

Epidemiology

Epidemiological research is concerned with the distribution and determinants of disease within a given population. Our epidemiological research comprises two main arms: prevalence and vulnerability.

Prevalence

Our prevalence research program is focussed on understanding the psychological impact of trauma and how psychological recovery can be more effectively promoted. While the focus of prevalence studies within trauma-exposed populations is typically posttraumatic stress disorder (PTSD), there is growing evidence that trauma leads to a wide range of other psychiatric disorders.

National prevalence of PTSD

Epidemiological studies in the US have indicated that traumatic events are commonly experienced in the general community, yet only a small percentage of those exposed will develop PTSD. Using data from the 1998 Australian National Survey of Mental Health and Well-being (NSMHWB), we estimated 12-month prevalence of PTSD to be 1.33%, a rate considerably lower than that found in comparable North American studies. Among those who had experienced trauma, rape or sexual molestation were the traumatic events most likely to be associated with subsequent PTSD, with females at greater risk of experiencing these high risk traumas than males. For both sexes, PTSD was associated with high rates of anxiety, depression and substance use disorders. We have collaborated with the Centre for Military and Veterans' Health (CMVH) to build on this research, using data from the 2007 NSMHWB. The aim of this research was to compare the prevalence of affective anxiety and substance use disorders and the use of mental health services between respondents identifying with the Australian Defence Force (ADF) or the Department of Veterans' Affairs (DVA). It was found that males who received DVA benefits and served with the ADF were significantly more likely to be older and report poorer health.

Prevalence of psychiatric disorders after injury

Traumatic injury affects millions of people each year, yet there is little understanding of the extent of psychiatric illness that develops after traumatic injury. In this prospective study, we utilised a large sample of participants who were assessed during hospital admission, and subsequently followed up at 3 months, 12 months and 6 years after injury. At 12-month follow-up, 31% of

patients reported a psychiatric disorder. Twenty-two per cent developed a psychiatric disorder that they had never experienced before, the most common of which were depression (9%), generalised anxiety disorder (9%), posttraumatic stress disorder (6%), and agoraphobia (6%). At 6-year follow-up, rates were similar, with 28% of patients reporting a psychiatric disorder and 18% having developed a psychiatric disorder they had never experienced before. Given the prevalence and range of first-onset psychiatric disorder in this population, early identification and provision of appropriate treatment is important for optimal recovery following a traumatic injury.

Vulnerability

Research indicates that the majority of people are resilient following exposure to a traumatic event and will experience a gradual reduction of anxious or depressed feelings. Yet some appear to have a higher vulnerability to posttraumatic psychopathology, and it is clear that for these people, such feelings can negatively impact overall recovery from trauma. Our vulnerability research program investigates what factors contribute to vulnerability to poor recovery following trauma exposure.

Injury Vulnerability Study (IVS)

Until relatively recently, the psychiatric aspect of injury was largely ignored. The Injury Vulnerability Study aimed to address this gap and represents one of the largest studies of posttraumatic mental health ever undertaken. We collected data on a range of psychological, biological, and behavioural indices from over 1000 patients admitted to four Level 1 trauma services across Australia. Participants were then followed up at 3 months, and 1, 2 and 6 years after injury and administered a structured clinical interview assessing PTSD, mood, anxiety, and substance use disorders. The rich data collected as part of this project have allowed Phoenix Australia researchers to conduct a detailed investigation into what makes people vulnerable to psychiatric disturbance following a serious injury. Findings of the IVS also led to the development of a world first screening tool to identify people who are at risk of developing PTSD or depression after injury. O'Donnell, M. L., Creamer, M. C., et al. (2008). A predictive screening index for posttraumatic stress disorder and depression following traumatic injury. *Journal of Consulting and Clinical Psychology* 76(6): 923-932.

Sleep and vulnerability

A history of insomnia has been found to increase vulnerability to mental health disorders such as anxiety and depression, but the extent to which this applies to posttraumatic disorders has not been investigated. We assessed sleep disturbance in the two weeks prior to traumatic injury and psychiatric disorder three months post-injury. The results showed that pre-trauma sleep disturbance increases the risk of developing a range of posttraumatic psychiatric disorders, including anxiety, affective, and substance use disorders. This effect persisted even after controlling for prior psychiatric disorders, which may account for the sleep disturbance. Assessing pre-trauma sleep disturbance in the early aftermath of trauma may therefore improve the ability of clinicians to identify a patient's risk for subsequent mental health problems.

The effects of mild traumatic brain injury (MTBI)

In recent years there has been increased interest in the effects of MTBI as incidence rates have risen amongst veterans returning from the conflicts in Iraq and Afghanistan. Our research has focussed on the relationship between MTBI and mental health after injury. For example, we found that MTBI represents a vulnerability to developing acute stress disorder (ASD) after injury. MTBI patients also report higher levels of distress associated with psychological symptoms. We also found that patients who sustain an MTBI are more likely to develop anxiety disorders compared to those who sustain a traumatic injury, indicating a unique relationship between the psychopathology of MTBI and anxiety disorders. It appears that MTBI patients may represent a group at risk of poorer long-term psychological adjustment. We are conducting ongoing research into the interaction between MTBI and mental health, particularly the effect of MTBI on recovery from injury.

The impact of access to compensation on recovery outcomes

Previous research has found that access to compensation is associated with poor recovery outcomes following injury, however, this relationship has rarely been examined outside of worker's compensation populations. This research aimed to investigate the effect of access to other forms of compensation. We found that injury patients with access to motor vehicle accident compensation have considerably poorer mental health and return-to-work outcomes than non-compensable patients. However, this relationship was found to be highly complex. While there was variation in how stressful claimants found the claims process, we found that a high level of stress experienced during the claims process uniquely contributed to poor long-term recovery after injury. Those with mental health issues were more likely to find the claims process stressful which, in turn, contributes to poorer outcomes.

Individual differences

A growing body of literature suggests that the expression of mental health problems after injury is related to particular personality traits, but previous cross-sectional research has been unable to determine if this relationship is causal. This study employed a longitudinal design to test whether the development of particular posttraumatic disorders after trauma can actually be predicted by an individual's pre-trauma personality. Data collection and analysis for this project is ongoing, with full study results to be published in 2015. These findings will contribute to our ability to predict long-term outcomes for injury victims.