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Foreword

This volume contains quotations from internationally peer-reviewed suicide research published during the semester November 2013 – April 2014; it is the eleventh of a series produced biannually by our Institute with the aim of assisting the Commonwealth Department of Health in being constantly updated on new evidences from the scientific community.

As usual, the initial section of the volume collects a number of publications that could have particular relevance for the Australian people in terms of potential applicability. These publications are accompanied by a short comment from us, and an explanation of the motives that justify why we have considered of interest the implementation of studies’ findings in the Australian context. An introductory part provides the rationale and the methodology followed in the identification of papers.

The central part of the volume represents a selection of research articles of particular significance; their abstracts are reported in extenso, underlining our invitation at reading those papers in full text: they represent a remarkable advancement of suicide research knowledge.

The last section reports all items retrievable from major electronic databases. We have catalogued them on the basis of their prevailing reference to fatal and non-fatal suicidal behaviours, with various sub-headings (e.g. epidemiology, risk factors, etc). The deriving list guarantees a level of completeness superior to any individual system; it can constitute a useful tool for all those interested in a quick update of what is most recently published on the topic.

Our intent was to make suicide research more approachable to non-specialists, and in the meantime provide an opportunity for a vademecum of quotations credible also at the professional level. A compilation such as the one that we provide here is not easily obtainable from usual sources and can save a considerable amount of time to readers. We believe that our effort in this direction may be an appropriate interpretation of one of the technical support roles to the Government that the new status of National Centre of Excellence in Suicide Prevention — which has deeply honoured our commitment—entails for us.

The significant growth of our centre, the Australian Institute for Suicide Research and Prevention, and its influential function, both nationally and internationally, in the fight against suicide, could not happen without the constant support of Queensland Health and Griffith University. We hope that our passionate dedication to the cause of suicide prevention may compensate their continuing trust in our work.

Diego De Leo, DSc

Director, Australian Institute for Suicide Research and Prevention
Acknowledgments

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Introduction

Context
Suicide places a substantial burden on individuals, communities and society in terms of emotional, economic and health care costs. In Australia, about 2000 people die from suicide every year, a death rate well in excess of transport-related mortality. At the time of preparing this volume, the latest available statistics released by the Australian Bureau of Statistics\(^1\) indicated that, in 2012, 2,535 deaths by suicide were registered in Australia, representing an age-standardized rate of 11.2 per 100,000.

Further, a study on mortality in Australia for the years 1997–2001 found that suicide was the leading cause of avoidable mortality in the 25–44 year age group, for both males (29.5%) and females (16.7%), while in the age group 15–24 suicide accounted for almost a third of deaths due to avoidable mortality\(^2\). In 2003, self-inflicted injuries were responsible for 27% of the total injury burden in Australia, leading to an estimated 49,379 years of life lost (YLL) due to premature mortality, with the greatest burdens observed in men aged 25–64\(^3\).

Despite the estimated mortality, the prevalence of suicide and self-harming behaviour in particular remains difficult to gauge due to the often secretive nature of these acts. Indeed, ABS has acknowledged the difficulties in obtaining reliable data for suicides in the past few years\(^4,5\). Without a clear understanding of the scope of suicidal behaviours and the range of interventions available, the opportunity to implement effective initiatives is reduced. Further, it is important that suicide prevention policies are developed on the foundation of evidence-based empirical research, especially as the quality and validity of the available information may be misleading or inaccurate. Additionally, the social and economic impact of suicide underlines the importance of appropriate research-based prevention strategies, addressing not only significant direct costs on health system and lost productivity, but also the emotional suffering for families and communities.

The Australian Institute for Suicide Research and Prevention (AISRAP) has, through the years, gained an international reputation as one of the leading research institutions in the field of suicide prevention. The most important recognition came via the designation as a World Health Organization (WHO) Collaborating Centre in 2005. In 2008, the Commonwealth Department of Health appointed AISRAP as the National Centre of Excellence in Suicide Prevention. This latter recognition awards not only many years of high-quality research, but also of fruitful cooperation between the Institute and several different governmental agencies. The new role given to AISRAP will translate into an even deeper commitment to the cause of suicide prevention amongst community members of Australia.
As part of this initiative, AISRAP is committed to the creation of a databank of the recent scientific literature documenting the nature and extent of suicidal and self-harming behaviour and recommended practices in preventing and responding to these behaviours. The key output for the project is a critical bi-annual review of the national and international literature outlining recent advances and promising developments in research in suicide prevention, particularly where this can help to inform national activities. This task is not aimed at providing a critique of new researches, but rather at drawing attention to investigations that may have particular relevance to the Australian context. In doing so, we are committed to a user-friendly language, in order to render research outcomes and their interpretation accessible also to a non-expert audience.

