses involving TBQ used dichotomized scoring for total and factor scores unless otherwise specifically indicated. As a sensitivity analysis, all analyses were replicated using raw scoring with no meaningful differences found.

We used descriptive statistics to summarize demographic variables: means and standard deviations for continuous variables and counts and frequencies for categorical variables. We used Pearson correlation coefficients to examine the associations between continuous measures such the TBQ with ICG and WSAS scores at week 20 and two sample t-tests to compare participants with and without suicidal ideation on their TBQ scores at baseline and week 20.

Consistent with the parent paper (Shear et al., 2016), a weighted linear regression model was used to assess for differences across treatment arms on TBQ total and factor scores at week 20. The models included as covariates randomization stratification variables (site, baseline MDD status), baseline covariates found to be imbalanced across treatment arms (ethnicity), baseline TBQ scores, and treatment arm. Inverse Probability Weighting (IPW), a standard strategy to account for missing assessment data (Little et al., 2012; Seaman & White, 2013), provided weights in the model. The dichotomized TBQ score analyses were repeated with raw (non-dichotomized) scores for the TBQ total and factors to check for consistency of results in light of any potential loss of power by using dichotomized scoring. As a sensitivity analysis, we also did longitudinal analyses using linear mixed effects model with subject-specific random intercepts to account for repeated measures over time. Both the primary analyses using inverse probability weighting and our sensitivity analyses using mixed effects models followed the intent to treat principle.

Lastly, to examine whether baseline TBQ total and factor scores predicted week 20 ICG and WSAS scores, weighted linear regression models similar to the one described above were fit on each outcome, with baseline TBQ and ICG (or WSAS) scores included as a covariate. A similar approach with weighted logistic regression models was used to assess the relationship between baseline TBQ total and factor scores with treatment response.

All analyses were conducted using R version 3.5.1. A two-sided significance level of 5% was considered statistically significant. Due to the exploratory nature of the analyses, we did not adjust for multiple comparisons (Bender & Lange, 2001).

Results

Demographic and Clinical Characteristics

Demographic and clinical characteristics for the baseline sample were published previously (Shear et al., 2016; Skritskaya et al., 2017) and for convenience are summarized in Table 2. We also include in Table 2 characteristics of participants who completed week 20 assessments. This was a middle-aged (M= 53.0, SD=14.5 years) predominantly female,

Caucasian and highly educated sample. Mean time since the loss was 4.7 (SD=7.2) years. In addition to PGD, there was a high rate of comorbid MDD and PTSD.

Typical Beliefs Questionnaire Scores

Overall, the sample that completed the week 20 assessment (n=281; see Table 3) endorsed strongly or very strongly an average TBQ score of 12 out of 25 items at baseline and an average of 5 items post-treatment at week 20 across all treatments. Thus, all study participants, including those who did not receive CGT, showed a reduction in TBQ scores.

We have previously reported that the TBQ scores were correlated with the ICG and WSAS at baseline (Skritskaya et al., 2017). At week 20, the TBQ total score was also correlated with the ICG (r = .81) and the WSAS (r = .63) total scores. All TBQ factor scores were also correlated with the ICG and WSAS at week 20; correlation coefficients for ICG ranged from .48 for factor 2 to .74 for factor 3, and for WSAS from .36 for factor 2 to .59 for factor 5.

Association of Baseline TBQ and treatment results

Higher baseline TBQ score on factor 5 (“grieving too much”) was associated with lower ICG scores after treatment. Higher baseline TBQ total and other factors (3: “needing the person” and 1: “protesting the death”) scores were associated with worse treatment outcomes (Table 4).

Maladaptive beliefs and suicidal ideation

Higher scores on TBQ total and factors 3 and 5 were associated with higher endorsements of clinician-rated suicidal thinking. At week 1, participants with suicidal thinking had significantly higher TBQ scores than those without (n=105 and 242, respectively; total score M_{SI} = 12.90 vs. $M_{No\ SI}$ = 11.38, t= −2.53, p=0.012; factor 3 M_{SI} = 3.13 vs. $M_{No\ SI}$ = 2.29, t= −3.75, p<0.001; factor 5 M_{SI} = 2.06 vs. $M_{No\ SI}$ = 1.72 vs., t= −2.06, p=0.041).

