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Clinical profiles of young adults with juvenile-onset fibromyalgia with and without a history of trauma

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Abstract

Objective—The primary objectives of this study were to examine the differential presentation(s) in young adults with Juvenile-onset Fibromyalgia (JFM) with and without a history of trauma as compared to healthy controls across psychological and health-related outcomes.

Methods—110 participants (86 with JFM and 24 healthy controls; $M_{age}=23.4$ years) completed a structured clinical interview to assess for trauma and psychological comorbidities and self-report questionnaires on pain, physical functioning, and healthcare utilization.

Results—37% ($n=32$) of JFM participants reported a trauma history. Three group comparisons (i.e., JFM_{Trauma} vs. JFM_{No Trauma} vs. Healthy Controls) revealed that JFM participants significantly differed on all psychological and health-related outcomes from healthy controls. Further, although JFM participants with and without a trauma history did not significantly differ on pain and physical functioning, JFM participants with a trauma history were significantly more likely to have psychological comorbidities.

Conclusion—The current study is the first controlled study to examine the differential outcomes between JFM participants with and without a history of trauma. Two group comparisons between JFM participants and healthy controls were consistent with previous research. Further, our findings

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indicate that JFM participants with a trauma history experience greater psychological but not physical impairment than JFM participants without a trauma history.

Keywords

trauma; juvenile-fibromyalgia; young-adults

Introduction

Fibromyalgia syndrome (FM) is a chronic pain condition affecting approximately 2% of the adult population (1). The diagnosis is often associated with significant pain-related disability, including occupational impairment and difficulties in social functioning (1–3), and elevated rates of comorbid mood and anxiety disorders (2), including posttraumatic stress disorder (PTSD) (4, 5). Some retrospective studies have suggested that FM is associated with elevated rates of trauma in childhood, such as physical or sexual abuse (6–8) and that adults with FM and a trauma history (e.g., abuse, neglect) may experience poorer pain-related outcomes (e.g., symptom severity, health-related quality of life) than those without a trauma history (9–11). However, studies have relied mainly on retrospective reporting of childhood abuse many decades later in adulthood, which may be prone to recall bias (12). Prospective studies examining the relationship between trauma and chronic pain in adulthood have defined trauma as physical trauma (e.g., car accidents, injuries) or general psychosocial stressors (e.g., parental divorce, financial hardship) (13, 14), which limits the generalizability of results to traditionally defined psychosocial trauma, such as sexual or physical abuse (15).

Our understanding of the relationship between trauma and FM (JFM) in younger populations i.e., juvenile-onset fibromyalgia (JFM), is in its infancy. Emerging research indicates that a history of trauma (e.g., sexual abuse) appears to be more common (15.4%) in youth with JFM than in healthy controls (5–8%) (7, 16) or in youth with other pain conditions such as pediatric migraine (6.5%) (17). Higher rates of PTSD are also seen in youth with JFM, compared to national average estimates (16, 18). Yet little is currently known about psychological and/or health-related outcomes of youth with JFM as they enter the young adult years, particularly if they report a trauma history along with their pain symptoms.

It is well documented that individuals with a history of trauma are more likely to suffer from psychological comorbidities (e.g., PTSD, anxiety, and depression) (7, 19, 20) and experience poor health-related (21) and psychosocial outcomes (22, 23). Among youth with JFM, the presence of psychological comorbidities has been found to be related to greater FM symptom severity, poorer peer relationships and decreased school functioning (e.g., more absences, poorer grades, etc.) (24–26). It is conceivable that a history of trauma early in life may place youth with JFM at greater risk for psychological comorbidities, functional impairment, and poorer health-related outcomes as they enter adulthood than those without a trauma history, but this has never been previously examined.

In addition to potential risk for poorer psychological and health outcomes, JFM participants with a trauma history may also have higher rates of healthcare utilization. Our recent

research in young adults diagnosed with JFM in adolescence has indicated that these youth have more frequent healthcare visits (inpatient and outpatient), and use more medications compared to healthy controls (26), but the role of trauma history was not specifically examined. Similarly, evidence has shown that traumatized youth (e.g., sexual abuse, physical abuse) utilize healthcare more frequently than average (27, 28), including emergency room visits, and visits to primary or specialty care (29, 30). However, patterns of healthcare utilization in individuals with JFM or FM and trauma history has not been examined.

