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The impact of losing a child on the clinical presentation of complicated grief

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Samuel Zetumer, B.A.: Mr. Zetumer wrote the first draft of the manuscript, assisted in study design, performed literature reviews, and collated notes and corrections from the other contributors. Mr. Zetumer provided major revisions for further drafts.

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Christine Mauro, M.S.: Christine performed the analyses that were included in the manuscript.

Sidney Zisook, M.D.: Dr. Zisook was the primary editor, study-designer, and corresponding author. He organized the participation of the other members of the HEAL study team.

All authors contributed to and have approved the final manuscript.

Conflict of Interest

Authors declare that they have no conflict of interest.

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Abstract

Background—It is unclear whether bereaved parents with Complicated Grief (CG) struggle with their grief differently than others with CG. This study addressed this question by comparing CG severity, CG-related symptoms, thoughts and behaviors, and comorbid psychiatric diagnoses of bereaved parents with CG to the diagnoses and symptoms of others with CG.

Methods—Baseline data from 345 participants enrolled in the Healing Emotions After Loss (HEAL) study, a multi-site CG treatment study, were used to compare parents with CG ($n = 75$) to others with CG ($n = 275$). Data from the parent group was then used to compare parents with CG who had lost a younger child ($n = 24$) to parents with CG who had lost an older child ($n = 34$). Demographic and loss-related data were also gathered and used to control for confounders between groups.

Results—Parents with CG demonstrated slightly higher levels of CG ($p = .025$), caregiver self-blame ($p = .007$), and suicidality ($p = .025$) than non-parents with CG. Parents who had lost younger children were more likely to have had a wish to be dead since the loss than parents who had lost older children ($p = .041$).

Limitations—All data were gathered from a treatment research study, limiting the of these results. No corrections were made for multiple comparisons. The comparison of parents who lost younger children to parents who lost older children was limited by a small sample size.

Conclusions—Even in the context of CG, the relationship to the deceased may have a bearing on the degree and severity of grief symptoms and associated features. Bereaved parents with CG reported more intense CG, self-blame, and suicidality than other bereaved groups with CG, though this finding requires confirmation. The heightened levels of suicidal ideation experienced by parents with CG, especially after losing a younger child, suggest the value of routinely screening for suicidal thoughts and behaviors in this group.

Keywords

Complicated Grief; Prolonged Grief; Persistent Complex Bereavement Disorder; child loss; bereavement; mourning; care-giver; suicidality; kinship; deceased; grief; regression analysis

Introduction

A meaningful portion of the bereaved population, likely between 5 and 10 percent, experiences clinically significant distress and impairment due to unresolved or complicated grief (Prigerson et al., 2009, Kersting et al., 2011). These bereaved individuals often report continued yearning for the deceased, anger and bitterness, shock and disbelief, and other hallmarks of intense and prolonged grief long after they might have been expected to have

integrated their grief and “moved on” (Prigerson et al., 1999, Shear et al., 2005, Simon et al., 2011). They have worse physical health (Prigerson et al., 1997) and higher rates of suicidal ideation than those who have integrated their grief more successfully (Latham and Prigerson, 2004, Szanto et al., 2006).

Conceptualized as a combination of separation distress and traumatic distress that interrupts the grieving process (Prigerson et al., 1999, Zisook and Shear, 2009), complicated grief (CG) is distinct from both major depressive disorder (MDD) and post-traumatic stress disorder (PTSD) (Boelen et al., 2003, Shear et al., 2011, Simon et al., 2011, Spuij et al., 2012). Several diagnostic criteria have been proposed for CG (Prigerson et al., 1999, Shear et al., 2011, American Psychiatric Association, 2013), and a validated measure, the Inventory of Complicated Grief (ICG; Prigerson et al., 1995), has been commonly used for case identification in research.

Bereaved parents may suffer more than those who have lost another relation (Zisook and Lyons, 1988, Cleiren, 1991, Gamino et al., 1998, Middleton et al., 1998), and bereaved parents may be among the most vulnerable group to develop CG (Kersting et al., 2011). Indeed, it is common for parents to experience what appear to be many of the core symptoms of complicated grief following the death of the child. For example, parents often struggle to accept the fact of the death (Wheeler, 2001) and those that lose their children to SIDS report being shocked and stunned at the loss (Cornwell et al., 1977). Anger and overwhelming sadness are not uncommon emotions, especially for parents who have lost children to accidents, suicides, or homicides (Dyregrov, 1990, Murphy et al., 1999). Lasting feelings of guilt and a search for meaning are common themes (Wheeler, 2001, Murphy et al., 2003), and appear to be more prevalent in bereaved parents than in those who have lost a different relation (Cleiren, 1991). These reactions, if they endure and converge to impair functioning, are precisely the symptoms of complicated grief (Prigerson et al., 2009, Shear et al., 2011).

