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The detection and treatment of posttraumatic distress and substance intoxication in the acute care inpatient setting

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Abstract

Each year, approximately 2.5 million Americans require inpatient admissions after sustaining traumatic physical injuries. Few investigations have assessed the routine detection and treatment of acute care inpatients with high levels of posttraumatic distress. A representative sample of 101 hospitalized patients with acute injuries was screened for posttraumatic stress disorder (PTSD) and depressive symptoms, as well as substance intoxication. Patients' medical records were reviewed for documentation of psychiatric symptoms and diagnoses and the initiation of early evaluation and treatment. High levels of PTSD and/or depressive symptoms were present in over 50% of patients. Although providers frequently noted symptomatic distress, few symptomatic patients received formal diagnoses, evaluations or treatment. Patients who had positive substance toxicology screens on admission infrequently received in-depth evaluation or treatment. A substantial number of injured trauma survivors have high levels of symptomatic distress that are inconsistently evaluated and treated in the acute care medical setting. Mental health interventions appear to be feasibly and effectively delivered from trauma centers. Therefore, ongoing investigation and policy initiatives informing the detection and treatment of patients with psychiatric disturbances in acute care could substantially enhance the quality of mental health care for injured survivors of individual and mass trauma.

Keywords: PTSD; Depression; Detection; Substance abuse; Acute care

1. Introduction

Recent consensus guidelines identify injured survivors of individual and mass trauma as a high-risk group for the development of posttraumatic stress disorder (PTSD) and related comorbid conditions and recommend the development of early screening and evaluation procedures [1–3]. Injured survivors of individual and mass trauma are initially triaged in the acute care medical setting [4]. For instance, the Centers for Disease Control and Prevention report that within 48 h after the September 11th attack on the World Trade Center, 1103 physically injured survivors were triaged through five acute care facilities in New York City [5].

Substance abuse constitutes a major category of psychiatric disturbance for trauma center patients. Between 20% and 50% of trauma surgery inpatients have current or lifetime histories of alcohol and/or drug abuse/dependence [6–8]. Previous investigation suggests that injured trauma survivors frequently experience recurrent traumatic life events and reinjury [9–15] and that recurrent traumatic life events are an established risk factor for the development of PTSD [16,17]. Patients intoxicated at the time of the trauma center admission have an increased risk of injury recurrence [18].

Over the past two decades, a series of investigations have documented variable rates of detection and treatment for substance related disturbances in the acute care medical

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setting [19–24]. Although alcohol intoxication may be detected by urine toxicology screens in 75–85% of trauma center patients [19,20], chart review suggests that only 7–32% of patients with documented disturbances receive mental health evaluations or referrals [21–23].

Between 10% and 40% of surgically hospitalized injury survivors develop symptoms consistent with a diagnosis of PTSD in the days, weeks and months following inpatient injury admission [16,25,26]. In physically injured civilians [16,26,27], veterans [28,29] and refugees [30], PTSD makes an independent contribution to posttraumatic functional limitations and diminished quality of life above and beyond the impact of injury severity and medical conditions. In addition, patients with PTSD demonstrate increased costs to society primarily due to increased health care costs [31–33]. Taken together, these observations suggest that early screening and intervention procedures for injured trauma survivors that reduce the likelihood of developing chronic posttraumatic disturbances may be an essential component of public health efforts aimed at reducing the individual suffering and societal burden associated with traumatic injury [34].

A series of investigations have used standardized measures to assess the detection of anxiety disorders, including PTSD, in the primary care setting [35–39]. Taubman-Ben-Ari et al. [38] report that primary care physicians detected general psychological distress in 49% of patients who endorsed symptoms consistent with a diagnosis of PTSD. Zimmerman and Mattia [39] screened 500 primary care patients for PTSD and found that less than one in three patients who screened positive for the disorder were detected by their primary care provider.

Our review revealed few investigations that have systematically assessed the detection and treatment of patients with high levels of posttraumatic stress symptoms in the acute care medical setting. Two prior investigations have used trauma surgical registries to document that less than 1% of surgical inpatients receive registry recorded stress disorder diagnoses [40,41]. These findings suggest that patients with high levels of immediate posttraumatic distress may go undetected in acute care inpatient settings.

The goal of this investigation was to assess the routine detection, evaluation and treatment of trauma surgery inpatients with high levels of immediate posttraumatic distress. We also assessed the chart documentation of symptoms, diagnoses and treatment for patients who were positive for alcohol or stimulant at the time of admission.

2. Materials and methods

The patients and setting have been described previously; data from the current investigation was derived from a larger longitudinal study of the posttraumatic symptomatic distress, functional outcomes and health service utilization of injured trauma survivors [16]. Participants were 101 randomly selected men and women admitted to the trauma surgery service of a level I trauma center after incurring intentional (e.g., violent assaults such as gunshots, stabbings or physical assaults) or unintentional injuries (e.g., injuries incurred after automobile, motorcycle and bicycle crashes and job-related injuries).

Each morning, a research associate reviewed the list of newly admitted trauma surgery inpatients. Potential subjects were randomly selected for participation using numerical assignments from a random numbers table. Patients who were alert and oriented and scoring 15 on the Glasgow Coma Scale Score [42] were approached for consent. After performing the cognitive screen, research associates gave each hospitalized patient a brief verbal overview of the protocol and asked participants whether they would be interested in hearing a more detailed description of the study. If a subject decided to listen to more details of the protocol, the research associate gave a copy of the consent form to the subject and read aloud the entire form, allowing participants to ask questions and discuss specific aspects of the protocol. Informed consent was obtained after the study procedure had been fully explained [43]. The University of California-Davis Institutional Review Board approved all informed consent procedures before the initiation of this study.

After obtaining informed consent, study participants were administered a 1-h interview while hospitalized. The interview included questions regarding PTSD and depressive symptoms, subject demographic characteristics, prior traumatic history, alcohol and drug use, physical health and functional status, utilization of medical services and satisfaction with care. Bachelor's degree-level research associates conducted the recruitment and interview procedure. The principal investigator and senior coinvestigators trained interviewers by observing and critiquing a subsample of surgical ward interviews.

2.1. PTSD symptoms

PTSD symptom levels were assessed using the civilian version of the PTSD Checklist (PCL) [44]. Blanchard et al. [45] report that a cutoff score of ≥ 45 has a sensitivity of 0.94 and specificity of 0.86 when compared with the Clinician-Administered PTSD Scale score [46].

2.2. Depressive symptoms

We used the Center for Epidemiological Studies Depression Scale (CES-D) to screen for depressive symptoms [47]. A score of ≥ 27 has been suggested as a conservative cutoff for high depressive symptom levels [48].

2.3. Alcohol and drug use/intoxication

Alcohol and drug use at the time of admission to the hospital was assessed with blood alcohol and urine drug toxicology screens. Because opiates and benzodiazepines are frequently administered to patients by emergency personnel, only stimulant (amphetamines or cocaine) results were included as positive drug screens.