Overall, the number of participants who endorsed any suicidal thinking decreased with treatment. We know from the parent study (Shear et al., 2016) that CGT produced a significantly greater reduction in C-SSRS-R rated suicidal thinking than non-CGT treatments. The relationship between TBQ scores and suicidal thoughts remained significant at week 20. After treatment, participants who had suicidal thoughts had significantly higher TBQ scores than participants without suicidal ideation (n=33 and 239, respectively; total score M_{SI} = 9.00 vs. $M_{No\ SI}$ = 4.38, t=−4.27, p=.0001; factor 1 M_{SI} = 2.85 vs. $M_{No\ SI}$ = 1.64, t =−3.56, p=.0009; factor 3 M_{SI} = 2.27 vs. $M_{No\ SI}$ = 0.80, t =−3.47, p=.001; factor 4 M_{SI} = 0.97 vs. $M_{No\ SI}$ = 0.46, t =−2.20, p=.03; factor 5 M_{SI} = 1.18 vs. $M_{No\ SI}$ = 0.36, t = −3.44, p=.002).

Change in TBQ Scores with treatment

As expected, CGT with citalopram was associated with significantly greater reduction in maladaptive beliefs than citalopram without CGT (adjusted mean [SE] TBQ difference, −2.45 [0.85]; p = .004), and similarly CGT with placebo was associated with significantly greater TBQ change than placebo without CGT (adjusted mean [SE] difference, −3.44

[0.90]; $p < .001$), see also Figure 1. We neither saw a difference in TBQ scores between citalopram and placebo groups nor between the two CGT groups. Similar results were obtained in our sensitivity analyses using mixed effects modeling to handle missing data as opposed to the inverse probability weighted models.

Discussion

Our findings support the importance of maladaptive cognitions in treatment response as well as in the maintenance of PGD symptoms and impairment. We found that baseline scores on the TBQ were associated with treatment outcomes. Interestingly, greater baseline endorsement of beliefs about grieving too much (factor 5) was associated with less grief symptoms after treatment, perhaps supporting an idea that feeling one is grieving too much may be motivating for people with PGD; for example, this may represent that the bereaved individual is more aware that they need help and may help motivate efforts to participate in their treatment to reduce their grief related distress. On the other hand, a higher endorsement at baseline of beliefs about needing the person (factor 3 score) or beliefs related to protesting the death (factor 1) were associated with worse PGD treatment results (i.e., higher grief symptoms at the end of treatment and lower chance of being a responder), as was the TBQ total. Higher baseline factor 3 scores were also associated with greater functional impairment.

Factor 3 consists of 6 items (Table 1) endorsed, on average, by 43% of the participants. We labeled this factor as “needing the person”. The items are suggestive of the loss of an identity-defining relationship or dependency on the deceased (Burke & Neimeyer, 2013), which have been found to be associated with PGD. They may also be manifestations of the centrality of the loss, a construct that predicts problematic outcomes of trauma and other stressful life events (Berntsen & Rubin, 2006), including bereavement (Boelen, 2009, 2012). Additionally, there is evidence for the impact of PGD symptoms on later reports of centrality of loss (Eckholdt, Watson, & O’Connor, 2018) suggesting that greater and more persistent grief intensity may have a bidirectional relationship with the strong sense of needing a deceased loved one. Studies have also shown that centrality of events is associated with posttraumatic growth (Schuettler & Boals, 2011).