Among those with CG, however, it is unclear whether the loss of a child is associated with unique characteristics or greater suffering than other losses. In particular, do parents with CG report greater hardships than others with CG? In this paper, we have attempted to answer these questions by comparing the clinical characteristics and associated features of bereaved parents with CG to those with CG who have lost a different relation, such as a spouse or sibling. We hypothesized that bereaved parents with CG would present with more severe CG, depression, and suicidal ideation when compared to others with CG. In addition, because of the unique caregiving role and expectations related to being a parent (Shear and Shair, 2005, Hendrickson, 2009), we also predicted that bereaved parents would endorse higher levels of guilt and self-blame than others.

Methods

Study Design and Sample

A cross-sectional design was used for this analysis. Data were obtained from 345 bereaved adults who participated in the “Healing Emotions After Loss” (HEAL) study, a 4-site clinical trial sponsored by the NIMH, investigating the efficacy of citalopram and

Complicated Grief Therapy (CGT) for treating CG [ClinicalTrials.gov Identifier: NCT01179568]. This report utilizes baseline data from all individuals randomized from March 1st 2010 through January 16th 2014.

Consenting participants randomized into the trial were fluent in English, scored 30 or higher on the Inventory of Complicate Grief (ICG), met research criteria for CG during a clinical interview with an independent evaluator, and confirmed that grief was their primary problem. Individuals were excluded from the study for any of the following reasons: substance abuse or dependence within the past 6 months, history of a psychotic disorder, a Montreal Cognitive Assessment (MoCA) score less than 21 (Lam et al., 2013), immediate suicide risk, or unable or unwilling to discontinue current psychotherapy or antidepressant treatment.

Measures

The following baseline measures were examined in this analysis:

Columbia Suicide Scale - Revised (CSS-R)—Current and past suicidal thoughts and behaviors were determined by the CSS-R, as administered by trained independent evaluators. The CSS-R is adapted from the Columbia Suicide Severity Risk Scale (CSSRS) for situations involving the death of a loved one, and contains additional probes for indirect suicidal behavior and current risk of suicide. The CSSRS has demonstrated excellent validity and good internal consistency (Posner et al., 2011).

Because participants that expressed low levels of suicidal ideation did not have to complete the entire scale, only five items were completed by all participants and available for this analysis: four binary (yes/no) variables (item 1b: wish to be dead since the loss; 2b: thoughts of actually killing oneself since the loss; 18b: indirect suicidal behavior since the loss; 19b: acting recklessly since the loss) and one ordinal variable (item 23: “Right now or in the foreseeable future what are the chances you would try to kill yourself?”).

Complicated Grief – Clinical Global Impressions Scale - Severity (CG-CGI-S)—The CG-CGI-S is a seven point scale measuring overall severity of complicated grief in the week leading up to the participant’s baseline, with scores ranging from 1 (normal) to 7 (among the most extremely ill patients). It is adapted from the original CGI-Severity developed by Guy, and the scale has shown good reliability and validity in different contexts (Guy, 1976, Kadouri et al., 2007, Huber et al., 2008). It is administered by a trained independent evaluator at the conclusion of the intake interview. Periodic reliability checks are conducted to ensure consistency among independent evaluators.

For this analysis, the CG-CGI-S was collapsed into 3 categories because no participant was ranked as a 1 (normal) or a 2 (borderline ill), and the number of participants scoring a 3 (mildly ill) or a 7 (among the most ill) were both too small to provide meaningful information. Therefore, values 3 and 4 were combined and comprised the “mildly/moderately ill” group, value 5 was considered “markedly ill” and values 6 and 7 made up the “severely/among the most ill” group.

Difficult Times Record (DTR)—The DTR collects information about the dates and anniversaries that are the most emotionally difficult for the participant. For this analysis, we used the DTR to calculate the age of the participant's deceased loved one at the time of his or her death.