In summary, these reviews serve three primary purposes:

1. To inform future State and Commonwealth suicide prevention policies;
2. To assist in the improvement of existing initiatives, and the development of new and innovative Australian projects for the prevention of suicidal and self-harming behaviours within the context of the Living is for Everyone (LIFE) Framework (2008);
3. To provide directions for Australian research priorities in suicidology.

The review is presented in three sections. The first contains a selection of the best articles published in the last six months internationally. For each article identified by us (see the method of choosing articles described below), the original abstract is accompanied by a brief comment explaining why we thought the study was providing an important contribution to research and why we considered its possible applicability to Australia. The second section presents the abstracts of the most relevant literature — following our criteria — collected between November 2013 and April 2014; while the final section presents a list of citations of all literature published over this time-period.

**Methodology**

The literature search was conducted in four phases.

**Phase 1**

Phase 1 consisted of weekly searches of the academic literature performed from November 2013 to April 2014. To ensure thorough coverage of the available published research, the literature was sourced using several scientific electronic databases including: Pubmed, Proquest, Scopus, Safetylit and Web of Science, using the following key words: suicide OR suicidal OR self-harm OR self-injury OR parasuicide.

Results from the weekly searches were downloaded and combined into one database (deleting duplicates).

Specific inclusion criteria for Phase 1 included:

- **Timeliness:** the article was published (either electronically or in hard-copy) between November 2013 and April 2014;
- **Relevance:** the article explicitly referred to fatal and/or non-fatal suicidal behaviour and related issues and/or interventions directly targeted at preventing/treating these behaviours.
The article was written in English. Articles about euthanasia, assisted suicide, suicide terrorist attacks, and/or book reviews, abstracts and conference presentations were excluded. Also, articles that have been published in electronic versions (ahead of print) and therefore included in the previous volume (Volumes 1 to 10 of Suicide Research: Selected Readings) were excluded to avoid duplication.

**Phase 2**

Following an initial reading of the abstracts (retrieved in Phase 1), the list of articles was refined down to the most relevant literature. In Phase 2 articles were only included if they were published in an international, peer-reviewed journal.

In Phase 2, articles were excluded when they:

- were not particularly instructive or original
- were of a descriptive nature (e.g. a case-report)
- consisted of historical/philosophical content
- were a description of surgical reconstruction/treatment of self-inflicted injuries
- concerned biological and/or genetic interpretations of suicidal behaviour, the results of which could not be easily adoptable in the context of the LIFE Framework.

In order to minimise the potential for biased evaluations, two researchers working independently read through the full text of all articles selected to create a list of most relevant papers. This process was then duplicated by a third researcher for any articles on which consensus could not be reached.

The strength and quality of the research evidence was evaluated, based on the Critical Appraisal Skills Programme (CASP) Appraisal Tools published by the Public Health Resource Unit, England (2006). These tools, publically available online, consist of checklists for critically appraising systematic reviews, randomized controlled trials (RCT), qualitative research, economic evaluation studies, cohort studies, diagnostic test studies and case control studies.

**Phase 3**

One of the aims of this review was to identify research that is both evidence-based and of potential relevance to the Australian context. Thus, the final stage of applied methodology focused on research conducted in countries with populations or health systems sufficiently comparable to Australia. Only articles in which the full-text was available were considered. It is important to note that failure of an article to be selected for inclusion in Phase 3 does not entail any negative judgment on its ‘objective’ quality.

Specific inclusion criteria for Phase 3 included:

- applicability to Australia
- the paper met all criteria for scientficity (i.e., the methodology was considered sound)
- the paper represented a particularly compelling addition to the literature, which would be likely to stimulate suicide prevention initiatives and research
Suicide Research: Selected Readings

- inevitably, an important aspect was the importance of the journal in which the paper was published (because of the high standards that have to be met in order to obtain publication in that specific journal); priority was given to papers published in high impact factor journals
- particular attention has been paid to widen the literature horizon to include sociological and anthropological research that may have particular relevance to the Australian context.

After a thorough reading of these articles (‘Key articles’ for the considered timeframe), a written comment was produced for each article detailing:
- methodological strengths and weaknesses (e.g., sample size, validity of measurement instruments, appropriateness of analysis performed)
- practical implications of the research results to the Australian context
- suggestions for integrating research findings within the domains of the LIFE framework suicide prevention activities.
Phase 4

In the final phase of the search procedure all articles were divided into the following classifications:

- *Fatal suicidal behaviour* (epidemiology, risk and protective factors, prevention, postvention and bereavement)
- *Non-fatal suicidal/self-harming behaviours* (epidemiology, risk and protective factors, prevention, care and support)
- *Case reports* include reports of fatal and non-fatal suicidal behaviours
- *Miscellaneous* includes all research articles that could not be classified into any other category.