The clinical relevance of maladaptive cognitions as measured by the TBQ is supported by its relationship with suicidal thinking. Interestingly, participants with suicidal thinking, before and after treatment, endorsed more statements on the same two factors – needing the person and grieving too much. While the relationship between maladaptive thoughts and suicidal ideation needs closer examination, the finding supports the idea that the very close, identity defining relationships are characteristic of those that result in PGD after a death, and the advisability that treatment should target the belief that the bereaved person cannot manage or move forward without the deceased (need for the person) as well as their distressing feelings of grief (grieving too much) in treatment. Repetitively thinking that the only solution to the emotional pain of loss is to bring a loved one back is certainly maladaptive, as this outcome is impossible and could trigger feelings of despair, hopelessness, and suicidal thinking. Clinicians should be alert to thoughts about needing the person. There is a need to monitor the progress of such thoughts and to ensure treatment is successful in modifying them.

Similarly, judgments about the experience of grief might trigger self-critical thoughts that could also contribute to suicidal thinking.

Our results also confirm that CGT is efficacious in decreasing maladaptive cognitions. CGT targets acceptance of both the reality of the loss and the grief response that accompanies the loss. CGT therapists also encourage self-compassion. In addition, imaginal and situational revisiting exercises are done in a manner similar to prolonged exposure (PE) treatment of PTSD. Research showed that change in negative thoughts about the self and the world occurs with PE and is associated with symptom improvement (Foa & Rauch, 2004; Kumpula et al., 2017; Zalta et al., 2014). CGT therapists encourage patients to engage in rewarding activities and use strategies to explore opportunities for agency. These types of strategies, similar to those used in behavioral activation, have been shown to decrease maladaptive ruminative thinking in depression (see Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008 for review), and may play a similar role in CGT.

Also of interest, though not a focus of this report, there was substantial improvement in maladaptive cognitions with medication and placebo, even without CGT. Combining CGT with the prescription significantly improved TBQ outcomes, but it is notable that some improvement occurred with the medication arm even without CGT. This is consistent with the studies cited above that demonstrated cognition-driven improvement during treatment with the antidepressant sertraline similar to prolonged exposure but to a lesser extent (Cooper, Zoellner, Roy-Byrne, Mavissakalian, & Feeny, 2017; Kumpula et al., 2017). In our study this was true not only of citalopram but also placebo, suggesting that treatment expectation (e.g., Rutherford, Wall, Glass, & Stewart, 2014) and/or grief-informed clinical care may have contributed to the observed improvement in troublesome grief related cognitions.

Study limitations are related to sample characteristics; this was a help-seeking treatment sample consisting of predominantly white, female, well-educated individuals with PGD, potentially affecting generalizability to different samples. Additionally, the analyses reported here are exploratory, so future studies are needed to confirm the findings. Another limitation is that all treatment groups showed change in the TBQ from before to after treatment. As with the main outcomes of the clinical trial (Shear et al., 2016), the result of no difference between citalopram and placebo in changing maladaptive cognitions is not definitive. Another limitation is that study assessment time-points and instruments used where not always optimal for answering the research questions, since this was a secondary analysis. This was especially relevant to the measures of suicidal thinking; association between maladaptive cognitions and suicidal thoughts should be confirmed in future research. Our findings may help in parsing out nature of specific types of thoughts that are connected to suicidal thinking in PGD; however, it is unclear at this point if the maladaptive beliefs would be predictive of suicidality above and beyond other factors (e.g., depression or grief severity). We have also not examined long-term changes in maladaptive cognitions with treatment, although there is data that CGT responders maintain their gains at follow-up (Shear et al., 2016; Shear et al., 2014). Additionally, we assessed maladaptive cognitions using the TBQ. Although these are common beliefs in PGD that can discriminate between different types of loss (Tal et al., 2017; Zetumer et al., 2015) there are other measures of

grief-related cognitions (Boelen & Lensvelt-Mulders, 2005; Eisma et al., 2014). Lower reliability of the individual TBQ factors should also be taken into consideration when interpreting study results.

Future studies might take current findings further and explore the potential mediating role of these typical maladaptive beliefs in complicated grief treatment. For example, planning to assess maladaptive beliefs at multiple time-points corresponding to different phases of CGT would be helpful in further elucidating change over time. Better understanding the relationship between the maladaptive beliefs and suicidal thinking is also important. Exploring how TBQ relates to other measures of maladaptive cognitions, centrality of loss or rumination in prolonged grief might be also of interest.

