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Deliberate Self-Harm and Suicidal Ideation Among Male Iraq/Afghanistan-Era Veterans Seeking Treatment for PTSD

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Abstract

The objectives of the present research were to examine the prevalence of deliberate self-harm (DSH) among male Iraq/Afghanistan-era veterans seeking treatment for posttraumatic stress disorder (PTSD) and to evaluate the relationship between DSH and suicidal ideation within this population. Participants included 214 male Iraq/Afghanistan-era veterans seeking treatment for PTSD. Approximately 56.5% ($n = 121$) reported engaging in DSH during their lifetime; 45.3% ($n = 97$) reported engaging in DSH during the previous 2 weeks. As hypothesized, DSH was a significant predictor of suicidal ideation among male Iraq/Afghanistan-era veterans, $OR = 3.88$, $p < .001$, along with PTSD symptom severity, $OR = 1.03$, $p < .001$, and combat exposure, $OR = 0.96$, $p = .040$. A follow-up analysis identified burning oneself, $OR = 17.14$, $p = .017$, and hitting oneself, $OR = 7.93$, $p < .001$, as the specific DSH behaviors most strongly associated with suicidal ideation. Taken together, these findings suggest that DSH is highly prevalent among male Iraq/Afghanistan-era veterans seeking treatment for PTSD and is associated with increased risk for suicidal ideation within this population. Routine assessment of DSH is recommended when working with male Iraq/Afghanistan veterans seeking treatment for PTSD.

Deliberate self-harm (DSH) may be defined as deliberately destroying one's own body tissue without conscious suicidal intent (Chapman, Gratz, & Brown, 2006; Gratz & Tull, 2012). The experiential avoidance model proposes that DSH is common among individuals with posttraumatic stress disorder (PTSD) because of negative reinforcement, as DSH is proposed to temporarily reduce the emotional distress individuals experience when

confronted with reminders of traumatic events (Chapman et al., 2006). Prior research supports this proposal, as DSH rates over 50% are common among PTSD samples (Chapman et al., 2006; Sacks et al., 2008); however, research on DSH among veterans with PTSD is limited. Sacks and colleagues (2008) conducted the only study of DSH among veterans with PTSD in a sample of older, primarily Vietnam-era males. They reported a high lifetime rate of DSH (66%) consistent with previous work; however, the degree to which DSH might be a significant issue among male Iraq/Afghanistan-era veterans with PTSD is currently unknown. Accordingly, the first objective of the present research was to examine the prevalence of DSH among this unique and growing segment of the veteran population.

The second objective of the present research was to examine the relationship between DSH and suicidal ideation. DSH is proposed to increase risk for suicidal ideation and behavior both directly and indirectly (Hamza, Stewart, & Willoughby, 2012). The gateway theory suggests that DSH is a gateway behavior that leads directly to more extreme forms of self-harm (e.g., suicide attempts). In addition, Joiner's (2005) interpersonal theory of suicide proposes that DSH raises risk for suicide indirectly by increasing individuals' acquired capability for suicide. In their review of the literature, Hamza and colleagues (2012) found support for both propositions. They also reported that DSH was a robust predictor of suicidality across a variety of studies, remaining significant even after controlling for age, race, gender, and socioeconomic status. Given recent evidence that the rate of completed suicide among active-duty military personnel and Iraq/Afghanistan veterans with mental health disorders is elevated (Kang & Bullman, 2008), the second objective of the present research was to examine the relationship between DSH and suicidal ideation among male Iraq/Afghanistan veterans seeking treatment for PTSD. It was hypothesized that DSH would predict suicidal ideation over and above the effects of PTSD symptom severity, combat exposure, and demographic variables.

Method

Participants & Procedure

Participants included 214 treatment-seeking male Iraq/Afghanistan-era veterans at the Durham Veterans Affairs Medical Center PTSD Clinic. The sample was predominantly Caucasian (55.1%; $n = 118$) and African-American (39.7%; $n = 85$). In addition, 5.6% ($n = 12$) of the sample identified as Latino. On average, participants were 32.99 years of age ($SD = 8.91$). Participants completed a semi-structured clinical interview and a battery of self-report questionnaires as part of their initial evaluation at an outpatient PTSD Clinic.