Inventory of Complicated Grief (ICG)—The ICG is a 19-item self-report questionnaire reflecting the core emotional, behavioral and psychological symptoms of CG. It has been shown to have good test-retest reliability (Prigerson et al., 1995) and excellent internal validity (Wijngaards-De Meij et al., 2005, Harper et al., 2014). Each of the 19 items is scored on a frequency scale ranging from 0 (never) to 4 (always).

For this analysis, items were summed for a total score (ranging from 0–76). Additionally, items were grouped into 6 factors (yearning, bitterness and anger, shock and disbelief, sense of estrangement, hallucinations and somatic symptoms, and behavior changes) as described by (Simon et al., 2011). The items in each group were then summed to create 6 continuous variables, one for each factor.

Quick Inventory of Depressive Symptomatology, Self-Report (QIDS-SR)—The QIDS-SR is a 16-item questionnaire measuring the symptoms of major depression outlined in the DSM-IV, and has demonstrated high internal consistency and criterion validity (Rush et al., 2003). Responses are ranked on a scale of 0 (no presentation of the symptom) to 3 (strong presentation of the symptom). Total QIDS-SR scores were calculated according to the standard usage of this measure. In addition, for this analysis, we used item 11 to probe for guilty feelings following the death (see Caregiver Self-Blame, below).

Structured Clinical Interview for Complicated Grief (SCI-CG)—The SCI-CG is a 33-item semi-structured interview administered by an independent evaluator to assess for the presence or absence of symptoms associated with complicated grief, as well as details surrounding the death (Bui et al., 2014). For this analysis, we used the SCI-CG for information about the death: the means of death, the relationship to the deceased, and the time since the death. We also used item 12 to look at guilty thoughts surrounding the death (see Caregiver Self-Blame, below).

Structured Clinical Interview for the DSM-IV, patient edition (SCID-IP)—Current and lifetime psychotic, mood, anxiety or substance use disorders were evaluated by trained independent evaluators using the Structured Clinical Interview for DSM-IV Axis I Disorders Patient Edition. The SCID is a commonly used research tool and has been shown to have good test-retest reliability (Williams et al., 1992, First et al., 2002). As in Shear et al.'s clinical trial of CG treatments (2005), the bereavement exclusion was not used in this study to rule out a diagnosis of depression using the SCID.

Typical Beliefs Questionnaire (TBQ)—The TBQ is a 25-item self-report questionnaire that examines the degree to which participants endorse 25 maladaptive opinions and beliefs thought to be common among those suffering from complicated grief. Answers range from 0 (“not at all”) to 4 (“very strongly”). No validity or reliability data has been published for this

measure. However, for this analysis, we have only used items 2 and 7 to assess guilty feelings surrounding the death (see Caregiver Self-Blame, below).

Caregiver Self-Blame/Guilt—Guilty feelings and self-blame are common following the loss of a child, possibly to a greater degree than other losses (Dyregrov, 1990, Cleiren, 1991). However, none of the HEAL study measures were designed to exclusively measure this construct. As a measure of guilt and self-blame, we created a continuous variable based on a construct we called “caregiver self-blame” by summing 4 items from various measures which we believed relate to guilt and self-blame, after first transforming these items into binary variables. The 4 items were TBQ items 2 (“You should have done something to prevent the death or make it easier”) and 7 (“You should have expressed your love and appreciation more often or made _____ happier”), SCI-CG item 12 (“Do you have any guilty or self-blaming thoughts or beliefs related to the death?”) and item 11 of the QIDS-SR (“View of Myself”). The TBQ items were considered endorsed if a participant endorsed responses of “strongly” or “very strongly”, the SCI-CG item was considered endorsed if the symptom was rated as “present” by the independent evaluator conducting the interview, and QIDS-SR item 11 was considered endorsed only if the participant selected response 1, “I am more self-blaming than usual”.

Data Analysis

Chi-squared tests, Fisher’s exact tests, and t-tests were used to determine if the group of bereaved parents (“bereaved parent group”) differed from the rest of the HEAL study population (“bereaved other group”) on demographic or loss-related characteristics, such as the time since the death or the cause of death. Both statistical trends ($p < .10$) and significant differences ($p < .05$) were treated as potential confounding variables.

