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Predictors of posttraumatic stress symptoms and association with fear of falling after hip fracture

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Abstract

Background—Common fall-related injuries including hip fracture may put elderly individuals at risk for the development of posttraumatic stress disorder (PTSD). Similar to Fear of Falling (FoF), PTSD could negatively impact physical recovery due to behavioral avoidance.

Methods—We examined rates of partial and full posttraumatic stress disorder (pPTSD and fPTSD) and compared them to rates of FoF in 456 individuals age 60 and older who were admitted as inpatients for surgical hip fracture repair after a fall. PTSD and FoF were assessed four and twelve weeks postsurgery. We also analyzed baseline characteristics including depression, stress, pain, cognitive functioning, and anesthesia type as potential predictors of PTSD symptoms 12 weeks postsurgery.

Results—No patient met criteria for fPTSD at either week four or twelve. Similarly, rates of pPTSD were low at twelve weeks postsurgery (7.4%), in contrast to high rates of FoF symptoms at the same time point (58.5%). Higher ratings of stress and depressive symptoms at baseline were associated with higher levels of PTSD symptoms 12 weeks postsurgery.

Conclusions—Hip fracture, despite its considerable morbidity, does not induce fPTSD and infrequently induces pPTSD. Patients with higher ratings of stress and depression symptoms after hip fracture repair may be more likely to develop PTSD symptoms.

INTRODUCTION

Falling is among the most common potentially traumatic events in late life¹, especially when it results in serious injury such as hip fracture. Among individuals over age 65, falls are the

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Conflict of Interest

Drs. Kornfield and Rawson have no conflicts of interest.

Author Contributions

Dr. Kornfield contributed to the drafting of the manuscript, study design, data analysis and interpretation, formatting, final proofreading, approval of the version to be published and submission.

Dr. Lenze contributed to the study conception and design, manuscript editing, and final proofreading and approval of the version to be published.

Dr. Rawson contributed to study design, data analysis and interpretation, manuscript drafting and editing, and final proofreading and approval of the version to be published.

leading cause of injury-related death and the most common cause of nonfatal injuries and hospitalizations for traumatic injuries². Falling is also a highly feared event; in one study, 80% of elderly women surveyed responded they would rather be dead than suffer the loss of independence and quality of life that would result from a “bad” hip fracture³. Given that, in older adults, hip fracture can have a debilitating effect on quality of life, morbidity, and mortality⁴ and is associated with a greater loss of pre-fracture functioning⁵⁶ and independence than other medical events⁷, it has been suggested that falling and a resultant hip fracture can be experienced as a traumatic event that can induce posttraumatic stress disorder (PTSD)⁸.

While studies have focused on depression in older adults following hip fracture⁹¹⁰¹¹, few researchers have examined the development of symptoms of posttraumatic reactions in geriatric populations after a traumatic event, including hip fracture¹²¹³. In fact, many studies which document the mental health sequelae of traumatic injuries exclude adults over age 65 or fail to include information on an upper age limit. This makes it difficult to determine whether low reported rates of new PTSD in older adults are due to some unique factor of aging or simply because older adults are excluded from such prevalence studies¹⁴. Unintentional injuries due to trauma are associated with anxiety in younger adults¹⁵, raising the question of whether this applies as well to older adults given their elevated rates of fall-related injuries.

Using the Diagnostic and Statistical Manual of Mental Disorders¹⁶ diagnostic criteria, the prevalence of current PTSD in adults over age 60 ranges from 1.5% to 4%¹⁷¹⁸ for full PTSD (fPTSD) and from 7% to 15% for partial PTSD (pPTSD)¹⁹ suggesting it is fairly common in older adults.

Older adults are 2.8 times less likely to experience PTSD symptoms following a traumatic event compared to younger adults²⁰, suggesting that older age may be a protective factor for PTSD after hip fracture. However, several studies have found no differences in PTSD symptoms between older and younger adults¹⁹²¹²².

Less symptom reporting is not necessarily indicative of the absence of symptoms, but rather could be due to different reporting styles among the elderly. To account for this, lower cut off scores on the Posttraumatic Stress Disorder Checklist-Specific (PCL-S) were recommended after validation against the Clinician Administered PTSD Scale (CAPS)²³ (24 vs. 50 in the under 60 group). Thus, screening questionnaires with cut offs validated on younger adults may be misrepresenting the rates of PTSD in the elderly.