Measures

The Habit Questionnaire (HQ; Resnick & Weaver, 1994) is an 11-item self-report measure that assesses both DSH and body-focused repetitive behavior (BFRB; Sacks et al. 2008), which are habitual nervous behaviors that are less destructive, such as grinding one's teeth and biting one's nails. Sacks and colleagues (2008) submitted the HQ to a Q-sort procedure and a factor analysis and identified two subscales: a 4-item DSH subscale and a 7-item BFRB subscale. The analyses for the current study were limited to the 4-item DSH subscale, which includes the following items: (1) Have you ever scratched or picked at skin so that it

left a mark? (2) Have you ever deliberately cut yourself in any way? (3) Have you ever hit yourself? and (4) Have you ever burned yourself with a cigarette, match or other way? Endorsement of any of these four items was used to classify participants as having engaged in DSH during their lifetime. Participants that reported engaging in any of these behaviors during the previous 2 weeks were classified as having current DSH. Regarding the validity of the HQ, Sacks and colleagues (2008) found that male veterans with PTSD who engaged in DSH (as defined by the 4-item DSH subscale) were more impulsive, more hostile, and had higher levels of PTSD and depression compared with male veterans with PTSD who did not engage in DSH. To our knowledge, there is currently no data available regarding the temporal stability of the HQ.

The Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995) was used to assess PTSD symptom severity based on Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition - Text Revision criteria (American Psychiatric Association, 2000). The CAPS is the gold-standard clinical interview for PTSD and provides a continuous index of PTSD symptom severity. Weathers, Keane, and Davidson (2001) reviewed the psychometric literature on the CAPS and concluded that it has “excellent psychometric properties across a wide variety of clinical research settings and trauma populations” (p. 143), including high inter-rater reliability for continuous scores ($.90$), high kappas ($> .70$) for diagnoses, and high correlations ($.90$) with self-report measures of PTSD. Fleiss' κ across interviewers was $.96$ for PTSD diagnosis in the current study. Internal consistency was $.92$ in the current study.

The Beck Depression Inventory-II (BDI-II; Beck, Steer, Ball, & Ranieri, 1996) was used to assess suicidal ideation during the previous two weeks. The BDI-II is a widely-used 21-item measure of depressive symptoms. For the purposes of the current study, we restricted our analyses to item 9, which asks participants to endorse one of the following four statements concerning suicidal ideation: 0 = *I don't have any thoughts of killing myself*, 1 = *I have thoughts of killing myself, but I would not carry them out*, 2 = *I would like to kill myself*, and 3 = *I would kill myself if I had the chance*. Veterans endorsing “1” or higher on item 9 (38.3%) were classified as having current suicidal ideation. Internal consistency for the BDI-II was $.92$ in the current study.

The Combat Exposure Scale (CES; Keane, Fairbank, Caddell, Zimering, Taylor, & Mora, 1989) is a widely-used 7-item self-report measure of combat exposure. It has demonstrated good internal consistency, test-retest reliability, and concurrent validity in previous research with veterans (Keane et al., 1989). Internal consistency for the CES was $.79$ in the current study.

Data Analysis

Descriptive statistics were calculated to examine the prevalence of DSH among the sample (Objective 1). Logistic regression was used to test the hypothesis that DSH would predict suicidal ideation over and above the effects of PTSD symptom severity, combat exposure, and demographic variables (Objective 2). The presence or absence of suicidal ideation served as the main outcome variable in the first model, whereas presence or absence of any type of current DSH served as the primary predictor. Covariates included age, race (coded as

White/non-White), combat exposure, and PTSD symptom severity scores. A second logistic regression model was used to determine which specific forms of DSH were most predictive of suicidal ideation. This model was identical to Model 1 with the exception that the four specific DSH behaviors (coded present/absent) from the HQ were used in this model instead of general DSH.

Results

The mean CAPS score was 75.68 ($SD = 23.03$), the mean BDI-II score was 28.24 ($SD = 11.52$), and the mean CES score was 20.87 ($SD = 8.74$), indicating that high levels of PTSD, depression, and trauma exposure were present in the sample. Approximately 56.5% ($n = 121$) of participants reported engaging in DSH during their lifetime (Table 1); 45.3% ($n = 97$) reported DSH during the previous two weeks.

The findings from the logistic regression models are summarized in Table 2. The test of the full hypothesized model was statistically significant, $\chi^2(5) = 39.52, p < .001$. As hypothesized, current DSH was a significant predictor of suicidal ideation among male Iraq/Afghanistan veterans, $\chi^2 = 16.63, p < .001$; odds ratio (OR) = 3.88. The other significant predictors in the model were PTSD symptom severity, $\chi^2 = 13.69, p < .001$, and combat exposure, $\chi^2 = 4.20, p = .040$. Having determined that DSH was a significant predictor of suicidal ideation, a second logistic regression was run to examine which forms of DSH were most predictive of suicidal ideation. The test of the full hypothesized model was statistically significant for this model as well, $\chi^2(8) = 49.77, p < .001$. As can be seen in Table 2, burning oneself, $OR = 17.14, p = .017$, and hitting oneself, $OR = 7.93, p < .001$, were each uniquely associated with suicidal ideation. In contrast, scratching and picking oneself, $OR = 1.66, p = .158$, and cutting oneself, $OR = .70, p = .742$, were not significant predictors of suicidal ideation.

