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Suicidality in Australian Vietnam veterans and their partners

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ABSTRACT

Lifetime suicidality was assessed in a cohort of 448 ageing Australian Vietnam veterans and 237 female partners during in-person structured psychiatric interviews that permitted direct comparison with age-sex matched Australian population statistics. Relative risks for suicidal ideation, planning and attempts were 7.9, 9.7 and 13.8 times higher for veterans compared with the Australian population and for partners were 6.2, 3.5 and 6.0 times higher. Odds ratios between psychiatric diagnoses and suicidality were computed using multivariate logistic regression, and suicidality severity scores were assigned from ideation, planning and attempt, and analysed using ordinal regression. PTSD, depression alcohol disorders, phobia and agoraphobia were prominent predictors of ideation, attempts and suicidal severity among veterans, while depression, PTSD, social phobia and panic disorder were prominent predictors among partners. For veterans and their partners, PTSD is a risk factor for suicidality even in the presence of other psychiatric disorders, and is stronger in Vietnam veterans than their partners.

Posttraumatic Stress Disorder (PTSD) has been reported to be a risk factor for suicide attempts (Fontana and Rosenheck, 1995) and completed suicide (Bullman and Kang, 1994) in American Vietnam veterans. A recent merging of the US Department of Veterans Affairs database with the US Centres for Disease Control National Death Index (Ilgen et al., 2010) found significant risk of suicide associated with both PTSD and depression, with older veterans more likely to complete suicide. PTSD has been linked to suicidality in meta-analyses that included military and civilian samples (Krysinska and Lester, 2010; Panagioti et al., 2012) and recent empirical studies of US veterans (Pietrzak et al., 2011; Fanning and Pietrzac, 2013).

Suicidality is any self-initiated behaviour occurring on a continuum ranging from suicidal ideations, to making a suicide plan, through to suicide attempt (O'Carroll et al., 1996). In the World Health Organization (WHO) survey of general populations in 21 countries (Nock et al., 2008, 2009) ideation, planning, and attempts were considered separately and revealed that all DSM-IV disorders that were assessed (anxiety disorders including PTSD, mood disorders, impulse-control disorders, and substance use disorders) were predictive of ideation and attempt in both developed and developing countries. The strongest predictors of attempts in developed countries were mood disorders, while in developing countries impulse-control, substance use and PTSD were most predictive. A further analysis of the WHO survey (Borges et al., 2010) reported that virtually all of the 16 diagnostic endpoints assessed were predictive of ideation, but few predicted attempts. Risk factors for attempts included female sex, younger age, lower education and income, being unmarried, and being unemployed. These samples were of civilian populations aged 18 or older, in contrast to military populations, in particular of ageing Vietnam veterans.

Male sex and older age are established risk factors for completed suicide (WHO, 2012) which suggests that ageing Vietnam veterans may now have moved to an even higher risk era than reported in earlier studies conducted when they were younger. The higher prevalences of psychiatric disorders in Australian Vietnam veterans compared with their background population (O'Toole et al., 1996a, 1996b; O'Toole et al., 2010a) should also place them at higher risk of suicidality. Earlier Australian government research suggested there was a slightly higher risk of completed suicide in Australian

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Vietnam veterans, however the rates were not statistically significant compared to the age-sex matched Australian population (Crane et al., 1997). A later independent report commissioned by the Australian Government into suicide in the Australian ex-service community recently concluded that the risk of suicide in Australian Vietnam veterans is likely to be higher than in the general Australian population (Dunt, 2009). However, non-fatal suicidality in Australian veterans remains unresearched.

Also unresearched are the suicidality rates of veterans' partners. Evidence of poorer mental health has been reported in the partners of Vietnam veterans (O'Toole et al., 2010a, 2010b), with higher levels of psychiatric disorders than the background population. It might therefore be expected that there would be higher degrees of suicidality among partners. Moreover, veteran psychiatric conditions have been found to be associated with increased risk of psychiatric conditions in their partners (O'Toole et al., 2010a, 2010b). Given the 'contagion of suicidality' (whereby suicidal behaviour is socially or interpersonally transmitted from one to another; Joiner, 1999) may be especially prevalent in intimate relationships (Zhang and Zhou, 2011). On the other hand, being married has been reported to exert a protective effect for suicide in the general population (Denny et al., 2009; Fairweather-Schmidt et al., 2010) and in veterans (Kaplan et al., 2007; Thoresen et al., 2006) and the WHO survey found higher rates of suicidality in those who had never been married (Nock et al., 2008).