Fear of Falling (FoF) is very common following fall-related hip fracture with rates of 64% and 50% at four and twelve weeks postsurgery⁴. Individuals who meet criteria for FoF are more likely than others to experience poor rehabilitation outcomes including loss of mobility, institutionalization, and mortality⁴²⁴. FoF is characterized by concerns about a potential future fall and has been described as “a lasting concern about falling that leads to an individual avoiding activities that he/she remains capable of doing”²⁵. FoF is an important psychological factor with components of anxiety and low self-efficacy, and the fact that avoidance may be a driving feature of FoF is noteworthy given that avoidance is

also a hallmark symptom in PTSD. Thus, in the context of hip fracture, PTSD and FoF may have some overlap as both are rooted in anxiety and behavioral avoidance.

We examined data from a prospective, longitudinal study of hip fracture to explore the rates and correlates of PTSD. We hypothesized a strong correlation between trauma-related symptoms and FoF and that poorer baseline psychosocial, health, and cognitive functioning would be associated with higher PTSD ratings at 12 weeks postsurgery. We also examined other perioperative variables, including anesthesia type, as potential predictors²⁶.

METHODS

Participants

Between 2008 and 2012, individuals with a primary diagnosis of hip fracture due to a fall who were admitted for surgical repair were recruited from eight St. Louis, MO, area hospitals. Participants were 60 years old or older and excluded if they were non-ambulatory prior to the fracture, had a current diagnosis of minor or major depression, and/or had stable moderate to severe cognitive impairment (per chart review and brief bedside assessment). Other exclusionary criteria were: metastatic cancer; interferon treatment; inoperable fracture; visual, auditory, or language impairments; living more than one hour away; or inability to consent or cooperate fully with the study protocol; we also excluded 25 participants whose hip fracture was the result of a mechanism other than a fall (e.g., bicycle or motor vehicle accident, etc.). All participants signed a written informed consent approved by the Washington University School of Medicine Institutional Review Board and the local hospitals' review boards.

Initial baseline assessment was completed bedside approximately two days following the surgical repair. Baseline assessments evaluated all variables except FoF and PTSD, which were only assessed at follow-up assessments at weeks four and twelve postsurgery. Week four assessments took place in the participants' residences, and week 12 assessments were conducted by phone. Trained study personnel conducted all of the assessments and raters remained consistent throughout each participant's timeline in the study.

Measures

Posttraumatic Stress Disorder—Participants were administered the Posttraumatic Stress Disorder Checklist-Specific version (PCL-S)²⁷ at four and twelve weeks postsurgery. The PCL-S is comprised of 17 items used in the Diagnostic and Statistical Manual of Mental Disorders-Text Revision-IV¹⁶ diagnosis of fPTSD, rated on a one (not at all) to five (extremely) scale. A rating of three (moderate) or above is considered indicative of the presence of that symptom.

Data from the PCL-S were summarized in three different ways for the current analyses: 1) percentage of individuals meeting "diagnostic criteria" for the full or partial disorder according to DSM diagnosis for fPTSD or Blanchard's²⁸ definition of pPTSD; 2) the total score; and 3) the number of symptoms reported. In determining the average number of symptoms, only items with scores of three or above were included in the count variable.

To avoid confusion with cut off scores validated for different age groups, we did not use cut off scores but rather DSM-IV-TR criteria for fPTSD diagnosis (i.e., presence of at least one symptom from the re-experiencing cluster B, at least three symptoms from the avoidance cluster C, and at least two symptoms from the arousal cluster D) which could have resulted in total scores as low as 18. For the definition of pPTSD, criteria described by Blanchard and colleagues²⁸ and used by Grubaugh and colleagues²⁹ was used. In order to meet criteria for pPTSD, individuals had to report at least one item from the re-experiencing category B and at least either three items from criterion C (avoidance) or two items from criterion D (arousal).

Study participants who screened positive for probable fPTSD using the PCL-S (based on DSM-IV-TR diagnostic criteria) were then asked to complete the Clinician Administered PTSD Scale (CAPS) in order to determine whether symptoms warranted a diagnosis of the disorder. The CAPS has good psychometric properties across a wide variety of clinical populations and research settings³⁰.