With a clearer understanding of the incidence of trauma and role that a trauma history may play in health-related and psychosocial outcomes in young-adults with JFM, greater efforts can be made to improve the functioning of individuals with this condition. The primary objectives of this study were to examine the psychological and health-related outcomes in individuals with JFM with and without a history of trauma as compared to healthy controls. It was hypothesized that overall, JFM participants would report poorer physical and psychological functioning than healthy controls 8-years after initial assessment. Further, within the JFM group, it was hypothesized that JFM participants with a history of trauma would exhibit poorer physical and psychological functioning than JFM participants without this history. The differences in healthcare utilization across the three groups was also explored.

Materials and Methods

Participants

Participants were 110 young adults (86 with JFM and 24 healthy controls; $M_{age}=23.4$) enrolled in a long-term follow-up study (16, 25, 26). The original sample consisted of 144 participants ($n = 100$ with JFM and $n=44$ health controls) who were between the ages of 13 and 18 ($M_{ages} = 15$). Participants were assessed at four different time points over the course of 8-years on various physical and psychosocial outcomes from adolescence into adulthood, with the current study drawing data from the fourth wave (Time 4) of follow-up visits. Prior research on this sample (26) indicates that no significant differences were found between retained and dropped out participants on age or baseline socioeconomic status, pain, or depressive symptoms.

Procedures

Participants were contacted by a member of study staff by phone to request their participation and written consent was obtained by mail. As part of an online survey, participants provided demographic information, current physical and social/lifestyle functioning, and FM symptoms. They also provided information about healthcare utilization over the past 3-months. Following completion of the online assessment, an in-person visit was scheduled during which information on participants' psychological symptoms/history and history of trauma was obtained through clinician-administered semi-structured interview. All study procedures were administered by a trained doctoral level (i.e., postdoctoral fellow) examiner and supervised by a licensed clinical psychologist (SKZ or ALJ). For detailed study procedures, refer to Kashikar-Zuck, et al. (26)

Questionnaires

Background and demographics—Participants were asked to answer questions regarding general demographics including age, race, marital status, and educational attainment.

Trauma history—History of trauma, including sexual and physical abuse was obtained through clinical interview, which included an interview regarding general background history and the PTSD section of the SCID (see below). Participants were asked to report on any history of trauma (e.g., injury, accidents, witnessing violence) and physical and/or sexual abuse as a child and/or as an adult. In order to minimize the likelihood of group contamination, participant responses to trauma questions were reviewed at 6-year and 8-year follow-up (Time 3 and Time 4, respectively), when trauma history was assessed. Six participants who reported trauma (as a child or an adult) at Time 3 did not report this trauma history at Time 4. These inconsistencies were queried and were found to be due to participant reporting (e.g., acknowledging that it happened, but preferring not to bring it up again). As such, participants were included in the Trauma group at Time 4 if they reported *any* history of trauma.

Psychiatric diagnoses—Presence of psychiatric diagnoses was assessed through semi-structured interview (i.e., Structured Clinical Interview for the DSM-IV, SCID(31)). The SCID is a widely used instrument designed to assess for the presence of major DSM-IV Axis I disorders. During this assessment, participants are asked to report on current and lifetime rates of a variety of psychiatric diagnoses. All assessments were administered by postdoctoral clinicians who were trained to administer the SCID by a licensed psychiatrist (LMA). Results of the SCID interview provided current and lifetime diagnoses of mood disorders, anxiety disorders, substance use disorders, somatoform disorders, eating disorders, and psychotic disorders. Only current diagnoses were included in our analyses as the focus of this study was on how trauma affects *current* functioning.

Pain intensity—Average pain intensity within the past week was gathered from each participant using an 11-point numeric rating scale (NRS) based on the Brief Pain Inventory (32, 33). Ratings ranged from 0 (“no pain”) to 10 (“pain as bad as you can imagine”).

FM symptom severity—Participant’s symptoms of FM were examined using the Widespread Pain Index (WPI) and Symptom Severity Index (SSI). These measures were adapted from the 2010 ACR diagnostic criteria for FM (34) and designed to gather information on participants’ FM symptoms through self-report. For the WPI, participants were asked to indicate where they had they experienced pain (up to 19 body locations) during the past week (scores range from 0–19). The SSI was designed to assess cardinal (e.g., cognitive symptoms, fatigue, feeling unrefreshed upon waking) and other somatic symptoms (e.g., irritable bowel, dizziness, nausea, numbness) associated with FM. Cardinal symptom severity was rated on a 4-point Likert rating scale. Additional somatic symptoms (up to 40) were captured by assigning a rating of either, 0 (no symptoms), 1 (few symptoms), 2 (moderate number of symptoms), or 3 (great deal of symptoms). The overall SSI score consists of the sum of the 3 cardinal symptoms and the numerical rating of other

somatic symptoms endorsed (final score between 0 and 12). Total FM severity scores were calculated by summing WPI and SSI scores.

