Childhood Physical Abuse and Combat-Related Posttraumatic Stress Disorder in Vietnam Veterans

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Objective: *Early trauma in the form of childhood physical or sexual abuse has been associated with adult psychopathology. The purpose of this study was to compare rates of childhood abuse in Vietnam veterans with and without combat-related posttraumatic stress disorder (PTSD).* *Method:* *Premilitary stressful and traumatic events including childhood abuse and other potential predisposing factors were assessed in Vietnam combat veterans who sought treatment for PTSD (N=38) and Vietnam combat veterans without PTSD who sought treatment for medical disorders (N=28). Stressful and traumatic events including childhood physical abuse were assessed with the Checklist of Stressful and Traumatic Events and a clinician-administered interview for the assessment of childhood abuse. Level of combat exposure was measured with the Combat Exposure Scale.* *Results:* *Vietnam veterans with PTSD had higher rates of childhood physical abuse than Vietnam veterans without PTSD (26% versus 7%). The association between childhood abuse and PTSD persisted after controlling for the difference in level of combat exposure between the two groups. Patients with PTSD also had a significantly higher rate of total traumatic events before joining the military than patients without PTSD (mean=4.6, SD=4.5, versus mean=2.8, SD=2.9).* *Conclusions:* *These findings suggest that patients seeking treatment for combat-related PTSD have higher rates of childhood physical abuse than combat veterans without PTSD. Childhood physical abuse may be an antecedent to the development of combat-related PTSD in Vietnam combat veterans.*

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The impact of premilitary risk factors on the development and severity of combat-related posttraumatic stress disorder (PTSD) has been a subject of interest since World War I. Although assessments of premilitary conflicts (1), personality (2), and neuroses (3) were used in early screenings of soldiers (4–6), these factors were not useful in the identification of individuals at risk for the development of PTSD (4). Premilitary personality continued to be investigated until the time of the Vietnam war (7–9), although these studies were limited by the lack of a systematic assessment of personality (10, 11).

Since the time of the Vietnam war there has been an increase in interest in premilitary risk factors for PTSD (12–16). An association between age and years of education at the time of joining the service and the development of PTSD has been suggested (17). Family environment, childhood home life and stability, and social support before joining the military have not been associated with combat-related PTSD (18–21). Studies of premilitary antisocial behavior as a risk factor have reported conflicting findings (22, 23). Most studies have found that premilitary factors have not been significant predictors of PTSD (14, 15, 19). This has resulted in an increased emphasis on the importance of war-related traumatic stressors (6, 11, 17, 19, 24–33).

Several studies suggest an important relationship between childhood abuse and adult psychopathology (34–46). Although a number of potential premilitary risk factors have been examined, surprisingly, to our knowledge there have been no investigations of the relationship between combat-related PTSD and childhood abuse or childhood trauma in general. We designed the present study in order to determine if Vietnam veterans with combat-related PTSD have higher rates of childhood abuse, as well as childhood trauma in general, than Vietnam combat veterans without PTSD.

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TABLE 1. Premilitary Traumatic and Stressful Events in Vietnam Combat Veterans With and Without PTSD

Event	Patients With PTSD (N=38)		Comparison Subjects (N=28)		Odds Ratio	p
	N	%	N	%		
Physical and/or sexual abuse	11	29	2	7	5.30	0.03
Physical abuse	10	26	2	7	4.64	0.05
Sexual abuse	3	8	0	0		
Death of family member or close friend	18	49	15	54	0.78	n.s.
Life-threatening illness	8	21	5	18	1.23	n.s.
Exposure to dangerous fires	4	11	3	11	0.98	n.s.
Being rejected or put up for adoption	3	8	1	4	2.31	n.s.
Observing family violence	16	42	6	21	2.67	n.s.
Being the victim of armed robbery	6	16	4	14	1.13	n.s.
Having the house burglarized or car stolen	6	16	0	0	1.13	
Exposure to life-threatening natural disaster	6	16	9	32	0.40	n.s.
Joining the military before age 18	8	21	2	7	3.47	n.s.
Less than 12 years of education before joining the military	19	50	8	28	2.50	n.s.
Antisocial behavior in childhood	7	18	5	18	1.04	n.s.
Working in a stressful job (police officer, fire fighter)	2	5	1	4	1.50	n.s.

METHOD

The subjects were 66 Vietnam combat veterans at a Veterans Administration (VA) medical center. The veterans with PTSD (N=38) were seeking psychiatric treatment and included 25 of 27 subjects consecutively admitted to an inpatient PTSD unit during a 5-month period. An outpatient group with PTSD was included as a comparison group for potential response bias of an inpatient cohort. The outpatients consisted of 13 subjects consecutively admitted to the outpatient PTSD clinic during a 5-month period. Veterans without PTSD (combat comparison subjects) were seeking treatment for medical problems. This group consisted of 28 of 29 individuals who were physically able to participate in the study and were consecutively admitted to the outpatient ambulatory care clinic of a VA medical center during a 3-month period.