Fear of Falling—FoF was measured using the 16-item Fear of Falling Questionnaire (FFQ)³¹. The FFQ also displays good criterion validity by differentiating between those who endorse a fear of falling and those who do not. A recent analysis of this measure using this dataset confirmed its utility³². The FFQ is completed using a four-point scale ranging from strongly disagree to strongly agree for each question. In order to provide a parallel to the PCL-S, the data from the FFQ was analyzed in three ways: (1) the presence of FoF; (2) total score; and, (3) symptom count.

In calculating the number of FoF symptoms, item rankings were dichotomized so that items ranked ‘strongly disagree’ or ‘disagree’ were collapsed into ‘disagree’ and items ranked ‘agree’ or ‘strongly agree’ were collapsed into ‘agree’. To ensure that reverse-scored items were counted towards the appropriate categories, the FFQ measure was dichotomized after it was initially scored. For the purpose of reporting rates of FoF, we used the single item (item 4, “I am afraid of falling again”)³² that is most characteristic of the entire scale. As FoF is not a construct with an associated diagnosis, the FFQ does not provide a suggested cutoff score from which to assess presence or absence of FoF.

Depressive symptoms—Depressive symptoms were measured using the Montgomery-Asberg Depression Rating Scale (MADRS)³³. At the initial baseline visit, participants answered the ten-item assessment while reflecting on their mood during the last 24 hours.

Fracture-related variables—Fracture type was classified as (1) femoral neck; (2) intertrochanteric; or (3) subtrochanteric/other. Type of implant consisted of (1) total hip arthroplasty or hemiarthroplasty; (2) internal fixation with screws; or (3) sliding hip screw, intramedullary (IM) nail, or other. For analysis, anesthesia type was documented as general or “epidural, spinal, or other.”

Pain—Pain was rated by all participants at each assessment using a numerical rating scale with a score of 0 indicating no pain and 10 the worst pain³⁴.

Stress—Stressful life events experienced during the year prior to fracture were assessed with the Geriatric Adverse Life Events Scale (GALES)³⁵. Participants are asked to indicate the presence of 21 adverse life events and to rate the degree of stress related to each event on a three-point scale: (1) not at all; (2) somewhat; or (3) very stressful. Scores were summed for a total stress score (maximum of 63), with higher scores indicating a higher degree of stress. Interrater reliability was high across number of life events, perceived stress, and negative impact on mood with intraclass coefficients ranging from .96 to .99³⁵.

The Perceived Stress Scale (PSS) was used to assess subjective stress in the immediate aftermath of the fracture/surgical repair (24 hours). For the purposes of our study, perceived stress was measured by a single item that asked participants to rate their level of perceived stress regarding “the entire hip fracture experience” on a three point scale: (1) not at all; (2) somewhat; or (3) very stressful.

Cognitive functioning—The Short Blessed Test (SBT)³⁶ was used to evaluate the baseline cognitive status of all potential participants. Scores greater than 12 were grounds for study exclusion as they indicate moderate to severe cognitive impairment. The SBT has been tested on five different populations and reflects a sensitive measure of memory and concentration showing good reliability³⁶. Validity is good with a high correlation ($r = .95$) with the Mental Status Questionnaire³⁶.

Medical comorbidities—The Cumulative Illness Rating Scale for Geriatrics (CIRS-G) evaluated burden of medical illness³⁷. The scale quantifies medical data from chart reviews and participant interviews. Fourteen bodily systems are rated on a five-point scale ranging from zero (no problem) to four (extremely severe problem; e.g., acute hip fracture would be rated four). Ratings are summed for a total score. The measure has demonstrated good interrater reliability (i.e., intraclass correlations of .78 and .88 in two subsamples of patients) for CIRS-G total scores³⁷. Validity of the instrument is supported by significant correlations between scores on the CIRS-G and capability as quantified by the Older Americans Activities of Daily Living Scale and between CIRS-G scores and physicians' global estimates of medical burden³⁷.

Statistical analysis

Spearman's rho correlation coefficients were used to examine the relationships between PTSD and FoF measures. Factors that may predict PCL-S total score for the regression analysis were chosen based on a p-value < .10 from independent t-tests or chi-square tests with pPTSD diagnosis at week 12 as the grouping variable, or on past research indicating importance³⁸. The former were entered into block 1 (model 1) of a regression analysis whereas variables of importance from past research were entered into block 2 (model 2).