Conclusion

Study results show that maladaptive cognitions are important in treatment-related outcomes as well as suicidality. CGT is efficacious in decreasing maladaptive beliefs. In particular, beliefs that the bereaved person urgently needs the deceased or that there is something wrong with grieving so much, are of clinical and research importance as they predict PGD treatment results and are associated with suicidal thinking. Clinicians are advised to assess and monitor maladaptive beliefs in individuals with PGD, because these are common and impactful in individuals with this condition and can be successfully modified with targeted psychotherapy.

Acknowledgments:

Data used in this study was collected with support from grants from the National Institute of Mental Health (R01MH060783, R01MH085297, R01MH085308, R01MH085288) and the American Foundation for Suicide Prevention (LSRG-S-172-12).

The data that support the findings of this study are available on request from the corresponding author. The data are not publically available due to privacy or ethical restrictions.

In the past 36 months, Naomi M. Simon reports the following: 1) research grants from the Department of Defense, NIH, PCORI, American Foundation for Suicide Prevention, and Janssen 2) speaking/CME/consulting from Axovant Sciences, Springworks, Praxis Therapeutics, and Aptinyx, Genomind, and 3) equity (spouse) from G1 Therapeutics. M. Katherine Shear reports a grant from NIMH and Christine Mauro reports a grant from NIMH during the conduct of the study.

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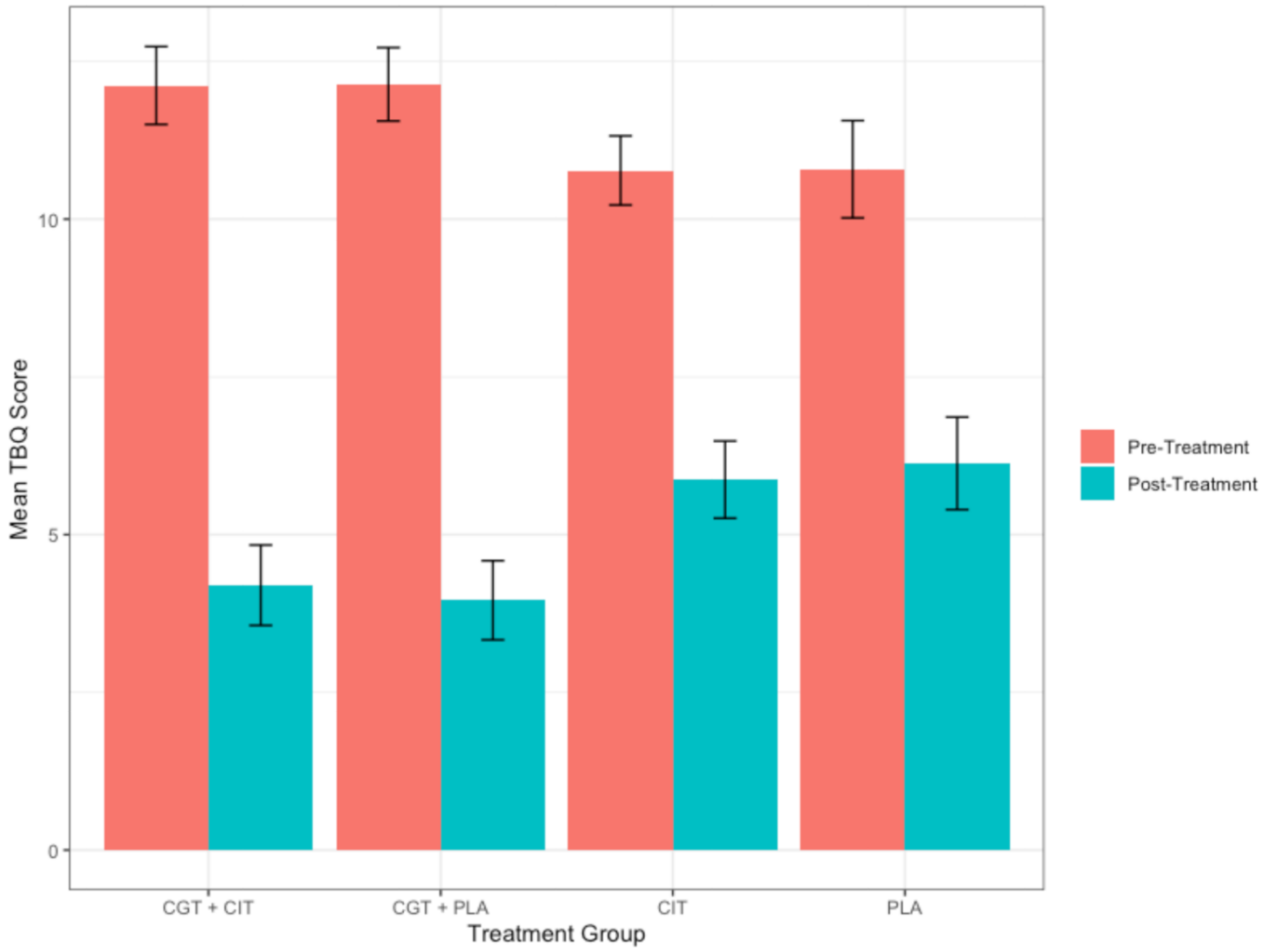