Allocation to these categories was not always straightforward, and where papers spanned more than one area, consensus of the research team determined which domain the article would be placed in. Within each section of the report (i.e., Key articles, Recommended readings, Citation list) articles are presented in alphabetical order by author.

**Endnotes**

Key Articles
A regional approach to understanding farmer suicide rates in Queensland
Arnautovska U, McPhedran S, De Leo D (Australia)

**Purpose:** Elevated suicide rates among farmers have been observed across a number of countries, including Australia. However, studies on farmer suicide have typically treated farmers as a homogenous group, and have predominately been focussed at a national level. This overlooks potential variability in suicide rates (and, by extension, contributory factors) within different groups of farmers (for example, different age groups), as well as across different geographical locations.

**Methods:** Using a unique data source, the Queensland Suicide Register, the current study examined variation in farmer suicide rates by age, sex, and location within Queensland.

**Results:** Although farmer suicide rates varied substantially across different regions of Queensland, no significant associations were found between rates of farmer and non-farmer suicide, or between the proportion of farmers in a region and farmer suicide rates.

**Conclusions:** This suggests that farmer suicide may be characterised by unique combinations of occupational and location-related effects that are likely to vary substantially within and between different regions, and provides caution against treating farmer suicide as a homogenous phenomenon. The highest rates of farmer suicide were observed among younger farmers (aged 18-34 years), highlighting a need for targeted suicide prevention initiatives for this group.

**Comment**

**Main Findings:** Elevated suicide rates among farmers are evident in various countries around the world, including Australia\(^1\)\(^2\). With a lack of sufficient evidence to indicate an influence of psychiatric disorders on farmer suicides, the authors have considered the compositional (e.g. demographic) and social (e.g. social norms) factors—that exist in the Australian setting—from a more community-based perspective. This approach led to the examination of farmer suicide (during the period 2000-2009) across age groups, gender, and geographic regions in Queensland (13 statistical divisions\(^3\)) using data from the Queensland Suicide Register (QSR) and National Coronial Information System (NCIS). Farmers accounted for 2.6% of all suicides during the study period with an overall suicide rate of 28.9/100,000. Compared to the suicide rates of the non-farmer group, the overall farmer suicide rate was twice as high and significantly higher in younger (up to 34 years) and older (55+ years) farmer age groups; highest among younger males. Furthermore, farmer suicide rates across seven regions (Central West, Darling Downs, Far North, Mackay, Northern, West Moreton, and Wide Bay-Burnett) were significantly higher than rates of non-farmer suicides. There was no evidence of an association between the proportion of farmers in a region and farmer sui-
cides in that region. There was also no observed association between farmer and non-farmer suicide rates (i.e. no 'location effect').

**Implications:** Incidence and rates of suicide vary across different regions of Queensland; there is no association between farmer and non-farmer suicide rates within regions (i.e. a pattern of suicide rates between farmers and non-farmers). This overshadows the assumptions that suicide among farmers should be treated collectively within a given jurisdiction. Rather, the study supports theories regarding the role of specific compositional factors in farmer suicide. Specific risk and protective factors (e.g. the impact of weather conditions on produce and belonging to a broader farming community) may apply differently to farmers depending on their location. High suicide rates among farmers should be viewed as a combination of both location and occupation effects, which vary considerably between regions. Furthermore, prevention strategies for younger males are advocated – with high rates of suicide among younger farmers suggested to be a reflection of their job position (e.g. farm labourers) and its vulnerabilities (e.g. job insecurity during times of hardship). Differences in the level of income and debt between farming and other non-farming occupations (farmers generally have a lower yearly income and greater household debt⁴) support the notion of potential vulnerabilities arising during time of financial hardship. Young people may yet be attempting to establish themselves within the agricultural industry, with less experience in dealing with the region-specific adversities that may arise during their employment.

**Endnotes**

What differentiates homeless persons who died by suicide from other suicides in Australia? A comparative analysis using a unique mortality register
Arnautovska U, Sveticic J, De Leo D (Australia)

Purpose: To study the incidence of suicide by homeless persons over a 20-year period, and identify demographic and clinical characteristics that distinguish these cases from those in non-homeless persons.

Methods: A comparative analysis of homeless and non-homeless persons who died by suicide between 1990 and 2009 in Queensland, Australia. Ninety-two persons (82 males and 10 females) were identified from the Queensland Suicide Register as being homeless at the time of death. Suicide rates were calculated for the second decade only due to the lack of population numbers of homeless persons in the first decade.

Results: Homeless persons had almost twice higher suicide rate than non-homeless counterparts. They were more often male, of young age, single/never married, non-Indigenous, unemployed, had at least one physical illness or other stressful life event prior to death, had drug and alcohol abuse problems, and also were more likely to have evidence for an untreated mental illness. Regression analysis showed that being unemployed, having a history of legal problems and not being diagnosed with mental illness were strongly associated with suicide among homeless persons.