Physical functioning and perceived health status—The Medical Outcomes Study Short Form-36 (SF-36) (35) was utilized to gain self-report data on participants perceived physical functioning and health status. This measure is designed for participants ages 14 or higher and has been used to assess participants' perceived health status across multiple domains of physical and emotional functioning in individuals with FM (36). For the current study, the physical functioning and physical role functioning subscales were utilized to examine levels of impairment in physical function and role limitations due to physical function. Both subscales evidenced excellent internal consistency at cronbach's $\alpha=0.94$ (physical functioning) and cronbach's $\alpha=0.92$ (role functioning) respectively. Norm-based scoring was utilized to transform scores on each subscale with lower scores corresponding with poorer functioning (mean $\pm$ SD T score: 50 $\pm$ 10).

Healthcare utilization—Participants were asked to report on their general use of healthcare over the past three months, including various types of outpatient tertiary medical visits and number of emergency room visits and inpatient hospital stays. Additionally, information was gathered regarding how many trips participants made for clinic/hospital visits and how long (in hours) participants spent in clinic/hospital visits.

Statistical Analyses

Descriptive statistics were computed for all variables and examined by group. Group status (i.e., JFM_{Trauma}, JFM_{No Trauma}, and Control_{No Trauma}) was coded based on JFM diagnosis and Trauma history. Trauma was coded dichotomously (i.e., "yes" or "no") and was defined for the purposes of this paper as a history of any reported trauma as a child or young adult, including sexual abuse or physical abuse, or "other" trauma (e.g., car accidents, injuries, witnessing violence, etc.). An event was considered "traumatic" if any either sexual or physical abuse was reported or if the event aligned with the definition of a trauma as outlined in the Diagnostic and Statistical Manual (DSM-IV-TR, (37)). A small number of participants in the control group who reported a history of trauma ($n=4$) were excluded from the main analyses to minimize the potential for confounding effects.

Continuous outcomes included average pain-intensity, physical functioning, role functioning, overall fibromyalgia symptoms, and hours spent in healthcare utilization. Preliminary analyses using SPSS v. 23(38) showed these five response variables to be correlated between $r_{\text{Pearson}} = 0.36\text{--}0.76$, indicating that a MANOVA was needed to test for group differences. However, in lieu of an omnibus MANOVA test, all 15 possible a priori pairwise comparisons (3 groups * 5 response variables) were conducted using the multiple group function in Mplus v. 7.4 (39) to address both missing data and non-normal data appropriately. A False Discovery Rate (FDR; Benjamini & Hochberg, 1995) Type 1 error control was used for all comparisons. Further, count data were also analyzed using Mplus assuming either a negative binomial distribution (overall healthcare utilization) with zero inflation (number of trips to clinic, number of current medications) or a Poisson distribution (current and past psychiatric comorbidities). No violations of the assumptions of normality,

linearity, or multicollinearity were found. Missing data for both the count regression (ML) and the pairwise comparison (MLR) analyses was handled via the default maximum likelihood estimation algorithm in Mplus.

For dichotomous outcomes, including presence of psychiatric comorbidities and measures of healthcare utilization (i.e., medication usage), three (JFM_{Trauma}, JFM_{No Trauma}, Control) and two (JFM_{Trauma} vs. JFM_{No Trauma}; JFM_{Trauma} vs. Control) group comparisons were conducted in SPSS using chi-square or Fisher's exact tests (depending on sample size).

Results

Participant Characteristics

Participant characteristics across each group are outlined in Table 1. The current sample included a total of 110 participants (76.4% of the original sample), with 32 in the JFM_{Trauma} group, 54 in the JFM_{No Trauma} group, and 24 Control_{No Trauma}. Groups did not significantly differ with respect to age, sex, race, marital status or educational attainment.

Trauma history—Overall, 37% (n=32) of JFM participants reported a history of trauma, with a higher prevalence of lifetime rates of PTSD (17.2% in the current sample compared to 5%) and sexual abuse (14.7% in the current sample compared to 8%) when compared to national estimates. The rate of lifetime physical abuse in JFM was somewhat lower at 11.2% (compared to 14.8%) (6, 18).