The distribution for the outcome variable PCL-S total score for week 12 exhibited a positive skew and positive kurtosis, and reflected a trend towards two underlying populations (i.e., those who qualified for pPTSD diagnosis and those who did not). Tests of normality and homogeneity of variance indicated assumptions were violated. For the regression analysis, the reciprocal transformation of PCL-S total score was used and standardized betas are reported. Plots of standardized residuals against standardized predicted values indicated two

scores were extreme outliers. These two scores were winsorized to the next value not considered an outlier. Absolute values from standardized residual plots of each predictor variable were examined in a separate linear regression analysis; values greater than 3.29 were substituted with the highest value that resulted in residuals that fell within ± 3.29 to constitute a more normally distributed sample.

A separate linear regression analysis was conducted to examine the influence of anesthesia type on PCL-S total score at week 12.

RESULTS

Characteristics of the sample are presented in Table 1; as is typical for the hip fracture population, the sample was primarily Caucasian, female, and of advanced age.

Table 2 presents rates of PTSD and FoF at weeks four and twelve postsurgery. Only 2.9% of our sample screened positive for probable fPTSD; no participants in our sample were diagnosed with fPTSD based on the CAPS follow-up to the PCL-S. Very few participants met criteria for pPTSD (13.3%) at week 4, with the most frequently reported symptoms being (1) re-experiencing repeated thoughts, memories, or images of the hip fracture; (2) trouble falling or staying asleep; and (3) being “super-alert” or watchful/on guard. Frequencies for each item at week four and twelve are included in supplementary Table S1.

There was a comparatively higher rate of FoF than pPTSD. Rates of both FoF and pPTSD decreased from week four to week twelve (Table 2).

Table 3 presents the overlap between PTSD and FoF in terms of correlations at each time point between diagnoses or symptoms. The correlation between FoF and pPTSD was significant but modest; this correlation was greatest at the symptom level and at week 12 ($r = .39, p < .001$).

Predicting PCL-S total score 12 weeks postsurgery

The linear model of predictors of the reciprocal PCL-S score at week 12 is presented in Table 4. In model 1 ($F(3, 302) = 11.8, p < .001$), higher GALES stress ratings and MADRS depressive symptoms are associated with higher PCL-S total scores. For model 2 ($F(8, 297) = 5.4, p < .001$), higher GALES stress ratings and MADRS depressive symptoms remain significant. The change in r-squared (.01) between the two models was not significant ($p = .47$) indicating additional variables did not improve the model.

There was no effect of anesthesia type on PTSD symptoms ($F(1, 347) = 1.6, p = .21$).

DISCUSSION

In this large and well-characterized sample of patients with hip fracture followed prospectively, we characterized posttraumatic stress symptoms at two time points after the hip fracture surgery. We had several key findings. First, PTSD was rare: we found no cases of fPTSD in our sample and relatively low rates of pPTSD. We also found a negative effect of baseline depression and stress on pPTSD scores at 12 weeks postsurgery.

Despite other research showing that just over 4% of elderly adults hospitalized for a fall related injury develop PTSD³⁹, our study found only 3% (n=11) had probable fPTSD according to the PCL-S screening measure and of these, none met criteria for full diagnosable PTSD using the CAPS. Given the lack of fPTSD and that, in many trauma-exposed populations, pPTSD is more prevalent than fPTSD¹³⁴⁰ and also associated with significant psychiatric impairment⁴¹⁴²⁴³; we chose to focus on individuals with pPTSD.

While other researchers¹ have found a high rate of PTSD (27% with moderate to severe posttraumatic stress) following hip fracture, our sample showed a very low rate. This is likely due to study differences in assessment methods. Our study systematically excluded individuals with severe cognitive impairment who might provide unreliable responses to psychological screening questions on the PCL-S. Other studies have used screening measures to evaluate posttraumatic stress symptoms in the immediate aftermath of the fracture while patients were still hospitalized. In contrast, our screening measures were administered at least four weeks postsurgery (the time frame post-trauma required to make a PTSD diagnosis) and followed up with a diagnostic interview, if warranted based on screening scores. Our findings mirror Chung et al.'s research³⁹ which found a low rate (4%) of PTSD in hip fracture survivors six-months postsurgery; they are in contrast, however, to research showing higher and more stable rates of PTSD (15–16%) in a medical ICU population at 3 and 12 months after hospital discharge⁴⁴.