Discussion

As expected, high rates of DSH were observed among our sample of male Iraq/Afghanistan-era veterans seeking treatment for PTSD. To our knowledge, this is the first study to report prevalence rates for DSH among this important and growing segment of the veteran population. Thus, our findings, in combination with those of Sacks and colleagues (2008), suggest that DSH is a significant issue for a large percentage of veterans seeking treatment for PTSD, including returning Iraq/Afghanistan veterans. The present study also expands upon the work of Sacks et al. by demonstrating for the first time that DSH—along with PTSD symptom severity and combat exposure—is a significant predictor of suicidal ideation among male Iraq/Afghanistan veterans seeking treatment for PTSD. In addition, the finding that two of the most extreme forms of DSH examined (i.e., burning and hitting oneself) were strongly associated with suicidal ideation also provides some support for the gateway theory, which suggests that DSH is a gateway behavior that can lead to more extreme forms of self-harm (e.g., suicide attempts). Although the current study was not able to prospectively assess the impact of DSH on risk of future suicide attempts, the association between burning and hitting oneself and increased suicidal ideation provides some indirect support for this

proposition, as suicidal ideation is a significant prospective predictor of suicide (Schneider, Phillip, & Muller, 2001).

The current study also had several limitations that should be noted. First, it was cross-sectional, which limits our ability to draw inferences about the temporal relationships between PTSD, DSH, and suicidal ideation. Longitudinal research will be necessary to determine if DSH prospectively predicts suicidal ideation/attempts among returning veterans with PTSD. Another interesting avenue for future prospective research would be to examine whether childhood maltreatment might be predictive of later DSH among veterans with PTSD. A second limitation concerns the sample composition. Specifically, because the sample was restricted to male Iraq/Afghanistan veterans seeking treatment for PTSD, it is unclear the degree to which these findings might generalize to other groups of veterans with PTSD (e.g., females veterans with PTSD, non-treatment seeking veterans with PTSD). Thus, additional research on DSH with more diverse samples of veterans is needed. A third limitation relates to measurement issues, as the HQ has only been used in a few studies to date (e.g., Sacks et al., 2008; Weaver, Chard, Mechanic, & Etzel, 2004), and its psychometric properties are not well-established. More research on the psychometric properties of the HQ is needed (e.g., norms, test-retest reliability), particularly among veteran samples.

Despite these limitations, the present study is the first to demonstrate that DSH is a significant issue among Iraq/Afghanistan veterans seeking treatment for PTSD. It is also the first study to demonstrate that DSH—especially burning and hitting oneself—is associated with increased suicidal ideation among male Iraq/Afghanistan-era veterans seeking treatment for PTSD. Although additional research is needed to replicate these findings in other samples, the results from the present research suggest that clinicians working with this population should consider assessment of DSH as part of a comprehensive approach to suicide risk assessment.

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Table 1
Rates of Deliberate Self-Harm Among Male Veterans Seeking Treatment for PTSD

Variable	<i>n</i>	%
Lifetime		
Any type of deliberate self-harm	121	56.5
Scratching/picking oneself	89	41.6
Hitting oneself	49	22.9
Burning oneself	26	12.1
Cutting oneself	21	9.8
Past 2 Weeks		
Any type of deliberate self-harm	97	45.3
Scratching/picking oneself	79	36.9
Hitting oneself	24	11.2
Burning oneself	9	4.2
Cutting oneself	7	3.3

Note: *N* = 214. PTSD = posttraumatic stress disorder.

Table 2
Summary of Logistic Regression Models Predicting Suicidal Ideation

	Variable	B	Wald	OR	95% CI
Model 1	Intercept	-2.60*	5.60	--	--
	Age	0.00	0.00	1.00	[0.96, 1.04]
	Race	-0.05	0.02	0.95	[0.49, 1.87]
	PTSD symptom severity	0.03	13.69	1.03	[1.02, 1.05]
	Combat exposure	-0.04	4.20	0.96	[0.92, 1.00]
	Any current deliberate self-harm	1.36	16.63	3.88	[2.02, 7.45]
Model 2	Intercept	-2.26*	3.92	--	--
	Age	0.00	0.02	1.00	[0.96, 1.04]
	Race	0.00	0.00	1.00	[0.49, 2.06]
	PTSD symptom severity	0.03***	13.00	1.03	[1.02, 1.05]
	Combat exposure	-0.05*	5.40	0.95	[0.91, 0.99]
	Scratching/picking oneself	0.51	1.99	1.66	[0.82, 3.35]
	Cutting oneself	-.36	0.11	0.70	[0.08, 5.93]
	Hitting oneself	2.07***	11.55	7.93	[2.40, 26.16]
	Burning oneself	2.84*	5.70	17.14	[1.67, 176.72]

Note: N = 214. OR = odds ratio. CI = confidence interval. PTSD = posttraumatic stress disorder;

* p < .05;

** p < .01;

*** p < .001.