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Research paper

The continuity and duration of depression and its relationship to non-suicidal self-harm and suicidal ideation and behavior in adolescents 12–17

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ABSTRACT

Background: There is a significant overlap between non-suicidal self-harm and suicidal ideation and behavior in young people with both symptom continuity and symptom duration implicated in this association.
Methods: A population sample of Australian 12–17 year olds. Interviewers collected measures for DSM disorders, symptom duration and continuity, and background information from their parents, while young people self-reported symptoms of depression, non-suicidal self-harm and suicidal ideation and behaviors. This report focusses on the 265 young people who met the DSM criteria for Major Depressive Disorder based on their own self-reports.
Results: Relative to young people who had at least one period 2 months or longer without symptoms since first onset, young people who had the continuous presence of depressive symptoms since their first onset had significantly higher odds for life-time self-harm, 12-month self-harm, multiple self-harm, suicidal ideation and suicide attempt within the past 12 months. The duration of depressive symptoms and the continuity of these symptoms each independently contribute to elevating the risks of non-suicidal self-harming and suicidal ideation and behaviors.
Limitations: Reliance on self-report from the young people and time constraints prohibiting administering diagnostic modules other than the Major Depressive Disorder and estimating self-reported co-morbidity.
Conclusions: Among young people with a Major Depressive Disorder, self-reports about duration of depressive symptoms as well as the continuity of symptoms, each independently contributes to elevated risks of non-suicidal self-harming and suicidal ideation and behaviors. As well, un-remitting as opposed to episodic symptoms in this group of young people are common and are a powerful indicator of suffering associated with both self-harm and suicidal behavior.

1. Introduction

Adolescence and early adulthood – the period from age 10–24 years – is celebrated as a time of relatively good health with an accompanying lower demand and need for public and tertiary health services by young people this age. However, in terms of the global burden of disease, depression (both unipolar depression and bipolar disorder) in young people in this age is a major contributor to years lived with disability (Gore et al., 2011). And depression during these years brings additional burden through the mortality and morbidity associated with both suicidal and self-harming behaviors (Thapar et al., 2012). For example, in Australia, among 12–17 year-olds with Major Depressive Disorder (MDD), 47% report non-suicidal self-harm behavior and 19.7% report a suicide attempt over a 12 month period. In contrast, among 12–17 year-olds with no mental disorder, only 4.2% report non-suicidal self-harm behavior and 0.4% report a suicide attempt (Lawrence et al., 2015).

While the descriptive epidemiology of non-suicidal self-harm is at an earlier stage relative to that of study of suicidal ideation and behavior, what is known is that non-suicidal self-injury is characterised by substantial diagnostic heterogeneity in the mental disorders associated with it (Nock, 2012); with mixed evidence of a higher prevalence overall in females relative to males (Muehlenkamp et al., 2012); and, a

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strong positive association with suicidal behavior (Hawton et al., 2003; Martin et al., 2010; Nock et al., 2006). Importantly, longitudinal study indicates a substantial reduction in non-suicidal self-harming behavior with increasing age with onward persistence (ie. duration) of self-harm into young adulthood only associated with adolescent symptoms of depression and anxiety (Moran et al., 2012).

Suicidal ideation and behavior and non-suicidal self-harm are not independent. Guan et al. (2012) observed non-suicidal self-injury to be prospectively associated with onward suicidal ideation and suicide attempts in a community adolescent sample (Guan et al., 2012). In their meta-analysis of the correlates of suicide attempts among self-injurers, Victor and Klonsky (2014) concluded that after suicidal ideation, the strongest predictors of suicide attempt were the frequency of non-suicidal self-injury, the number of self-injury methods and hopelessness (Victor and Klonsky, 2014). In our own work, we found that for young people aged 12–17 years with self-reported DISC-IV Major Depressive Disorder, 40.7% of those that had ever engaged in non-suicidal self-harm between 1 and 3 times also reported that they had suicidal ideation in the past 12 months; 35.6% reported making a suicide plan in the last 12 months, and 14.2% had ever attempted suicide. When non-suicidal self-harm was reported to have occurred 4 or more times among young people aged 12–17 years with self-reported DISC-IV Major Depressive Disorder, these proportions rose to 78.3%, 67.8% and 49.0% respectively (Zubrick et al., 2016).