Conclusions: This study is the first in Australia, and the second study internationally, to examine the characteristics of homeless people who died by suicide. Although based on a relatively small sample, the present work nonetheless carries practical implications for the development of targeted suicide prevention strategies in this peculiar population of individuals.

Comment

Main findings: A high prevalence of mental illnesses and non-fatal self-harm has been reported within homeless populations, with a recent UK paper reporting that more than half (68%) of the homeless sample analysed had engaged in self-harming behaviour in the past. In line with this finding, limited research has also suggested an increased risk of suicide mortality within this population, although little is known about the individual demographic and social factors contributing to this risk. The current paper used the Queensland Suicide Register (QSR), a comprehensive database holding records of all suicides in Queensland from 1990 onwards, to compare the rates and characteristics of 92 homeless people who had died by suicide to 11,091 non-homeless Queensland suicides. During 2000-2009, homeless persons had an overall suicide rate of 27.6 deaths per 100,000. The rate was higher in homeless males (40.9 per 100,000) than homeless females (8.9 per
100,000) and among those in the age groups 35-44 years (107.1 per 100,000) and 25-34 years (89.7 per 100,000). Homeless suicides differed significantly from non-homeless suicides on a number of variables; they were more likely to be young, unmarried, non-Indigenous, unemployed, and suffering from a physical illness, substance abuse problems or untreated mental illness. Homeless individuals were also more likely to have experienced a number of negative life events including financial, legal or child custody problems. No significant differences were found with regards to relationship issues, interpersonal/familial conflict or bereavement/loss of a loved one before death. Consistent with the distribution of overall suicide methods in Queensland4, hanging was the most common method of suicide by homeless persons but these individuals were less likely to die by firearm, and more likely to die in an outside location.

Implications: In an area which is greatly lacking in current research5, this paper was the first to compare homeless and non-homeless suicides in Queensland, Australia. The findings supported and expanded on previous studies3 by not only identifying increased risk, but also particular characteristics which may contribute to death by suicide within this vulnerable group. These results may prove useful when developing screening tools specifically for the identification of at-risk homeless individuals.

Higher prevalence of untreated mental illnesses identified in homeless suicides may indicate that mental health support services are not able to reach these individuals or just that limited services are available for this group. This may be particularly true for male homeless persons, as the disparity between male and female suicide rates identified in this group was greater than is usually observed in the general population. There is a need for the development of new approaches which will allow and encourage access to targeted health care and suicide prevention services for homeless individuals.

Endnotes


**Objective:** To examine the frequency of suicides on holidays and special days of the year, specifically in Queensland, Australia.

**Methods:** We analysed data from the Queensland Suicide Register between 1990 and 2009. The days examined were: Easter, Christmas, New Year, Valentine's Day and Anzac Day. We compared suicide cases on these days with the average counts for periods before and after the days.

**Results:** There was a statistically significant increase in suicides on Christmas Eve and on New Year’s Day. Our results are discussed in light of trends reported in the literature.

**Conclusion:** The beginning and end of the festive season are times when special attention is warranted for those with a heightened risk of suicide.

**Comment**

**Main findings:** Rates of suicide in Australia have been shown to fluctuate depending on the season\(^1\) or the day of the week\(^2\). Previous international research has also shown differences in the prevalence of suicide around public holidays, including increases in suicide in the days following Christmas, around New Years, and during the Easter period\(^3\). This Australian study used data from the Queensland Suicide Register (QSR) from 1990-2009 to analyse the occurrence of suicide mortality around major public holidays and significant days including Easter, Christmas Day, New Year’s Day, Anzac Day and Valentine’s Day. The sample included 10,511 cases of suicide which had an accurate date of death available for analysis. The average number of suicides occurring on significant days was compared to those occurring in comparison periods in the weeks before and after the significant day to avoid any confounding effects of seasonality. Results showed a significant increase in suicides on Christmas Eve and New Years day. The high point during the Easter period was the Tuesday after Easter Monday, however the increase on this day was not statistically significant. Similarly, there were no significant differences in numbers of suicide on Anzac Day or Valentine’s Day.

**Implications:** This paper adds to the previous international literature by analysing the risk of suicide on public holidays in Queensland, Australia. The importance of this research in the Australian context is evident when considering the different emphasis placed on certain holidays and significant days between different countries. From the perspective of suicide prevention, the findings suggest the need for family/friends and mental health workers to be aware of the potential for increased suicide risk around New Year’s Day and the beginning of the Christmas period in Australia.
Endnotes


Are hospital services for self-harm getting better? An observational study examining management, service provision and temporal trends in England

British Medical Journal Open 3, e003444, 2013

Objectives: To describe the characteristics and management of individuals attending hospital with self-harm and assess changes in management and service quality since an earlier study in 2001, a period in which national guidance has been available.