Our finding is broadly consistent with studies that have reported that older adults show lower rates of PTSD than younger adults in non-combat trauma situations⁴⁵⁴⁶⁴⁷. While it has been suggested that the association between age and post-trauma functioning may be due to some reluctance of older generations to acknowledge psychopathology¹², others propose that age itself may be protective against the development of trauma-related symptoms⁴⁸. Although either of these explanations could be valid, the consistency of our findings (i.e., no fPTSD, few PTSD symptoms) in spite of participants commonly endorsing FoF leads us to suggest that fall-related hip fracture is not perceived as a sufficiently traumatic event in older adults to induce fPTSD.

As expected, individuals with elevated baseline levels of depression and stress showed higher PCL-S scores at 12 weeks postsurgery. Depression and stress have been previously identified as common comorbidities of fPTSD and pPTSD. Marshall and colleagues⁴⁹ examined rates of comorbid anxiety and major depressive disorder and found these were 68.5% and 90.7% higher, respectively, among subjects with pPTSD compared to subjects with no PTSD symptoms. Given that, in our sample, depression and stress were assessed at the time of the fracture, it is possible that our finding corroborates other research suggesting that pre-existing depression and anxiety/stress may contribute to the development of PTSD symptoms^{e.g. 50}.

In this study we rely on the PCL-S which is meant to be a screening tool and not diagnostic. Only those who screened above a certain cut off on the PCL were administered the CAPS; it is therefore possible that some individuals with PTSD completed the PCL-S incorrectly or downplayed symptoms, and were then passed over for more thorough diagnostic assessment. The definition of pPTSD was based on that developed by Blanchard and colleagues²⁸, and

used by Grubaugh and colleagues²⁹ although it is acknowledged that there is no consensus definition of pPTSD.

Our sample was mostly comprised of white women and may not be generalizable to the general geriatric population, although our findings do support the meta-analysis²⁰ which found older age may be protective of developing PTSD. We also did not collect information from our participants on history of trauma or PTSD diagnosis so it is unclear how a fall-related hip fracture ranks in their total experience of potentially stressful life events. Neither did we assess functional impairment associated with the current PTSD symptoms.

In summary, after hip fracture older adults showed low rates of PTSD. We conclude that a hip fracture is not typically a traumatic enough event to induce PTSD in those over 60. Individuals with symptoms of depression and anxiety at the time of fracture should be monitored to ensure that PTSD symptoms can be managed should they develop.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Descriptive statistics of study sample.

Continuous variables	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Range</i>
Age	456	78.8	8.7	60–101
Education	413	13.0	2.8	6–26
CIRS-G comorbidities	454	12.6	3.7	4–24
HFRS total score ^a	456	95.6	7.1	52–100
GALES stress rating ^b	400	2.7	2.9	0–13
MADRS depressive symptoms ^c	453	8.1	6.0	0–38
Pain rating ^d	456	3.3	2.9	0–10
Perceived stress score ^c	455	2.6	0.6	1–3
Short Blessed Test	455	4.7	3.3	0–13
Categorical variables	n of total	%		
Ambulatory status				
Community ambulator	425/455	93.4		
Household ambulator	30/455	6.6		
Anesthesia Type				
General	416/455	91.4		
Epidural, spinal, other	39/455	8.6		
Antidepressant use, Yes	94/451	20.8		
Antipsychotic use, Yes	109/451	24.2		
Assistive devices ^e				
No assistive device	320/455	70.3		
Use cane	71/455	15.6		
Use walker	64/455	14.1		
Gender, Female	352/456	77.2		
Ethnicity				
Caucasian	427/456	93.6		
African American	26/456	5.7		
Asian	3/456	0.7		
Living arrangement ^e				
Home	424/456	93.0		
Rehab, SNF, ALF	32/456	7.0		
Marital status, Married	162/456	35.5		
Type of fracture				
Femoral neck fracture	226/450	50.2		
Intertrochanteric	183/450	40.7		
Subtrochanteric and other	41/450	9.1		
Type of surgery				
Total hip/hemiarthroplasty	187/454	41.2		

Continuous variables	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Range</i>
Internal fixation with screws	102/454	22.5		
Other ^f	165/454	36.3		

Abbreviations: ALF-- Assisted living facility; CIRS-G-- Cumulative Illness Rating Scale for Geriatrics; GALES-- Geriatric Adverse Life Events Scale; HFRS-- Hip Fracture Recovery Scale; M-- mean; MADRS-- Montgomery-Asberg Depression Rating Scale; N-- number; Rehab-- Rehabilitation facility; SD-- Standard Deviation; SNF-- Skilled nursing facility

^aParticipants reported on their pre-fracture functional status.

