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The effect of depressive symptoms on social support one year following traumatic injury

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ABSTRACT

Background: Depression is a common mental health outcome after traumatic injury, negatively impacting physical outcomes and increasing the cost of care. Research shows that the presence and quality of support is a leading protective factor against depression post-injury; however, research is vague on the directional effects of both factors over the course of recovery.

Methods: 130 patients admitted to a Level I Trauma Center were recruited to a prospective study examining overall outcomes one-year after injury. Effects of social support and depression at baseline and 12-months post-injury were examined using correlational and cross-lagged path model analyses. Additional follow-up analyses were conducted for depression on specific types of social support.

Results: Findings replicated previous research suggesting depression and social support were inversely related. Initial depression at time of traumatic injury was predictive of social support 12-months after their injury, but initial social support levels did not significantly predict depression at 12-months. Additionally, initial depression significantly predicted attachment, social integration, reassurance of worth, and guidance 12-months later.

Limitations: Findings of the analyses are limited by lack of experimentation and inability to control for other related variables.

Conclusions: Findings of the present study support the notion that initial depression predicts poorer social support in recovery, in lieu of prevailing theory (i.e., initial support buffers against later depression) in a sample of trauma patients. These findings highlight the need for medical staff to target specific factors during inpatient stay, such as addressing depressive symptoms and preparing family members and caregivers prior to discharge.

1. Introduction

Individuals who sustain a physical trauma can face life-altering challenges in the initial months following their injury. In addition to adjusting to potential physical disability, research has shown a high prevalence of emotional distress in patients, which can severely impair the recovery process (Bryant et al., 2010; deRoon-Cassini et al., 2010; Powers et al., 2014; Trost et al., 2015; van der Sluis et al., 1998; Wiseman et al., 2013; Zatzick et al., 2003). For some, this distress can culminate into clinical symptoms of depression, with reported prevalence rates as high as 45% nearly one year later (Bryant et al., 2010; Crichlow et al., 2006; Shih et al., 2011). Of those with traumatic brain injury (TBI), up to 53.1% meet criteria for major depressive disorder (MDD; Bombardier et al., 2010).

Recent longitudinal research has examined the course and consequences of depression following traumatic injury (Holbrook et al., 1999; Toien et al., 2011; Warren et al., 2014). Depressive symptoms can occur quite soon following injury and last up to 20 years, with symptoms as early as 1 month correlating with disability 5–8 months later (Nota et al., 2015; O'Donnell et al., 2004; Vranceanu et al., 2014). Overall, research has demonstrated a well-established connection between depression post-injury and poorer physical and mental outcomes, including greater cognitive impairment (Jackson et al., 2011), moderate to severe pain intensity and interference (Archer et al., 2012), and overall poorer health behaviors like alcohol dependence, less functional independence, poorer immune function (e.g., wound healing, infections) and prolonged disability (Bombardier et al., 2010; Crichlow et al., 2006; Kiecolt-Glaser and Glaser, 2002; Lenze et al., 2004). An additional concern with post-injury depression is the association with, and elevated risk for, further psychological distress.

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For instance, a study observing the incidence of distress after injury found elevated levels of both anxiety and depression in the six-months post-injury (Wiseman et al., 2015). A longitudinal study of 1084 patients admitted to four Australian Level I trauma centers found that 22% of patients developed a psychiatric disorder in the year following their injury, with depression the most common (9%; Bryant et al., 2010). More concerning, studies observing patients of Level I trauma centers found that up to 38% of patients who had high levels of depressive symptoms also had posttraumatic stress disorder (PTSD) in the year following their injury (Shih et al., 2011; Zatzick et al., 2003). Such poor physical and psychosocial outcomes related to depression post-injury indicate the importance of identifying factors that can influence the onset and persistence of depression over the long-term.

1.1. Social support and depression after injury

One known influence on the prevention of depressive symptoms and related distress after injury is the role of social support (Prang et al., 2015; Santini, 2015). There exists a well-established connection between social support and better physical and psychological outcomes related to health, including decreased risk for morbidity and mortality (Holt-Lunstad et al., 2010), better immune and cardiovascular function, and overall health behaviors (Uchino, 2006). Social support is also tied to a broader profile of psychological coping that includes positive affect and adaptive coping (Steptoe et al., 2009).