Pain and Physical Functioning

All possible pairwise group comparison results are presented in Table 2. After FDR Type-1 error control, 9 of the 15 pairwise comparisons showed significant group differences with effect sizes ranging from $d = 0.89 - 1.58$. Overall, both of the JFM groups showed significantly higher fibromyalgia symptom and average pain scores, and significantly lower physical functioning and role functioning scores when compared to health controls. Between the JFM groups specifically, JFM_{Trauma} participants showed significantly higher average hours spent in healthcare compared to their JFM counterparts with no trauma history. However, no significant differences between JFM participants (trauma vs. no trauma) were found on pain-intensity, physical functioning, role functioning, or fibromyalgia symptoms.

Psychiatric Comorbidities

The presence of major psychiatric comorbidities was examined and compared across each of the three groups (Table 3). Chi-square tests of independence revealed significant differences across the three groups for depressive disorders, bipolar disorder(s), panic disorder, obsessive-compulsive disorder (OCD), and anxiety. Two group comparisons among JFM participants (trauma vs. no trauma) revealed that the JFM_{Trauma} group showed a significantly greater incidence of bipolar disorder (Fisher's exact test, $p=.009$), panic disorder ($\chi^2=4.594$, $p=.032$), OCD (Fisher's exact test, $p=.001$) and anxiety diagnoses ($\chi^2=14.609$, $p=.032$) than the JFM_{No Trauma} group. Two-group comparisons also revealed that JFM_{Trauma} participants significantly differed from healthy controls on bipolar, panic, OCD and anxiety diagnoses (all $p's < .05$). Significant differences were not found between any of the groups on eating

disorders (e.g., bulimia, anorexia), somatoform disorders, psychotic disorders, or substance issues.

Count data analyses revealed that compared to JFM_{No Trauma} participants, JFM_{Trauma} participants are 2.57 times ($\exp[0.943]=2.57$, $p<.001$) more likely to show a higher prevalence of current number of diagnoses. It was also found that JFM participants with trauma were 4.35 times ($\exp[1.471]=4.35$, $p=.001$) more likely to show a higher prevalence of current number of diagnoses when compared to healthy controls. Differences between JFM_{No Trauma} participants and healthy controls were not statistically significant.

Healthcare and Lifestyle Factors

Differences across the three groups for healthcare and lifestyle factors were also explored. Results revealed that the three groups significantly differed on whether they were currently taking medications, had a family mental health history, and attended psychotherapy as an adult (see Table 4). Further, two-group comparisons among JFM participants (i.e., trauma vs. no trauma) indicated that JFM_{Trauma} participants were significantly more likely than JFM_{No Trauma} participants to be taking medications ($\chi^2=6.453$, $p=.010$), hold a history of family mental health issues ($\chi^2=7.237$, $p=.007$) and attend psychotherapy as an adult ($\chi^2=6.057$, $p=.012$). Chi-square tests of independence failed to reveal significant differences between the three groups on whether participants had attended specialty care (e.g., pain physician, orthopedics), the emergency department, received lab services, or radiological evaluations. More general measures of healthcare utilization (i.e., combining the number of outpatient and specialty visits within the last 3-months, number of medications) also failed to reveal significant differences between the three groups.

Discussion

The current study is the first controlled study to examine the differential presentation(s) across psychological and health-related outcomes in young adults with JFM based on their exposure to trauma in childhood or early adulthood. Examining outcomes associated with trauma in young-adults with JFM is particularly relevant as most studies have relied on older adults with FM reporting on trauma from several decades in the past, which can increase the potential for recall bias. Consistent with prior studies that found high rates of trauma in JFM and FM populations (11, 16, 40), findings from our study revealed that approximately 37% of participants with JFM diagnosed in adolescence reported a history of trauma. However, these rates appear lower than in some adult FM studies (e.g., up to 55%) (5), which may indicate that these individuals may continue to be at-risk for further exposure to traumatic experiences through adulthood.

JFM is frequently associated with significant pain and pain-related disability (1, 26). Consistent with this, results of this study indicated that youth with JFM continue to experience increased pain and disability and decreased physical functioning when compared to healthy controls in young adulthood years after initial diagnosis (26). However, the influence that trauma may have on physical outcomes in young-adults with chronic pain remains poorly understood (41). Contrary to previous studies on adults with FM (9, 42, 43), findings from this study indicate that trauma did not appear to impact current physical

functioning in JFM participants, as no differences were found on any physical or disease-related outcomes between JFM participants with and without a history of trauma as young adults. However, there was a marked differential impact on psychological comorbidities among the JFM participants with results indicating that JFM participants with a trauma history are significantly more likely than those without trauma and healthy controls to meet criteria for a psychological diagnosis. These findings suggest that, while JFM participants with trauma may not present as physically more impaired, they may be at much higher risk for suffering from greater psychological impairment as young-adults. Moreover, these results expand upon previous findings in this sample which indicated that a large subset of JFM participants (irrespective of trauma history) are likely experiencing elevated anxiety (60%) and/or depressive symptoms (24.2%) (16, 26) and decreased health-related quality of life (e.g., physical functioning, role functioning) across multiple domains (emotional, physical, social) (26) when compared to healthy controls.