This paper reports the findings from a cohort study of Australian veterans of the Vietnam war and an associated study of their wives and partners. The aims of the study were:

1) To establish the prevalence of suicidality (ideation, planning, attempt) in male Australian Vietnam veterans and their female partners and compare these with the background Australian population;
2) To examine the concordance between veteran and partner suicidality;
3) To assess the degree of risk for suicidality associated with psychiatric disorders in veterans and partners;
4) To assess the independent contribution of PTSD to suicidality in veterans and their partners.

1. Method

Vietnam veterans were identified from a roll supplied to the study by the Australian Army from which a random sample of 1000 was selected (O'Toole et al., 1996a, 1996b). Two waves of veteran interviews were conducted, wave 1 between July 1990 and February 1993, an average of 21.96 years (SD = 1.91) after repatriation, and wave two interviews between April 2005 and November 2006, an average of 36.10 years (SD = 1.92). This paper reports findings from the wave 2 veteran assessment. Due to funding lag for the study of partners, interviews with partners were conducted separately between July 2006 and December 2007, with a mean veteran-partner interview interval of 62.6 weeks (SD = 28.68).

Deaths to 2004 were ascertained from a search of the National Death Index held by the Australian Institute of Health and Welfare (O'Toole et al., 2009). A total of 125 deaths was found in the cohort of veterans, including eight who had died in Vietnam and 13 post-war suicides. Four hundred and fifty veterans were interviewed, which was 51.4% of those not known to have died and 79.4% of those who could be located. Of the 426 veterans who had wives or partners, 56 (12.4%) refused consent to give contact details, leaving an eligible pool of 370 women of whom a total of 240 completed interviews, giving a response rate of 56.3% of known eligible wives and partners (hereafter referred to as partners) or 64.9% of partners where the veteran had provided consent to contact. Response bias has been examined previously in this sample (O'Toole et al., 1996a; O'Toole et al., 2009; O'Toole et al., 2010a, 2010b).

Interview assessments comprised standardized questionnaire instruments selected to permit direct comparison with national population statistics and were administered by trained masters and doctoral level clinical and research interviewers. The Australian Bureau of Statistics (ABS) and the WHO Sydney Training and Reference Centre in Sydney, Australia, gave access to the computer programs used to collect interview data and supporting documentation used in gathering national statistics on the health of the Australian population at approximately corresponding times. ABS also provided the computerized Confidentialized Unit Record Files ('Curfs') from the national survey data for direct comparison of veteran and partner data with the population.

Psychiatric status was assessed using the Composite International Diagnostic Interview (CIDI; WHO, 1997), the version (2.1) used by ABS in the first Australian National Survey of Mental Health and Wellbeing (NSMHWB) 1997 (Australian Bureau of Statistics (1997); Andrews et al., 2001). This was the only national data available at the time of planning and execution of the fieldwork interviews; ABS had yet to release the second National Survey of Mental Health and Wellbeing in 2007. Questions about lifetime suicidality were part of the CIDI depression module, entered after positive responses to two screener questions (history of two weeks or more feeling sad, empty or depressed, or two weeks of loss of interest in most things like work, hobbies, things usually enjoyed). The module asked about thoughts of death and thoughts of suicide; positive responses were then followed by questions on suicide plans and suicide attempts. Combat-related PTSD in veterans was assessed using the Clinician-assessed PTSD Scale (CAPS; Weathers et al., 2001) while PTSD attributable to a civilian cause was assessed using the PTSD module of the CIDI. PTSD in partners was assessed with the PTSD module of the CIDI.

The study received ethics approval from the University of Sydney, Australian Department of Veterans Affairs, Australian Institute of Health and Welfare, and The Repatriation General Hospital, Concord (veteran component) and The Repatriation General Hospital, Concord (partner component). Written informed consent was obtained prior to interview. All interviews were computer-assisted. Interviews with veterans (average 4 h) were conducted in-person and interviews with partners (average 2.5 h) were conducted by telephone. Psychiatric conditions were coded according to the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disease, Fourth Edition (DSM-IV) (American Psychiatric Association, 1994).

1.1. Statistical analysis

Statistical analysis used SPSS V22.0 (IBM Corporation, 2011); two-sided statistical significance was set at $\alpha = .05$. In the course of analysis, mild depression bore no relationship to suicidality and was excluded and a compound depression variable combining moderate and severe single episode and recurrent major depressive disorder was computed. For comparison of data items with the Australian population, the expected number of cases in each data item category was calculated by standardizing the Australian population to the age distributions of the veterans and partners in 5-year age bands. The ratios of the observed and expected prevalences and corresponding 95% confidence intervals (95% CI) were then computed.

Associations with suicidality items were assessed using odds ratios (ORs) and 95% confidence intervals derived from logistic regression. Potential confounders of age at interview, number of years of schooling, employment status and marital status were