Controlling for these potential confounding variables, we then used linear regression, logistic regression, and ordinal logistic regression, as appropriate, to determine the dependence of the outcome variables on child-loss status. Data are presented as regression coefficients with standard errors for linear regression, or odds ratios with 95% confidence intervals for logistic or ordinal logistic regression.

Because many of the parents enrolled in the HEAL study were grieving the loss of adult children, we conducted an additional analysis within the bereaved parent group to determine if any outcome variables depended significantly on the age of the child at the time of death. Dividing the bereaved parent group into those who lost children younger than twenty-five years old (“young child loss” subgroup) and those who lost children twenty-five years old or older (“adult child loss” subgroup), we used chi-squared tests, t-tests, and Fisher’s exact tests, as appropriate, to explore differences in major outcome variables (ICG, QIDS-R, CGI-S, caregiver self-blame, CSS-R) between these two subgroups of the bereaved parent group.

All tests for significance were two-tailed, and a p-value level of $\alpha < 0.05$ was used for all significance tests of the outcome variables. No adjustments of p-values for multiple comparisons were made, so results must be interpreted accordingly.

Results

Sample Demographics and Demographic Differences between Groups

This sample of HEAL study participants (N=345) tended to be white (83%), female (79%), and about half had completed college (52%). The most common type of loss was to an illness lasting longer than a month (43%), and on average this loss occurred more than four years before baseline (mean = 4.74, SD = 7.12). Further demographic information can be found in Table 1.

Compared to the bereaved other group (N= 275), the bereaved parent group (N=70) was older (59.2 versus 51.4 years old, $t(179.43) = 5.47$, $p < .0001$). Those in the bereaved parent group were more likely to have lost their loved one to suicide (27% versus 12%) or accident (31% versus 9%), and less likely to have lost their loved one to long term illnesses (11% versus 52%) than those in the bereaved other group ($\chi^2(5) = 51.59$, $p < .0001$). The bereaved parent group also showed statistical trends towards being more female (87% versus 77%, $\chi^2(1) = 3.41$, $p = .0646$) and having fewer years of education (20% versus 10% with high school, $\chi^2(2) = 5.62$, $p = .0601$), than the other loss group. Each of these variables were controlled for in the adjusted analyses using linear and logistic regression.

Complicated Grief and Depression Severity

With respect to the severity of complicated grief, the bereaved parent group had slightly higher ICG scores on average than the bereaved others group (45.2 versus 42.3, $\beta = 3.11$, $SE = 1.38$, $t(334) = 2.25$, $p < .05$, Cohen's $d = .324$). There were no significant differences between groups with respect to severity of CG, as measured by the CG-CGI-S, or the rate and severity of depression, as measured by the QIDS-SR summary score and SCID diagnosis.

Complicated Grief Related Symptoms, Beliefs and Behaviors

As table 2 shows, bereaved parents endorsed slightly more “yearning and preoccupation with the deceased” (15.23 vs. 13.54, $\beta = 1.61$, $t(334) = 3.19$, $p < .01$), “anger and bitterness” (5.7 vs. 5.0, $\beta = 0.77$, $t(334) = 2.44$, $p < .05$), “shock and disbelief” (9.17 vs. 7.91, $\beta = 1.01$, $t(334) = 2.42$, $p < .05$) and “caregiver self-blame” (2.34 vs. 1.93, $\beta = 1.01$, $t(327) = 2.72$, $p < .01$) than bereaved others. There were no significant differences in the responses between the two groups with respect to questions regarding feelings of estrangement, hallucinations, or changes in behavior.

Suicidality

On the CSS-R, bereaved parents endorsed indirect suicidal behavior more frequently than bereaved others (36% vs. 21%, OR = 2.13, $p < .05$) and reported greater beliefs they might engage in suicidal behavior sometime in the future (13% vs. 8% “might make an attempt”, 3% vs. 0% were 50/50 regarding attempting suicide, OR = 3.17, $p < .05$).

Child's Age and Key Outcomes

Only 58 of the 70 bereaved parents provided enough information on the Difficult Times Record to determine the age of their child at the time of death. Twenty-four of these parents

lost children under the age of 25, while the remaining thirty-four parents lost children aged 25 or older.