^bParticipants reported on adverse life events in the year prior to fracture.

^cParticipants reported on their mood at baseline visit.

^dParticipants reported on their pain levels during the past 24 hours.

^eAt time of fracture.

^fOther Sliding hip screw, IM nail or specific implant

Table 2

Rates of posttraumatic stress disorder (PTSD) and fear of falling (FoF) at weeks four and twelve postsurgery.

	Measure	Week 4	Week 12
PTSD measure	fPTSD		
	%	0	0
	<i>n of total</i>	0/383	0/350
	pPTSD		
	%	13.3	7.4
	<i>n of total</i>	51/383	26/350
	PCL-C score		
	<i>Mean</i>	23.9	21.0
	<i>Std. Dev.</i>	7.1	5.3
	<i>Range</i>	17–53	17–54
	PCL-C count		
	<i>Mean</i>	1.8	1.2
Fear of Falling measure			
	FoF presence		
	%	66.6	58.5
	<i>n of total</i>	257/386	206/352
	FoF score		
	<i>Mean</i>	37.7	36.9
	<i>Std. Dev.</i>	4.8	4.9
	<i>Range</i>	21–49	18–53
	FoF count		
	<i>Mean</i>	7.6	7.1
	<i>Std. Dev.</i>	2.9	3.0
	<i>Range</i>	0–15	0–14

Abbreviations: fPTSD -- full posttraumatic stress disorder; pPTSD -- partial posttraumatic stress disorder; PCL-S -- Posttraumatic Stress Disorder Checklist-Specific; FoF -- Fear of Falling.

Notes: PTSD symptoms were measured using the PCL-S and reported here in three ways: 1) as a diagnosis according to specific criteria described in the methods section; 2) as a total score on the PCL-S; and 3) as the number of symptoms endorsed at a level of three or above. FoF symptoms are similarly presented: 1) presence of FoF based on a single item on the FFQ; 2) as a total score; and 3) as the number of symptoms endorsed as agree or strongly agree.

Table 3

Correlations between posttraumatic stress disorder (PTSD) and fear of falling (FoF) at weeks four and twelve postsurgery.

	Week 4			Week 12		
	<i>r</i>	<i>n</i>	<i>p</i>	<i>r</i>	<i>n</i>	<i>p</i>
Dichotomous						
pPTSD diagnosis <i>with</i> presence of FoF	.16	379	.002	.20	347	<.001
Score						
PCL score <i>with</i> FoF score	.24	374	<.001	.39	344	<.001
Count						
PCL count <i>with</i> FoF count	.22	374	<.001	.34	343	<.001

Abbreviations: pPTSD -- full posttraumatic stress disorder; PTSD -- partial posttraumatic stress disorder; PCL-S -- Posttraumatic Stress Disorder Checklist-specific; FoF -- Fear of Falling.

Notes: Spearman's rho correlation coefficient reported. PTSD symptoms were measured using the PCL-S and reported here in three ways: 1) as a diagnosis according to specific criteria described in the methods section; 2) as a total score on the PCL-S; and 3) as the number of symptoms endorsed at a level of three or above. FoF symptoms are similarly presented: 1) presence of FoF based on a single item on the FFQ; 2) as a total score; and 3) as the number of symptoms endorsed as agree or strongly agree.

Table 4

Summary of regression analysis for variables predicting PCL-S score at week 12 postsurgery (n = 306).

Variable	Model 1			Model 2		
	β	t	p	β	t	p
Age	.05	.81	.42	.06	1.1	.28
GALES stress rating	-.12	-2.1	.04	-.13	-2.2	.03
MADRS depressive symptoms	-.27	-4.9	<.001	-.27	-4.5	<.001
Perceived stress score				-.04	-.62	.54
CIRS-G comorbidities				-.02	-.37	.71
Education				.01	.15	.88
Pain rating				.02	.29	.77
Short Blessed Test				-.11	-1.9	.06
R^2			.10			.10

Abbreviations: CIRS-G --Cumulative Illness Rating Scale for Geriatrics; GALEs -- Geriatric Adverse Life Events Scale; MADRS -- Montgomery-Asberg Depression Rating Scale; PCL-S -- Posttraumatic Stress Disorder Checklist -specific

Note: A reciprocal transformation of the outcome variable was used in the regression model and thus, unstandardized coefficient B and standard error are 0. Standardized betas are reported.