Given the high co-dependence of suicidal ideation and behavior and non-suicidal self-harm – particularly in the presence and persistence of depression –it may be that better documentation of the timing and duration of symptoms of depression in young people would offer more precision in targeting public health prevention to reduce health burden (Santelli and Galea, 2011). Using data from the National Comorbidity Study Replication (NCS-R), Thompson reported younger age of onset of depression to be associated with higher levels of suicidal intent irrespective of the age of the respondent at the time of their interview (Thompson, 2008). These data were based upon the reports of adults aged 18 years and older. So too in Australia, Zubrick et al., (2015, 2016) found that 17.4% of the young people who had MDD at interview reported the first onset of any symptoms of depression to have occurred 5 or more years ago. With respect to their current episode, 38.1% reported the onset of symptoms to have occurred with the past 2–5 years (Zubrick et al., 2015, 2016). This suggests a considerable period of potential suffering among young people with depression and is congruent with Kovacs et al. (1994) findings that the first episode of MDD may be experienced two to three years after the onset of Depressive Disorder (i.e. dysthymia, chronic disturbance in mood) (Kovacs et al., 1994).

In this paper, we seek to more closely examine the co-occurrence of non-suicidal self-harm with suicidal ideation and behavior in the presence of a diagnosis of Major Depressive Disorder as measured in the self-reports of young people themselves. Both practical and substantive reasons guided this focus. First, time and cost considerations prevented the collection of youth self-reports on other DSM-IV disorders – we only administered the Major Depressive Disorder criteria directly to the young people. Second, while other DSM-IV disorders in these young people were measured via the parent-reports, the concordance between the parent report of MDD and youth report of MDD was very low. The total prevalence of MDD using both the parent and youth reports was 10.5%. Of this total prevalence, 5.8% was attributable to the youth report, 2.8% was attributable solely to the parent report, and 1.9% of this prevalence was shared by youth and parent reports (see Lawrence et al., 2015, p.9).

Our focus on Major Depressive Disorder as measured from the reports of young people themselves, reduces diagnostic heterogeneity and focusses on a key mental disorder associated with high rates of both non-suicidal self-harm and suicidal behaviors and their onward persistence. A key feature of this is a focus on the severity of the depression as measured by its duration and continuity as a potential predictor of both self-harm and suicide. We employ a large representative national population sample of Australian 12–17 year olds (Lawrence et al., 2015) with measures collected from the young people themselves as well as their parents. These data contain standard diagnostic measures for DSM related disorders, measures of symptom duration and continuity, measures of mental health distress, as well as self-reported measures of non-suicidal self-harm, suicidal ideation and suicidal behaviors. Our aims are to estimate: 1) the relationship of age and gender to self-harm and suicidal behaviors; 2) the independent effect that duration of symptoms of depression has on reports of non-suicidal self-harm and suicidal behaviors, and; 3) the independent effects that continuity of depression has on the association between reports of non-suicidal self-harm and suicidal behaviors.

2. Methods

The design, sampling and survey interview methods are described extensively elsewhere (Hafekost et al., 2015). Briefly, the survey employed area-based random sampling with voluntary recruitment and consent of households in scope where there was at least one child aged 4–17 years. One child was randomly selected for inclusion where there was more than one eligible child in the household. The overall response rate to the survey was 55% with 6310 parents and carers of eligible households participating in the survey. In addition, 2655 (89.2%) of a possible 2976 12–17 year olds completed the youth questionnaire which contained questions about self-harm and suicidal behavior.

We examined the sample for its representativeness. Comparison with 2011 Census data showed that our survey sample was broadly representative of the Australian population in terms of major demographic characteristics (Hafekost et al., 2016, 2015). The overall sample was found to include a higher proportion of children aged 4–7 years than would be expected based on random sampling with 34.2% of the main sample aged 4–7 years, compared to the 29.4% in the 2011 Census. There was also a lower proportion of families with only one eligible child, with 37.9% of all participating families having one child compared with 45.8% of those in the 2011 Census. However, in all other regards, no differences were noted with respect to area level socio-economic indicators, population distribution, age, sex and country of birth of the total population of 4–17 year-olds in Australia and demographic characteristics including household income, family type, household tenure, parent/carer education and labour force status of families with children aged 4–17 years. We concluded that the achieved sample of 4–17 year-olds was broadly representative of the Australian population.

With respect to the 12–17 year-olds who completed the youth questionnaire, the participation rate at this stage of the survey was 89.2% and it was possible to compare young people who participated in the youth self-report questionnaire and those who did not by characteristics measured in the parent interview (Hafekost et al., 2016). Marginally lower participation rates were recorded among young people living in families with poor family functioning, and where the parent reported Strengths and Difficulties Questionnaire total score was in the abnormal range or where one or more mental disorders had been identified in the past 12 months using the DISC-IV.

Survey data have been weighted to represent the full Australian population of 4–17 year-olds, and to adjust for patterns in non-response. Additionally, 16–17 year-olds were specifically oversampled. The weighting accounts for these factors. Survey estimates and associated confidence intervals have been calculated using the method of Taylor Series Linearisation (Wolter, 2007). The association between suicidal behaviors and mental disorders was examined using logistic regression, using the SAS SURVEYLOGISTIC procedure to account for the clustered nature of the sample design and the use of survey weights. All analyses were conducted using SAS software (SAS Institute Inc, 2014).