Patients and comparison subjects included in the study were those with a history of combat exposure. We defined combat exposure as having received hostile or friendly fire or having received incoming artillery rounds. Patients were assigned to groups with and without PTSD on the basis of a diagnosis of current PTSD as measured by the Structured Clinical Interview for DSM-III (SCID) (47). Patients with a history of psychosis or organic brain syndrome were excluded from the study. Patients gave informed consent for participation in the study.

Premilitary traumatic and stressful events were evaluated with the Checklist of Stressful and Traumatic Events, with instructions to subjects to report only events that occurred before joining the military. The checklist is a 51-item self-report instrument with acceptable reliability and validity that assesses a broad range of traumatic events including childhood physical and sexual abuse (48; personal communication from J.L. Black, January 1989). Total number of traumatic events endorsed are summed to give a score for the checklist, which ranges from 0 to 51. Physical and sexual abuse are both assessed by a single global item of the checklist. In an attempt to confirm the accuracy of the checklist, patients and combat comparison subjects were evaluated with a structured interview designed to accurately document stressful and traumatic experiences. This interview was conducted by one of the investigators (J.D.B.), who was blind to the self-report data.

Other variables that have been suggested as potentially predisposing variables for the development of PTSD were evaluated, including childhood antisocial behavior (Helzer index) (22) and age and years of education at the time of joining the military. The Helzer index assesses truancy, criminal behavior, and other antisocial behavior before the age of 15.

In order to compare combat-related PTSD symptoms in patients with PTSD with and without a history of abuse, patients were evaluated with the Mississippi Scale for Combat-Related Posttraumatic Stress Disorder, a self-report measurement of current PTSD symptom severity with acceptable reliability and validity (49). The Brief Symptom Inventory-Global Index is an instrument for the evaluation of general psychiatric symptoms and has acceptable reliability and validity (50). Level of combat exposure was evaluated with the Combat Exposure Scale, another validated and reliable self-report instrument for the measurement of level of exposure to combat in Vietnam (51). High levels of combat exposure were defined as scores greater than 24 on the scale (personal communication, T.M. Keane, October 1991). Current drug and alcohol abuse were assessed with the Addiction Severity Index, a validated, clinician-administered instrument designed for the quantification of current problems with drugs and alcohol at the time of presentation for treatment (52).

Data from the Checklist of Stressful and Traumatic Events were analyzed with standard parametric statistical methods. Logistic regressions were performed in order to evaluate potential risk factors for the development of PTSD (outlined in table 1). Two-tailed tests of significance were used throughout, and Fisher's exact tests were used when there were less than five observations in a single cell. Significance was defined as $p<0.05$.

RESULTS

There were no significant differences in demographic variables between the groups with and without PTSD. Patients with PTSD and comparison subjects were similar in age (mean=47.3 years, SD=2.7, versus mean=46.6, SD=2.8), years of education (mean=12.4, SD=1.7, versus mean=12.8, SD=1.8), age at the time of joining the military (mean=18.5 years, SD=1.1, versus mean=19.0, SD=1.9), and number of months spent in Vietnam (mean=15.3, SD=6.2, versus mean=14.3, SD=8.5). Patients with PTSD were similar in race (8% black, 3% Hispanic, 89% white) to comparison subjects (15% black, 7% Hispanic, 78% white). When marital status was considered overall, there was no significant difference between PTSD subjects (45% married, 8% separated, 39% divorced, 8% never married) and comparison subjects (32% married, 4% separated, 29% divorced, 35% never married), although PTSD subjects showed a greater tendency to have been married at some time in their life.

Patients with PTSD reported higher rates of childhood physical abuse, as measured by the self-report global assessment of physical abuse item on the Checklist of Stressful and Traumatic Events, than patients without PTSD (26% versus 7%) (table 1). The rates of self-reported sexual abuse were 8% versus 0%. In addition, there was no difference in rates of physical and/or sexual abuse between inpatients (28%, N=7 of 25) and outpatients with PTSD (31%, N=4 of 13).