Figure 1.
TBQ total scores before and after treatment by treatment group.

TABLE 1.

TBQ Factor (subscale) items.

Factor 1 "Protesting the death" (5 items)	Your loved one did not have to die in this way
	Death shouldn't have happened
	It isn't fair that this person died
	Someone else could've done something to prevent/make easier
	Should've done something to prevent/make easier
Factor 2 "Negative thoughts about the world" (3 items)	Bad things are uncontrollable
	World filled with unpredictable dangers
	No space that is safe anymore
Factor 3 "Needing the person" (6 items)	The only thing that can really help you is to have this person back
	Life is unbearable without the person who died
	You can't stop wishing your loved one was still here
	You need this person so much that they should not have died
	Need the person who died to help you cope with stress or problems
	You have nowhere to turn now that your loved one is gone
Factor 4 "Less grief is wrong" (5 items)	Grieving less would mean you are uncaring, heartless or cold
	Need to guard against forgetting the person who died
	Should have expressed your love more
	Spending time with other people is hard because can't share grief
	Grief main tie to loved one
Factor 5 "Grieving too much" (4 items)	Something is wrong with you because you are grieving so much
	Need to stop grieving so much
	Don't understand why grief is not getting better
	Other people are tired of your endless grief

TABLE 2.

Demographic characteristics of participants.

Characteristics	Baseline sample (n=394) Frequency (%)	Week 20 sample (n=281) Frequency (%)
Male	86 (22)	66 (24)
Race		
White	324 (82)	234 (83)
Black	39 (10)	26 (9)
Others	31 (8)	21 (8)
Hispanic or Latino	45 (11)	33 (12)
Education		
≤12y	44 (11)	23 (8)
Partial College	139 (35)	97 (35)
≥ 4 year college	211 (54)	161 (57)
Marital Status		
Never married	97 (25)	71 (25)
Married	92 (23)	61 (22)
Separated/Divorced	68 (17)	42 (15)
Widowed (not remarried)	137 (35)	101 (38)
Person who died		
Spouse/Partner	143 (36)	112 (40)
Parent	113 (29)	81 (29)
Child	80 (20)	50 (18)
Other	58 (15)	38 (13)
Cause of Death		
Illness less than 1 month	79 (20)	59 (21)
Illness more than 1 month	175 (44)	130 (46)
Accident	58 (15)	38 (14)
Murder	16 (4)	15 (5)
Suicide	58 (15)	32 (11)
Other	8 (2)	7 (3)
Violent death (accident, murder or suicide)	132 (33)	85 (30)
Current MDD	261 (66)	185 (66)
Current PTSD	153 (39)	107 (38)

TABLE 3.