The reasons for why participants with JFM who experienced a higher rate of psychological comorbidities (i.e., trauma group) did not experience increased pain and/or disability (which deviates from previous research (42, 43)) are not entirely clear. It is conceivable that results of prior studies in adults were affected by selection or recall bias. For example, in older adults retrospectively reporting childhood trauma, significantly high rates of recall bias towards false negatives (i.e., failing to report an event that actually happened) have been found (12). Among the small number of participants within our study who failed to report trauma across Time 3 and 4 ($n=6$), some were noted to have chosen not to report due to feeling like they had “moved on” from the event (e.g., not identifying as a trauma survivor anymore). It may be that those individuals who continue to report trauma as they age experience increased negative effects of the event thus elevating their likelihood towards experiencing greater pain-related disability. More research is needed on this subject.

Strengths of this study include the systematic and validated assessment of trauma using clinician-administered semi-structured interview (SCID). Previous studies have presented compelling research in the incidence and nature of trauma exposure in JFM and FM populations (4, 9). However, assessment and reporting of trauma in these studies relied heavily on self-report surveys which hold significant limitations in accuracy of incident-reporting (44). The long-term nature of the study with multiple data points and a high retention rate also enabled accuracy checks on trauma data collected at this assessment point 8 years after the initial evaluation.

Despite several strengths, limitations are also present. Most notably, although participants in our study were young adults (in their early 20s) and asked to report on traumatic events that were likely much *more recent* than what has been reported in the previous literature (i.e., events that have happened several decades in the past reported by adults in their 40s–50s), our data was still reliant on retrospective reporting. As such, recall bias may still have been present to some extent. Our participant sample was also predominantly White/Caucasian and female which is generally consistent with the demographics of JFM/FM, but still limits generalizability to more diverse populations.

The findings from this study are an initial step towards providing a greater understanding of the differences (or lack thereof) in the outcomes of these individuals. Future directions should include a prospective examination of the effects of trauma on participants with JFM when they are still young. Monitoring chronic pain as it relates to childhood trauma in a prospective fashion would provide us with a clearer picture of how these constructs influence each other over time. Moreover, examining additional indicators of functioning (e.g., life satisfaction, self-reported life stress) outside of what was measured in the current study would serve to increase our overall understanding of the intricate relationship between trauma and pain/pain-related outcomes in youth and young-adults with JFM. As our cohort of JFM participants with a trauma history have not been found to be experiencing increased physical impairment when compared to their non-traumatized JFM peers, it may be that young-adulthood is an optimal age for disease-related prevention and intervention in these individuals. For example, general and specialty care providers (e.g., general practitioners, pain medicine, and rheumatology providers) who initiate referrals to mental health providers in response to suspected psychological impairment may help increase the likelihood of the appropriate identification and psychological treatment of those patients with a trauma history. Further, once patients are engaged in mental health treatment, augmenting traditional pain-focused cognitive behavioral therapy (CBT) with specific trauma focused CBT (TF-CBT) components (45) may be a more effective way to address pain and distress in those with a trauma history. With a greater understanding of how trauma and JFM relate over time, long-term physical and psychological outcomes for these patients can be improved.

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Significance and Innovations

- This is the first study to examine the differences in health-related and psychosocial outcomes in young-adults with juvenile-onset fibromyalgia (JFM) with and without a history of trauma
- Contrary to prior research in fibromyalgia (FM) and JFM, study results indicated that young-adults with JFM and a trauma history had higher rates of psychological comorbidities but did not experience poorer pain and physical functioning, thus highlighting a need for future investigations in this area.

Table 1

Sample demographics. Values n(%) unless otherwise specified.