However, like depressive symptoms, research on social support is as diverse as it is complex. Rauch and Ferry (2001) examined how various factors such as size, density, and quality of social support networks can differentially alter unique areas of health-related quality of life in the months following a traumatic injury. For instance, they argue that there is a differential effect between everyday support versus crises support, where everyday support can offer increases in self-esteem and worthwhile crises support can reduce the impact of intense and adverse stress (Rauch and Ferry, 2001). An early study by Elliott et al. (1992) also cautioned against ignoring the nuances of social support on psychosocial impairment after a TBI in light of their findings; they found that attachment and nurturance were helpful in the short-term but harmful after a prolonged period of time. In addition, guidance from authority and reassurance of worth from peers were significantly more meaningful compared to material aid (Elliott et al., 1992). However, a large body of evidence does demonstrate that, generally, social support is associated with decreased risk of depression and depression relapse, making the relationship between depression and social support important for consideration when assessing healthy recovery after injury (Brewin et al., 2000; Kawachi and Berkman, 2001; Martire and Schulz, 2007; Santini, 2015).

1.2. Theories of social support and depression after injury

Though social support and depression have long been associated, little is known about the causal mechanisms between these two constructs (Thoits, 2011; Uchino et al., 2012). One prevailing theory, related to the stress buffering hypothesis, is that social support can protect against the onset of depression because it provides protection against the consequences of stress (Cohen and Wills, 1985; Cohen, 2004; Thoits et al., 2011). Recent intervention research suggests that focusing on factors related to social support (e.g., sense of control, reassurance of worth, sense of support, social guidance) facilitates an individual's ability to deal with stressors, encourages greater self-efficacy, and lowers risk for depressive symptoms (Kawachi and Berkman, 2001; Thoits et al., 2011). For instance, in a study of post-myocardial infarction (MI) patients, high levels of social support after MI buffered the impact that depression had on mortality risk (Frasure-Smith et al., 2000). Specific to traumatic injury, effective social support and coping strategies within the families of TBI patients were significantly associated with decreased depression (Leach et al., 1994; Beedie and Kennedy, 2002).

However, an alternative theory suggests that depression causes changes in social support by affecting the quality of the depressed individual's social interactions (Liu and Alloy, 2010; Park et al., 2014). Research shows that depression can pervasively damage social and family relationships, with consequences of this dysfunction lasting long after depression recedes (Hinrichsen et al., 2005). In one study observing individuals with TBI, those that were positive for depression at baseline demonstrated poorer social functioning and impaired close relationships at every three-month follow-up call up to one year (Gomez-Hernandez et al., 1997). Individuals who are depressed can interact with friends and family in ways that impact the level of social support they receive, such as demonstrating lack of interest in the relationships, irritability, difficulty concentrating on interactions that take place, and general negativity (American Psychiatric Association, 2013). These maladaptive interpersonal behaviors can go on to negatively affect the relationship with and the well-being of close partners (Morton and Wehman, 1995; Park et al., 2014).

In the case of individuals after traumatic injury, such effects of depression on social support, and vice versa, can very well have detrimental consequences for recovery. However, most traumatic injury research examining the influence between social support and depression is limited to TBI, a unique sample within the trauma population. Furthermore, there is little research that examines the longitudinal relationship between depression and social support in a heterogeneous sample of traumatic injury. By prospectively observing levels of social support and depression in such a sample, it is possible to identify potential causal links between social support and depression in the post-injury months of physical and psychosocial recovery.

1.3. The current study

The present study examined levels of depression and social support in patients admitted to a Level I trauma center in the Southwestern United States. Level I trauma centers, verified by the American College of Surgeons Committee on Trauma (ACS-COT), are equipped to provide the highest level of care to patients experiencing life threatening injuries (American College of Surgeons-Committee on Trauma, 2014). The primary aim was to examine the relationships between social support and depression both at baseline (i.e., cross-sectionally) and 12 months later (i.e., longitudinally)—in particular, assessing directional relationships between social support and depression (and vice versa) to determine support for potential causality. A secondary aim was to examine what types of social support, if any, were primary factors in the relationship between social support and depression.

Hypotheses. . The first hypothesis was that depression and social support would be significantly negatively associated at both baseline and 12 months. The second hypothesis was that changes in depression over the course of 12 months would be significantly negatively related to subsequent changes in social support. In addition, these changes would be present via stress-buffering hypothesis (i.e., initial social support protecting against 12-month depression) and the alternative theory (i.e., initial depression causes negative changes in social support). Finally, the third hypothesis was that—provided the relationship was significant—depression would have a differential impact on social support, such that specific areas of social support would be more affected than others.

2. Methods

2.1. Participants

Participants in this study were individuals admitted to the hospital's trauma service after sustaining an injury. To be included in the study, participants were 18 years of age or older, admitted to the trauma