A significantly larger proportion of parents mourning the death of a young child (under age 25) endorsed a wish to be dead than those mourning the death of an older child (79% vs. 52%, $\chi^2(1) = 4.19$, $p = .041$). No other comparisons demonstrated statistically significant differences between the two subgroups, though both the ICG and the caregiver self-blame variable showed statistical trends suggesting that parents who have lost younger children may have more intense CG as measured by the ICG (47.5 vs. 43.3, $t(56) = 1.72$, $p = 0.090$) and more caregiver self-blame (2.5 vs. 1.9, $t(56) = 1.78$, $p = 0.081$) than parents who lost a child 25 years of age or older.

Discussion

Bereaved parents in the HEAL study appear to have more severe CG than those who have suffered another loss, though this difference appears modest and does not lie in their experiencing more depression, as predicted. Rather, bereaved parents showed higher levels of yearning and preoccupation with the deceased, disbelief in the death, anger, caregiver self-blame, and suicidal thoughts and behaviors than others. Of particular clinical relevance is the finding that almost 80% of the parents who lost younger children had a wish to be dead at some point since the loss, while ‘only’ 53% of those that lost another relation had a similar wish, despite similarities in these two groups’ depression scores. Parents who lose younger children may be experiencing worse CG than parents of older children, though further research with larger samples is required to confirm this hypothesis.

These findings are compatible with previous reports that bereaved parents may be at an increased risk for CG (Kersting et al., 2011), and are consistent with findings in the larger body of parental bereavement literature that a subgroup of parents experience these strong emotions long after the death. For example, Murphy et al. (1999) found that in response to the open-ended question “what was the most difficult problem encountered since the death of your child,” yearning and a sense of loss was present in 52% of responses, anger or rage was the next most commonly endorsed feeling, and guilt was mentioned at a rate of 20%. Cleiren’s analysis (1991) of the Leiden bereavement study’s data also indicated that parents experience significant levels of anger, guilt, and suicidal ideation, with the levels of guilt being significantly higher in parents than in other kinship groups. Our findings extend the results of those studies because they suggest that the emotions of anger, guilt, shock, and yearning are not just the hallmark reactions to the loss of a child, but also that they are experienced more strongly by parents with CG than others struggling with CG from a different loss.

The death of a child has some intrinsic characteristics that might explain the differences we observed. For example, the biobehavioral caregiving and attachment systems first described by Bowlby, while present in other relationships, are generally acknowledged to be strongest in parent-child dyads (Ainsworth, 1989, Solomon and George, 1996, Bowlby, 2005). Parents are thus more vulnerable to disruptions in their caregiving than others, and may experience more guilt at what they see as a caregiver failure (Fletcher, 2002, Rubin and Malkinson,

2008). Additionally, the loss of a child often violates a parent's assumptions about the "natural order of things" to a greater degree than the loss of another relative (Neugarten, 1979). It is possible that the violation of these assumptions - that children should outlive their parents - increases the traumatic distress caused by the loss (Parkes, 1975, Janoff-Bulman, 1992, Hendrickson, 2009). This would, in turn, elevate CG symptomatology and impact its clinical presentation. These features of child-loss may explain why parents with CG appear to struggle more than others with CG, and why parents mourning the loss of younger children might suffer even more hardship than those mourning the loss of older children.

Our results should be understood in the context of their limitations. First, our sample consisted of help-seeking individuals willing to participate in a treatment research study, and thus may not represent the general population. Second, because the HEAL study was not designed to answer this particular research question, the measures used in this analysis were not ideal for comparing the two groups. For example, we were unable to compare bereaved parents to others on "loss of meaning," an important construct in child-loss research (Wheeler, 2001, Murphy and Johnson, 2003, Keese et al., 2008,) due to the limitations of the measures themselves. Third, our analysis of the effect of the child's age on the clinical feature of CG among parents was hindered by the paucity of individuals in our study who had lost young children or adolescents. Fourth, the majority of child deaths were due to sudden and/or violent causes whereas those of the rest of the group were due to illness. While it might be inferred that some of the differences in symptoms, such as greater shock and disbelief, may be due to the traumatic circumstances of the death, it is important to note that these findings remained significant even after adjusting for type of loss. However, it remains possible that our results are due to other, unobserved confounders. Finally, many of the significant differences among the two larger groups were of relatively small size (Cohen's $d < .5$), and we did not adjust for multiple comparisons or type I error inflation. Thus, our results may be due to type I errors, and require confirmation of both their statistical and clinical significance.