TBQ Binary Total and Factor (Subscale) Score Means and Standard Deviations.

TBQ	Time point	Week 20 Sample (n=281)	Treatment Arms			
			CGT+CIT	CIT	CGT+PLA	PLA
Total	Baseline	11.49 (5.27)	12.12 (5.38)	10.77 (4.58)	12.14 (4.97)	10.79 (6.07)
	Week 20	4.98 (5.50)	4.20 (5.55)	5.87 (5.12)	3.96 (5.36)	6.13 (5.76)
Factor 1 (5 items)	Baseline	3.38 (1.62)	3.62 (1.47)	3.36 (1.52)	3.70 (1.60)	2.73 (1.78)
	Week 20	1.80 (1.91)	1.58 (1.84)	2.16 (1.86)	1.55 (1.93)	1.98 (1.96)
Factor 2 (3 items)	Baseline	1.41 (1.02)	1.41 (1.00)	1.47 (1.10)	1.45 (0.97)	1.31 (1.02)
	Week 20	0.66 (0.96)	0.55 (0.90)	0.87 (1.02)	0.42 (0.83)	0.82 (1.04)
Factor 3 (6 items)	Baseline	2.53 (2.00)	2.70 (1.94)	2.30 (2.12)	2.68 (1.96)	2.39 (1.99)
	Week 20	1.00 (1.74)	0.70 (1.51)	1.36 (1.96)	0.75 (1.53)	1.27 (1.91)
Factor 4 (5 items)	Baseline	1.57 (1.40)	1.72 (1.37)	1.34 (1.27)	1.47 (1.43)	1.77 (1.51)
	Week 20	0.51 (0.96)	0.47 (1.10)	0.49 (0.90)	0.37 (0.86)	0.76 (0.95)
Factor 5 (4 items)	Baseline	1.74 (1.34)	1.75 (1.45)	1.57 (1.42)	1.97 (1.30)	1.63 (1.42)
	Week 20	0.47 (1.00)	0.41 (0.94)	0.56 (1.09)	0.30 (0.84)	0.65 (1.12)

TABLE 4.

Baseline TBQ Scores and Treatment Outcomes at Week 20.

	Comparison	Coefficient	Standard Error	*t*	*p*	R^2
TBQ Total	Treatment response	−0.10	0.03	−3.68	<.001*	
	ICG	0.39	0.17	2.37	.019*	0.30
	WSAS	0.12	0.11	1.06	.292	0.28
Factor 1	Treatment response	−0.30	0.09	−3.43	<.001*	
	ICG	1.16	0.49	2.38	.018*	0.30
	WSAS	0.62	0.34	1.80	.073	0.28
Factor 2	Treatment response	−0.16	0.12	−1.33	.182	
	ICG	0.78	0.70	1.11	.270	0.29
	WSAS	0.60	0.51	1.18	.240	0.28
Factor 3	Treatment response	−0.37	0.07	−5.40	<.001*	
	ICG	1.67	0.40	4.13	<.001*	0.33
	WSAS	0.57	0.28	2.02	.044*	0.29
Factor 4	Treatment response	−0.15	0.09	−1.67	.095	
	ICG	0.75	0.56	1.35	.178	0.29
	WSAS	−0.17	0.41	−0.41	.685	0.28
Factor 5	Treatment response	0.13	0.10	1.41	.158	
	ICG	−1.24	0.54	−2.27	.024*	0.30
	WSAS	−0.52	0.41	−1.27	.207	0.28

Notes: For the TBQ and treatment response analyses n=286, for TBQ and ICG n=284, for TBQ and WSAS n= 283. For treatment response, coefficient represents the log odds ratio. For ICG and WSAS, coefficient is the slope (or beta). Treatment response is defined as a score of 1or 2(very much or much improved) on the CG-CGI-I.

*Significant at $\alpha < .05$ Level.