The self-report global assessment of childhood physical abuse with the Checklist of Stressful and Traumatic Events was validated with a clinician-administered structured interview for stressful and traumatic events. Twelve patients were determined to have experienced physical abuse according to both the self-report and the structured interview. Two patients were assessed by the structured interview to have had physical abuse but did not report abuse on the Checklist of Stressful and Traumatic Events. One patient who was not assessed by the structured interview to have had abuse reported abuse on the checklist. The self-report checklist assessment of abuse was used for the classification of abuse as the more conservative of the two methods of assessment. There were no significant differences between the two groups in any of the other self-reported individual stressful and potentially predisposing premilitary events measured by the Checklist of Stressful and Traumatic Events (table 1). Patients with PTSD experienced a greater number of total traumatic events before joining the military, as measured by the checklist (mean=4.6, SD=4.5, versus mean=2.8, SD=2.9; t=2.03, df=64, $p<0.05$).

More patients with PTSD had high levels of combat exposure, as defined by a score of 24 or greater on the Combat Exposure Scale, than patients without PTSD (89%, N=34, versus 43%, N=12; $\chi^2=14.11$, df=1, $p<0.0001$). After controlling for the effects of combat exposure in a logistic regression model, there continued to be a significant association between exposure to childhood abuse and the development of PTSD (odds ratio=9.39, p=0.04).

The PTSD patient group was also examined alone to determine if there were differences between patients with and without a history of childhood abuse. There were no differences between these two subgroups in PTSD symptoms (Mississippi Scale for Combat-Related Posttraumatic Stress Disorder; mean score=134.6, SD=12.1, versus mean=130.7, SD=14.0), nonspecific psychiatric symptoms (Brief Symptom Inventory-Global Index; mean=2.32, SD=0.54, versus mean=2.27, SD=0.76), or combat exposure (Combat Exposure Scale; mean=29.1, SD=7.0, versus mean=33.5, SD=5.5). Abused patients with PTSD, however, were more likely to have witnessed family violence in childhood (mean=0.73, SD=0.47, versus mean=0.30, SD=0.46; p=0.01), showed more antisocial behavior in childhood (mean=2.91, SD=2.2, versus mean=1.26, SD=1.3; p=0.03), and had higher total scores on the Checklist of Stressful and Traumatic Events (mean=7.09, SD=4.97, versus mean=3.63, SD=3.90; p=0.03) than nonabused patients with PTSD.

DISCUSSION

Vietnam combat veterans with PTSD in our study had higher rates of childhood physical abuse than Vietnam combat veterans without PTSD. A history of childhood abuse was associated with combat-related PTSD after controlling for differences in level of combat exposure between the groups with and without PTSD. Patients with PTSD had a higher rate of total childhood traumatic events, as measured by the total score on the Checklist of Stressful and Traumatic Events, than patients without PTSD. There were no differences in other premilitary stressful or potentially predisposing risk factors measured in this study between the groups with and without PTSD (table 1). There were no differences in psychiatric symptoms, PTSD symptoms, or demographic variables between patients with PTSD with and without a history of childhood abuse.

It should not be concluded from this study that childhood physical abuse causes combat-related PTSD. Our small group size prevents generalizations from our results to other population samples. In addition, 74% of our patients with PTSD did not report a history of childhood physical abuse. It is also possible that our results may be secondary to different recall of early trauma between the two groups. We addressed the problem of recall bias by attempting to validate the self-report Checklist of Stressful and Traumatic Events with a clinician-administered structured interview that assesses abuse and other stressful and traumatic events and found an adequate correlation between the two methods of assessment.

Patients presenting for treatment of combat-related PTSD may, in fact, have PTSD symptoms secondary to noncombat trauma such as childhood abuse. Presumably, these veterans would be more likely to underre-

port childhood trauma in an attempt to establish combat trauma as the cause of their PTSD. Prospective longitudinal studies are needed to answer these questions about childhood versus combat-related trauma.

Patients with a history of abuse may be vulnerable to the development of combat-related PTSD. Individuals abused in childhood may have acquired characteristic methods of coping with stressful experiences, such as emotional numbing, which may, in fact, make them more susceptible to subsequent trauma such as combat stress. Studies from the Israeli wars suggest that combat veterans who developed acute stress reactions during combat were more likely to develop subsequent stress reactions during subsequent wars than were veterans with no history of stress reactions (53). These findings, in conjunction with our own results, provide evidence for the stress vulnerability rather than the stress inoculation hypothesis of trauma. In other words, exposure to stress early in life increases the vulnerability to psychopathology in response to subsequent stressors, rather than having a protective effect. Studies of the neurobiology of stress suggest that exposure to stress early in life may result in long-term changes in neurobiological systems that are involved in the stress response (54–58). The development of valid and reliable instruments for the assessment of the full range of childhood abuse experiences will help answer questions about the relationship between childhood trauma and the development of combat-related PTSD. This information could have implications for the prevention and treatment of PTSD.

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