Despite these caveats, the results of this analysis provide at least two valuable insights. First, they suggest that, even in the context of CG, the relationship to the deceased may have a bearing on the degree and severity of grief symptoms and associated features. Confirmation and extension of these findings may provide new information on screening and treatment nuances for this important sub-population. Second, the heightened levels of suicidal ideation experienced by parents with CG, especially after losing a younger child, suggest the value of routinely screening for suicidal thoughts and behaviors in this group.

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Highlights

- We compared parents with Complicated Grief (CG) to others with CG.
- We controlled for age, gender, years of education, and cause of death.
- Parents with CG showed slightly worse CG, caregiver self-blame, and suicidality.
- 79.2% of parents who lost a younger child had a wish to be dead following the loss.

Table 1

Demographics and Demographic Differences

	Total Sample (n=345)	Bereaved Parents Group (n=70)	Bereaved Others Group (n = 275)	test-statistic (t-test or χ^2)	P
Age (years), Mean (SD)	53.0 (14.5)	59.2 (9.0)	51.4(15.2)	5.47	<.0001
Years since loss, Mean (SD)	4.7 (7.1)	4.6 (5.5)	4.8 (7.5)	-0.27	0.7841
<i>Gender, n (%)</i>				3.41	0.0646
Female	273 (79.1)	61 (87.1)	212 (77.1)		
Male	72 (21.0)	9 (12.9)	63 (22.9)		
<i>Race, n (%)</i>				3.55	0.6155
American Indian or Alaskan Native	6 (1.7)	2 (2.9)	4 (1.5)		
Asian	6 (1.7)	0 (0.0)	6 (2.2)		
Black or African American	34 (9.9)	5 (7.1)	29 (10.6)		
Hawaiian or Other Pacific Islander	2 (.6)	0 (0.0)	2 (0.7)		
White	289 (83.8)	61 (87.1)	228 (82.9)		
Did not respond, other	8 (2.3)	2 (2.9)	6 (2.2)		
<i>Race (white vs. non-white), n (%)</i>				0.74	0.3911
White	289 (83.8)	61 (87.1)	228 (82.9)		
Non-white	56 (16.2)	9 (12.9)	47 (17.1)		
<i>Education, n (%)</i>				5.62	0.0601
High school	42 (12.2)	14 (20.0)	28 (10.2)		
Some college	121 (35.1)	25 (35.7)	96 (34.9)		
College degree	182 (52.8)	31 (44.3)	151 (54.9)		
<i>Employment, n (%)</i>				1.36	0.507
Employed/Homemaker	204 (59.1)	44 (62.9)	160 (58.2)		
Retired	64 (18.6)	14 (20.0)	50 (18.2)		
Unemployed	77 (22.3)	12 (17.1)	65 (23.7)		
<i>Cause of death, n (%)</i>				51.59	<.0001
Illness < 1 month	71 (20.6)	14 (20.0)	57 (20.7)		

	Total Sample (n=345)	Bereaved Parents Group (n=70)	Bereaved Others Group (n = 275)	test-statistic (t-test or χ^2)	P
Illness 1 month	151 (43.8)	8 (11.4)	143 (52.0)		
Accident	49 (14.2)	22 (31.4)	27 (9.8)		
Murder	15 (4.4)	6 (8.6)	9 (3.3)		
Suicide	52 (15.1)	19 (27.1)	33 (12.0)		
Other	7 (2.0)	1 (1.4)	6 (2.2)		

Note: t-test was used to determine differences in Age and Years since loss. χ^2 or Fisher's exact test was used for all other demographics.