Design: Observational study.

Setting: A stratified random sample of 32 hospitals in England, UK.

Participants: 6442 individuals presenting with 7689 episodes of self-harm during a 3-month audit period between 2010 and 2011.

Outcome: Self-harm episodes, key aspects of individual management relating to psychosocial assessment and follow-up, and a 21-item measure of service quality.

Results: Overall, 56% (3583/6442) of individuals were women and 51% (3274/6442) were aged under 35 years. Hospitals varied markedly in their management. The proportion of episodes that received a psychosocial assessment by a mental health professional ranged from 22% to 88% (median 58%, IQR 48-70%); the proportion of episodes resulting in admission to general hospitals varied from 22% to 85% (median 54%, IQR 41-63%); a referral for specialist mental health follow-up was made in 11-64% of episodes (median 28%, IQR 22-38%); a referral to non-statutory services was made in 4-62% of episodes (median 15%, IQR 8-23%); 0-21% of episodes resulted in psychiatric admission (median 7%, QR 4-12%). The specialist assessment rate varied by method of harm; the median rate for self-cutting was 45% (IQR 28-63%) vs 58% (IQR 48-73%) for self-poisoning. Compared with the 2001 study, there was little difference in the proportion of episodes receiving specialist assessment; there was a significant increase in general hospital admission but a decrease in referrals for specialist mental health follow-up. However, scores on the service quality scale had increased from a median of 11.5-14.5 (a 26% increase).

Conclusions: Services for the hospital management of self-harm remain variable despite national guidelines and policy initiatives. We found no evidence for increasing levels of assessment over time but markers of service quality may have improved. This paper forms part of the study ‘Variations in self-harm service delivery: an observational study examining outcomes and temporal trends’.

Comment

Main findings: Deliberate self-harm is one of the greatest predictors of eventual death by suicide1, however, patients presenting to hospital emergency departments with self-harm are often discharged without psychosocial assessment or
hospital treatment. This large observational study described the characteristics and hospital management of individuals with self-harm presenting to 32 hospitals across England. These results were then compared to a previous study by Bennewith and colleagues to see if hospital management of people with self-harm had improved over the last 10 years. Data was collected from each hospital on all episodes of self-harm in adults aged 18 and over occurring during a 3-month period between May 2010 and June 2011. Overall, a total of 6,442 individuals presented to hospital during the study period with 7,689 episodes of self-harm. The majority of self-harm episodes involved poisoning with drugs (79%), followed by self-cutting (14%) and other methods (6%), and 53% of cases involved alcohol consumption within the past 6 hours. Half of the patients presenting during the study period had previous episodes of self-harm (51%) and one-third (32%) of cases were currently receiving some psychiatric treatment. At presentation to hospital, psychological assessment was conducted 58% of the time and the median waiting time for these assessments was 11 hours (5 hours for those not admitted to a medical bed and 14 hours for those who were admitted). Assessment was more common in patients presenting with self-poisoning (58% of cases) than those who engaged in self-cutting (45% of cases). When compared to the earlier study in 2001-2002, self-harm episodes increased overall by 24%. There was no significant difference in the number of episodes resulting in psychosocial assessment (55% compared to 58% in present study) and the median proportion of episodes receiving specialist mental health follow-up significantly decreased by 13%. However, admissions to medical wards significantly increased from 39% to 54%. As with the previous study, the quality of service still varied considerably between individual hospitals.

Implications: Effective hospital treatment for deliberate self-harm is an important factor in the prevention of suicide. The results of this large-scale study suggest that the quality of hospital service for individuals presenting with self-harm in England still varies depending on hospital, and that close to half of all presentations will not lead to psychiatric assessment. In particular, the study found that cases of self-cutting are less likely to receive psychiatric assessment, despite research showing that individuals who engage in self-cutting are at an increased risk of repeating this behaviour. This finding is consistent with Australian research, finding that individuals presenting to emergency departments with drug overdose had the greatest odds of receiving immediate medical care, while self-cutters were given lower priority, and were more likely to wait 60-120 minutes for medical treatment. Results suggest that it is important to continue to consider ways in which the hospital management of individuals presenting with self-harm (particularly self-cutting) may be improved.