Characteristics		JFM _{Trauma} n=32 (37.2) ^a	JFM _{No Trauma} n=54 (62.8) ^a	Control n=24
Age, mean (SD)		23.3(2.3)	23.4(2.6)	23.5(1.8)
Female		31(96.9)	50(92.6)	23(95.8)
Race				
	White	26(81.3)	49(90.7)	22(91.7)
	African American	3(9.4)	2(3.7)	1(4.2)
	Asian	1(3.1)	0(0.0)	0(0.0)
	American Indian	2(6.3)	3(5.6)	1(4.2)
Marital Status				
	Single	22(68.8)	36(66.7)	21(87.5)
	Married/Remarried/Divorced/ Separated	10(31.2)	18(33.3)	3(12.5)
Educational Status				
	High School or less	4(12.5)	6(11.2)	2(8.3)
	Vocational, trade, associate's degree	9(28.1)	9(16.7)	5(20.8)
	Some college, bachelor's, graduate degree	19(59.4)	39(72.2)	17(70.8)

JFM: juvenile-onset fibromyalgia

^a% out of overall JFM sample

* No significant differences were found between groups on any demographic characteristics

Table 2
MANOVA post-hoc pairwise comparison results for pain and physical functioning outcomes

Outcome	Comparison	Estimate	SE	Wald Z	p	Cohen's <i>d</i>
Fibromyalgia Symptoms	Trauma v. No Trauma	0.837	1.669	0.501	0.616	-
	Trauma v. Control	8.712	1.769	4.924	<.001	1.31
	No Trauma v. Control	7.875	1.365	5.77	<.001	1.31
Physical Functioning	Trauma v. No Trauma	0.293	2.342	0.125	0.901	-
	Trauma v. Control	-9.185	2.483	-3.7	<.001	0.99
	No Trauma v. Control	-9.478	2.354	-4.025	<.001	0.89
Role Functioning	Trauma v. No Trauma	-1.034	2.308	-0.448	0.654	-
	Trauma v. Control	-13.309	2.155	-6.176	<.001	1.58
	No Trauma v. Control	-12.275	2.004	-6.125	<.001	1.23
Average Pain ^a	Trauma v. No Trauma	0.021	0.558	0.038	0.969	-
	Trauma v. Control	2.557	0.579	4.419	<.001	1.15
	No Trauma v. Control	2.536	0.511	4.966	<.001	1.09
Hours spent in Healthcare	Trauma v. No Trauma	22.101	7.218	3.062	<.001	0.89
	Trauma v. Control	19.454	10.622	1.832	0.067	-
	No Trauma v. Control	-2.647	8.404	-0.315	0.752	-

False Discovery Rate (FDR) Type-I error control was used for all pairwise comparisons

^aMeasured by visual analogue scale (0–10)

Table 3

Group comparisons for psychiatric comorbidities

Diagnosis	% (n) within overall sample			χ^2	$V\&$	p
	JFM _{Trauma}	JFM _{No Trauma}	Control			
Depressive Disorders ^a	20.0 (6)	28.8 (15)	4.2 (1)	6.096	0.239	0.047
Bipolar Disorders ^b	26.7 (8) [*]	3.8 (2)	4.2 (1)	11.939 [^]	0.336	0.003
Panic Disorder	50.0 (15) [*]	17.3 (9)	5.7 (1)	17.773	0.409	<0.001
OCD ^c	26.7 (8) [*]	5.8 (3)	2.7 (1)	9.857 [^]	0.305	0.007
Anxiety Disorders ^d	80.0 (24) [*]	44.2 (23)	11.5 (4)	22.039	0.456	<0.001

^aIncludes dysthymia, mood disorder NOS, Major Depressive Disorder

^bIncludes Bipolar I and II

^cObsessive-Compulsive Disorder

^dIncludes GAD, phobias, Social Anxiety

* JFMTrauma group is significantly different from JFMNo Trauma group

[^] Fisher's exact probability test

[&] Cramer's V ; 0.1=small effect; 0.3=medium effect; 0.5=large effect

Table 4

Group comparisons for healthcare/lifestyle factors

Health/Lifestyle	% (n) within overall sample		χ^2	ϕ^2	<i>p</i>
	JFM _{Trauma}	JFM _{No Trauma} Control			
Currently Taking Medications	76.7 (23) *	48.1 (26)	12.643	0.342	.002
Family Mental Health Hx	83.3 (25) *	53.8 (28)	12.443	0.343	.002
Psychotherapy as Adult	66.7 (20) *	38.5 (20)	9.026	0.292	.011

* JFMTrauma group is significantly different from JFMNo Trauma group

ϕ^2 Cramer's V, 0.1=small effect; 0.3=medium effect; 0.5=large effect