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Brief report

Delayed-onset PTSD: A prospective study of injury survivors

Jessica Carty [a], Meaghan L. O'Donnell [a,b,c,*], Mark Creamer [a,b]

[a] *Australian Centre for Posttraumatic Mental Health, Australia*
[b] *University of Melbourne, Australia*
[c] *National Trauma Research Institute, Australia*

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Abstract

Background: Recent studies have indicated that delayed-onset posttraumatic stress disorder (PTSD) (i.e., the development of PTSD more than 6 months posttrauma) is generally characterised by subsyndromal diagnoses within the first 6 months. This study sought to examine the relationship between sub-clinical levels of PTSD symptoms at 3 months posttrauma and delayed onset PTSD at 12 months in a large sample of traumatic injury survivors.
Methods: Three hundred and one consecutively admitted injury survivors were assessed at 3 and 12 months posttrauma. PTSD was diagnosed according to DSM-IV criteria, while partial and subsyndromal diagnoses were based on recent definitions developed by Mylle and Maes [Mylle, J., Maes, M., 2004. Partial posttraumatic stress disorder revisited. J. Affect. Disord. 78, 37–48].
Results: Eight percent of participants was diagnosed with 3-month PTSD while 10% was diagnosed with 12-month PTSD. Nearly half (47%) of 12-month PTSD cases were of delayed onset. The majority of those with delayed-onset were diagnosed with partial or subsyndromal PTSD at 3 months. Ten percent of delayed onset cases did not meet partial or subsyndromal criteria.
Limitations: As symptoms were not assessed at 6 months (the DSM cut-off for delayed PTSD), it could not be conclusively determined that delayed-onset cases had not developed PTSD between 3 and 6 months posttrauma.
Conclusion: A considerable proportion of 12-month PTSD diagnoses was delayed in onset. While most demonstrated 3-month morbidity in the form of partial and subsyndromal diagnoses, a minority did not. Thus, clinicians should consider subthreshold diagnoses as potential risk factors for delayed-onset PTSD. Future research is required to identify factors that may predict delayed-onset PTSD in trauma survivors without evidence of prior PTSD pathology.

Keywords: Posttraumatic stress disorder; Delayed-onset; Injury; Subthreshold syndromes

1. Introduction

Delayed-onset posttraumatic stress disorder (PTSD) is of considerable theoretical and clinical interest, as it deviates from the commonly observed trajectory of posttraumatic morbidity. Following trauma, most survivors experience acute posttraumatic symptomatology which, in a minority, does not remit and subsequently develops into PTSD (Davidson et al., 2004). In contrast, according to DSM-IV, delayed-onset PTSD does not develop until at least 6 months posttrauma (American Psychiatric Association, 1994), with onset potentially delayed for years (Solomon et al., 1989).

* Corresponding author. Australian Centre for Posttraumatic Mental Health, PO Box 5444, West Heidelberg Victoria 3081, Australia. Tel.: +61 3 9496 2922; fax: +61 3 9496 2830.
E-mail address: mod@unimelb.edu.au (M.L. O'Donnell).

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Longitudinal studies, comprised predominantly of motor vehicle accident (MVA) survivors, report estimates of delayed-onset PTSD ranging from 3.5% to 19.7%, with most finding rates below 7% (Mayou et al., 1993; Bryant and Harvey, 2002; Ehlers et al., 1998; McFarlane, 1988). Interestingly, although overall rates of delayed-onset PTSD are low, the proportion of PTSD cases that are delayed is noteworthy (18%, Bryant and Harvey, 2002; 33%, Ehlers et al., 1998; 31%, O'Donnell et al., 2004a).

Those studies have also indicated that delayed-onset PTSD is frequently characterized by considerable symptomatology within the first 6 months posttrauma. In a study of 103 MVA survivors, Bryant and Harvey (2002) found that, relative to the non-PTSD group, 12-month delayed-onset PTSD was associated with elevated levels of 1-month re-experiencing symptoms and resting heart rate, as well as 6-month subsyndromal PTSD. Freedman et al. (1999) and Buckley et al. (1996) reported similar relationships between delayed onset and prior subsyndromal diagnosis, suggesting that delayed-onset may develop following an increase in subthreshold impairment. Indeed, based on existing evidence, Blanchard and Hickling (2004, p. 168) concluded that it is '*extremely* unlikely' (their emphasis) for MVA survivors to develop delayed-onset PTSD without meeting earlier subsyndromal criteria.

The question remains, however, as to whether all those who develop delayed-onset PTSD have subthreshold symptoms in the initial months posttrauma. Focus on MVA populations, small sample sizes, and low rates of PTSD reduce the generalisability of findings. Furthermore, several terms exist to describe subclinical PTSD (e.g., partial, subsyndromal, subthreshold) and researchers have used different levels of symptom severity and cluster fulfillment to determine criteria for these sub-clinical diagnoses. Mylle and Maes (2004) endeavored to establish a uniform definition using hierarchical cluster analysis and identified 2 categories which they argued represent specific nosological categories or PTSD subcategories: 'Subsyndromal' PTSD, consisting of at least 1 symptom from each DSM-IV cluster, and 'Partial' PTSD which requires fulfillment of at least one B, C or D cluster and criterion F, an indicator of functional impairment.

The current study was designed to identify the prevalence of delayed-onset PTSD in a large sample of injury survivors, assessed longitudinally using a structured clinical interview to identify PTSD symptom severity and diagnosis. The second aim was to examine the relationship between 3-month subthreshold symptomatology in the form of partial or subsyndromal PTSD and the development of 12-month delayed-onset PTSD. Finally, this study sought to identify whether there was a group of individuals who developed delayed-onset PTSD in the absence of prior PTSD symptoms.

2. Method

2.1. Participants

The sample comprised consecutive injury admissions to the trauma service of a major teaching hospital. A detailed account of the recruitment process has been reported elsewhere (O'Donnell et al., 2004b). Subjects were eligible if they had experienced a physical injury requiring hospitalisation for at least 24 h, were aged between 18 and 70 years, experienced either no brain injury or a minor traumatic brain injury (MTBI: as defined by the American Congress of Rehabilitation Medicine, 1993), and had a reasonable comprehension of English. Exclusion criteria included admission due to a self-inflicted injury, current psychotic disorder and current intravenous substance abuse. Three hundred and sixty three participants were assessed in the acute setting. Three hundred and one participants completed 3-month and 12-month assessments and, thus, were eligible for inclusion in this study. The sample was predominantly male (227 men and 74 women), with a mean age of 37.25 (S.D. = 13.71) and average injury severity score (ISS) (Baker et al., 1974) of 13.59 (S.D. = 9.37). Respondents spent an average 10.56 days in hospital (S.D. = 10.22). Most (75.4%) had experienced an MVA, 9.7% were injured at work, 2.7% had been assaulted and 12.3% had experienced other accidents. Over half of participants had a MTBI ($n = 164$).

2.2. Measures and procedure

PTSD was assessed using the CAPS-IV (Blake et al., 1998), a structured clinical interview that has demonstrated excellent reliability and validity (Weathers et al., 2001). The CAPS was administered by two trained mental health clinicians just prior to hospital discharge and re-administered at 3 and 12 months postinjury. Due to the frequent presence of MTBI and inability to differentiate psychogenic from organic amnesia, the CAPS was scored without the inclusion of a question regarding psychogenic amnesia. DSM-IV criteria were used to make a PTSD diagnosis. Partial and subsyndromal PTSD diagnoses were based on the criteria specified by Mylle and Maes (2004).