Endnotes


A period of particularly high risk for suicide attempts among adolescent inpatients is within 12 months after discharge. However, little is known about longitudinal trajectories of suicidal ideation in this high-risk group and how these relate to posthospitalization suicide attempts and rehospitalizations. Our objectives were to identify these trajectories and examine their relationships with posthospitalization psychiatric crises. We also examined predictors of trajectory group membership. Participants (N = 376; ages 13-17; 72% female) were assessed at hospitalization and 3, 6, and 12 months later. Trajectory groups, and their predictors, were identified with latent class growth modeling. We used logistic regression to examine associations between trajectory groups and likelihood of suicide attempts and rehospitalization, controlling for attempt history. Three trajectory groups were identified: (a) subclinical ideators (31.6%), (b) elevated ideators with rapidly declining ideation (57.4%), and (c) chronically elevated ideators (10.9%). Adolescents in the chronically elevated ideation group had 2.29, confidence interval (CI) [1.08, 4.85], p = .03, and 4.15, CI [1.65, 10.44], p < .01, greater odds of attempting suicide and 3.23, CI [1.37, 7.69], p = .01, and 11.20, CI [4.33, 29.01], p < .001, greater odds of rehospitalization relative to rapidly declining and subclinical groups, respectively. Higher baseline hopelessness was associated with persisting suicidal ideation. Results suggest that suicidal ideation severity at hospitalization may not be an adequate marker for subsequent suicidal crises. It is important to identify adolescents vulnerable to persisting suicidal ideation, as they are at highest risk of psychiatric crises. Addressing hopelessness may facilitate faster declines in ideation after hospitalization. Results also highlight a need for consistent monitoring of these adolescents’ suicidal ideation after discharge.

Comment

**Main findings:** The transitional period to adolescence is a sensitive developmental period with the potential for suicidal ideation and attempts. The prevalence of suicide ideation increases promptly between the ages of 12 and 17 years, while plans and attempts are shown to increase between ages of 12 and 15. Psychologically hospitalised adolescents are particularly vulnerable as they are at high risk of repeated suicide attempts. This study from US aimed to develop a better understanding of the course of suicidal ideation and the most at-risk group (for suicide attempt and psychiatric rehospitalisation) of psychologically hospitalised adolescents. A total of 376 adolescents were followed for a 1-year period post discharge; assessments at index hospitalisation, 3 months, 6 months, and 12 months. Three distinct groups/trajectories emerged following discharge: a subclinical suicidal ideation group (SC), an elevated and then fast declining suicidal ideation group...
(E-FD), and an elevated suicidal ideation group (E). More severe baseline (index psychiatric hospitalisation) depressive symptoms, externalizing problems, and hopelessness predicted an E trajectory. Only more severe hopelessness at baseline differentiated E from E-FD. The E trajectory was also associated with a four-fold increase in the likelihood of a suicide attempt when compared with SC and were also two times more likely to make an attempt than E-FD. Similar patterns were noted for psychiatric rehospitalisation, barring an increased likelihood for E-FD when compared to SC.

**Implications:** Australian adolescent’s (aged 12 to 17 years) presenting for mental health care show comparable proportions of suicidal ideation to older individuals (aged 18 to 30 years) attending the same service. Suicidal ideation at the time of psychiatric hospitalisation may not be sufficient in highlighting suicide attempt risk. This approach might overlook potential subgroups of adolescents who may be most vulnerable to a suicidal crisis. There is a need to closely monitor persisting suicidal ideation among recently discharged psychiatric inpatients. The impact of persistent suicidal ideation may interfere with important developmental opportunities (e.g. social, emotional, and cognitive) fundamental during the adolescence period. One pathway for addressing persistent suicidal thinking in adolescents could be to reduce their sense of hopelessness. Addressing key vulnerability factors that predict the course of suicidal ideation may shorten the duration of such thoughts after hospitalisation and thus prevent continued suicidal crises.

**Endnotes**

Gender-specific suicide risk factors: A case-control study of individuals with major depressive disorder

Dalca IM, McGirr A, Renaud J, Turecki G (Canada)
Journal of Clinical Psychiatry 74, 1209-1216, 2013

Objective: Available information on risk for suicide completion in females is limited and often extrapolated from studies conducted in males. However, the validity of extending to females risk factors identified among male suicide cases is unclear. In this study, we aimed to investigate clinical and behavioural risk factors for suicide among female depressed patients and compare them to similar factors among male depressed patients.

Method: We identified 201 suicide completers (160 male and 41 female) who died during an episode of major depressive disorder (MDD). Cases were compared to 127 living patients with MDD (88 male and 39 female). All subjects were characterized for Axis I and II diagnoses using the Structured Clinical Interview for DSM-IV Axis I Disorders and Structured Clinical Interview for DSM-IV Axis II Personality Disorders according to the DSM-IV, as well as behavioural and temperament dimensions using proxy-based interviews. The primary outcome was measures of impulsive and impulsive-aggressive behaviours.