Table 2

Clinical Features of Bereaved Parents and Bereaved Others groups

	Bereaved Parents Group		Bereaved Others Group		Adjusted Analyses*		
	% or mean (SD)	% or mean (SD)	Type of Regression	B(SE)	OR (95% CI)	test-statistic (t-test or χ^2)	P
MDD							
SCID diagnosis of MDD	71.43%	65.45%	Logistic	--	1.17 (0.60–2.30)	0.21	0.648
QIDS - SR	13.9 (4.3)	13.3 (4.3)	Linear	1.00 (.67)	--	1.51	0.131
CG							
ICG Total	45.2 (9.0)	42.3 (8.9)	Linear	3.11 (1.38)	--	2.25	0.025
CGI Severity (Collapsed)**	--	--	Ordinal Logistic	--	1.61 (0.90–2.89)	2.58	0.108
CG-Related Thoughts, Feelings, and Behaviors							
Yearning & Preoccupation	15.2 (3.1)	13.5 (3.4)	Linear	1.60 (0.50)	--	3.19	0.002
Anger & Bitterness	5.7 (1.8)	5.1 (2.1)	Linear	0.77 (0.31)	--	2.44	0.015
Shock & Disbelief	9.2 (2.6)	7.9 (2.8)	Linear	1.01 (0.42)	--	2.42	0.016
Estrangement	6.2 (2.5)	6.7 (2.4)	Linear	-0.15 (0.37)	--	-0.40	0.686
Hallucinations	2.2 (2.2)	2.3 (2.3)	Linear	-0.04 (0.35)	--	-0.11	0.916
Behavior Changes	6.6 (2.2)	6.8 (1.8)	Linear	-0.09 (0.29)	--	-0.31	0.759
Guilt Related Items							
"I should have done something to prevent/ease death"	70.00%	51.09%	Logistic	--	3.00 (1.50–6.00)	9.59	0.002
"I should have expressed more appreciation"	57.14%	48.54%	Logistic	--	1.84 (0.98 – .345)	3.60	0.058
"I am more self-blaming than usual"	35.71%	34.94%	Logistic	--	1.16 (0.60 – 2.21)	0.19	0.663
Guilty or self-blaming thoughts	71.43%	59.27%	Logistic	--	1.69 (0.85 – 3.35)	2.25	0.134
Caregiver Self Blame	2.3 (1.3)	1.9 (1.3)	Linear	0.53 (0.19)	--	2.72	0.007
Suicidality							
Wish to be dead since loss	64.30%	53.50%	Logistic	--	1.33 (0.71 – 2.48)	0.79	0.375
Non-specific suicidal thoughts since loss	31.40%	24.00%	Logistic	--	1.80 (0.89 – 3.65)	2.70	0.100
Indirect suicidal behavior since loss	35.71%	20.73%	Logistic	--	2.13(1.08 – 4.21)	4.72	0.030

	Bereaved Parents Group		Bereaved Others Group		Adjusted Analyses*			
	% or mean (SD)	% or mean (SD)	% or mean (SD)	Type of Regression	B(SE)	OR (95% CI)	test-statistic (t-test or χ^2)	P
Behaved recklessly since loss	10.00%	10.18%		Logistic	--	1.45 (0.49 – 4.25)	0.45	0.501
Current chances of trying to kill oneself**	--	--		Ordinal Logistic	--	3.17(1.16 – 8.68)	5.06	0.025

Note: t-tests was used as the test-statistic for all linear regressions, χ^2 was used for all logistic and ordinal logistic regressions.

* Adjusted for type of death age, gender and education

** CGI Severity (Collapsed) and the CSS-R “current chances of trying to kill yourself” are ordinal outcome variables.

Table 3

Clinical Features Young Child Loss and Adult Child Loss Subgroups

	Young Child (<25) Loss Subgroup n = 24	Adult Child (25) Loss Subgroup (n = 34	test-statistic (t-test or χ^2)	P
Depression				
SCID diagnosis of MDD (%)	70.8%	73.5%	0.051	0.821
QIDS-SR, Mean (SD)	13.8 (4.0)	13.9 (4.8)	-0.110	0.912
Complicated Grief				
ICG Total, Mean (SD)	47.5 (8.7)	43.3 (9.6)	1.72	0.090
CGI Severity (Collapsed)*	--	--	0.823	0.663
Guilt-Related Items				
Caregiver Self Blame, Mean (SD)	2.5 (1.1)	1.9 (1.4)	1.78	0.081
Suicidality				
Wish to be dead since loss, %	79.2%	52.9%	4.189	0.041
Non-specific suicidal thoughts since loss, %	37.5%	23.5%	1.325	0.250
Indirect suicidal behavior since loss, %	25.0%	32.4%	0.367	0.545
Behaved recklessly since loss, %	16.7%	5.88%	**	0.220
Current chances of trying to kill oneself*	--	--	**	1.000

* CGI Severity (Collapsed) and the CSS-R "current chances of trying to kill yourself" are ordinal outcome variables.

** Due to small cell size, Fisher's Exact Test was used.