Results: Compared to controls, male, but not female suicide cases had higher levels of impulsive aggression (P < .05). Non-impulsive aggression differentiated both female (P < .05) and male (P < .01) suicide cases from controls. However, non-impulsive aggression and impulsive aggression were correlated constructs in males (r = 0.297; P < .001), yet uncorrelated among females (r = 0.121; P = .390). Established risk factors for suicide, such as alcohol and substance dependence, cluster B disorders, and elevated hostility and aggression, were replicated in the pooled-sex analyses, and, though not statistically significant in discriminating between suicide cases and controls by gender, maintained strong group differences.

Conclusions: Males and females share many risk factors for suicide in MDD, yet alcohol dependence is much more specific though less sensitive among depressed females. Non-impulsive aggression is part of a diathesis for suicide in females, which is distinct from the well-characterized impulsive aggression that is consistently reported in a portion of male suicide cases.

Comment

Main findings: Death due to suicide is much more prominent among males than females. However, attempts of suicide occur more frequently among females, potentially resulting in more visits to a relevant clinic for an assessment of further risk. In order to examine gender differences in clinical vulnerability to suicide, the current Canadian study compared depressed male and female suicide cases (201 suicide cases with clinical depression) to depressed male and female never-suicidal control group (127 individuals with clinical depression and no history of non-
fatal suicidal behaviour). Clinical vulnerabilities for suicide included psychological disorders and specific behavioural characteristics. Holistically, the suicide cases were more likely than the never-suicidal group with MDD to have received a diagnosis of substance abuse, met criteria for a personality disorder, and had greater histories of aggression and higher levels of hostility. Characterisation as being ‘highly impulsive’ was more likely in the male suicide cases compared to controls, but not for the female suicide cases. The behavioural component of impulsive-aggression distinguished male suicide attempters from never-suicidal comparison groups while non-impulsive aggression distinguished female suicide cases from female never-suicidal controls.

Implications: Risk factors for suicide between males and females have commonalities and differences. Alcohol and drug dependence appears more likely in cases of suicide for both genders, revealing a clinical feature that may warrant further attention and assessment for suicidal behaviour. Individually, males presenting with clinically harmful behaviour characterised as dramatic, emotional or erratic may also encourage clinical assessment for suicidality. Further vulnerability in this group also emerges with behaviour that is both impulsive and aggressive. The risk for suicide among females, however, is not strongly related to impulsivity. Rather, females with greater suicide risk were characterised by aggression and low levels of impulsivity (i.e. non-impulsive aggression). This may provide a key personality characteristic that could potentially help to clinically identify those at greater risk of suicidal behaviours.

Endnotes
Course of bereavement over 8-10 years in first degree relatives and spouses of people who committed suicide: Longitudinal community based cohort study

de Groot M, Kollen BJ (The Netherlands)

British Medical Journal 347, f5519, 2013

Objective: To identify factors predicting the long term course of complicated grief, depression, and suicide ideation in a community based sample of relatives bereaved through suicide.

Design: Longitudinal cohort study. Included in the multilevel regression models were sociodemographic and personality features, mental health history, records of received help, long term complicated grief, depression, and suicide ideation.

Setting: Community based sample located in the northern part of the Netherlands.

Participants: 153 first degree relatives and spouses of 74 people who had committed suicide.

Main Outcome Measures: Complicated grief, depression, and suicide ideation assessed at 2.5 months, 13 months and 96-120 months (8-10 years) by means of self report questionnaires.

Results: Complicated grief, depression, and suicide ideation were mutually associated in relatives and spouses of people who had committed suicide. A history of attempted suicide was associated with long term suicide ideation (odds ratio 5.5, 95% confidence interval 1.8 to 16.7; P=0.003). Depression was more likely to be predicted by female sex and low mastery, whereas complicated grief was more likely to be predicted by the trauma of losing a child. The risk of both complicated grief and depression decreased over time; for complicated grief the change corresponded with a Cohen's d effect size of 0.36 at 13 months and 0.89 at 96-120 months; for depression these figures were 0.28 at 13 months and 0.94 at 96-120 months. The long term course of bereavement was not affected by family based cognitive behavioural therapy, support from a general practitioner, and/or mental healthcare. Mutual support was associated with an increased risk of complicated grief: B regression coefficient=6.4 (95% confidence interval 1.8 to 11.0; P=0.006). Throughout this long term study, selection bias might have affected some outcomes.

Conclusion: In relatives bereaved by suicide, suicide ideation is associated with an increased risk of long term complicated grief and depression. The risk of complicated grief and depression decreases over time. Although mutual support is associated with an increased risk of complicated grief, we could not draw conclusions about a causal relation.
Main Findings: Suicidal behaviour among family members is associated with an increased risk of suicide for relatives directly (genetically) and indirectly (non-genetically) connected to the individual. The risk of suicide is also higher in people who have experienced the death of a first-degree relative further exacerbated after bereavement by suicide. In this study the authors aimed to uncover the long term causes of complicated grief (characterised by a preoccupation with the deceased, avoidance, detachment, and irritability), depression, and suicidal ideation by exploring sociodemographic factors of the deceased first-degree relative, personality features of the bereaved, and symptoms following suicide bereavement (inclusive of suicidal ideation). Measures were taken at 2.5 months, 13 months, and 8-10 years following suicide. The majority of suicides were by men (76%) with an average age of 44 years. Bereaved individuals (aged over 15 years) were first degree relatives and spouses of those who had died by suicide. At 2.5 months following suicide, 26% of the bereaved suffered from suicidal ideation. Over the course of bereavement, 8-10 years after suicide, the presence of suicidal ideation decreased to 9%, which was higher than the Dutch national average at the time (3%). Bereaved persons with higher levels of neuroticism were at a greater risk of suicidal ideation, while greater levels of self-esteem were associated with a lower risk. Suicidal ideation was also found to be strongly associated with long-term complicated grief and depression, both of which were shown to decrease over time. Previously attempted suicide among the participants was also associated with long term suicide ideation. Parents of the deceased were most likely to be at risk of complicated grief. Mutual support (i.e. support from an individual with similar experiences) was noted to be associated with an increased risk of complicated grief.

Implications: There appears to be a greater risk of suicidality in bereaved relatives of suicide. However, relatives bereaved following a suicide seem to recover over the course of time. The initial 13 months following the suicide of a relative do not appear to greatly change the level of depression and complicated grief. It is important to assess the history and characteristics of individuals bereaved by suicide in order to determine their risk of long-term grief and depression. Engaging protective personality characteristics may be beneficial in deterring suicidal ideation. Healthcare providers should be cautious when offering mutual support opportunities to individuals bereaved by suicide as an increased risk of complicated grief may arise, dependent on the characteristics of the bereaved.

However, there are community-based programs offering support to those bereaved by suicide. In Australia, the Standby Response Service provides 24-hour crisis response to those who have lost someone through suicide. The aim of this service is to reduce potential adverse health outcomes while addressing further suicidal behaviour.
Endnotes


Suicide by cop: Clinical risks and subtypes
Dewey L, Allwood M, Fava J, Arias E, Pinizzotto A, Schlesinger L (USA)
Archives of Suicide Research 17, 448-461, 2013

This study examines whether clinical classification schemes from general suicide research are applicable for cases of suicide by cop (SbC) and whether there are indicators as to why the police might be engaged in the suicide. Using archival law enforcement data, 13 clinical risks were examined among 68 cases of SbC using exploratory factor analysis and k-means cluster analysis. Three subtypes of SbC cases emerged: Mental Illness, Criminality, and Not Otherwise Specified. The subtypes varied significantly on their levels of mental illness, substance use, and criminal activity. Findings suggest that reducing fragmentation between law enforcement and mental health service providers might be a crucial goal for suicide intervention and prevention, at least among cases of SbC.

Comment

Main findings: Suicide by cop (SbC) occurs when a suicidal person attempts to purposely provoke the police into shooting him/her with the intention of ending their life. While the overall prevalence of SbC is currently unknown; a recent study has shown that 41% of officer-involved shooting incidents involved some aspect of suicidality (the person either prompted police to shoot them or took their own life while communicating with police). This U.S. study sought to build on previous research by assessing the clinical risk factors of SbC in comparison with suicides in general, and to evaluate why police come to be involved in suicide attempts. Eighty-five cases of police officer involved shootings that occurred between 1979 and 2005 were collected from law enforcement agencies across 55 jurisdictions. Cases of SbC were identified through the consensus of an FBI agent and clinical psychologist, a clinical-forensic psychologist, and three clinical-forensic psychologist students. Of the 68 cases identified as SbC, 62 (91%) were males and 6 (9%) were females with an average age of 35.9 years. Three subtypes of suicide were apparent after analysis, namely, mental illness (96% in this group had depression, 80% had a diagnosed mental illness and 88% had prior suicidal ideation), criminality (100% had history of arrest, 83.3% were facing the prospect of jail time and 75% had recently experienced legal problems) and not otherwise specified (no distinguishing risk factors). Results suggested that individuals who decide to engage police in their suicide attempt may do so due to familiarity with police, with a large number of suicide attempters in the current sample having either a prior history of contact with police through criminal activity or emergency mental health care, previous attempts by SbC or former employment as a police officer.

Implications: Little is currently known about the risk factors for SbC and the best way to prevent these incidents from occurring. This study plays an important role in expanding the current knowledge; however, further research (particularly in Australia) is necessary. An important finding from this study is that these incidents often appear to involve similar risk factors to suicide by other methods (e.g. high prevalence of mental illness). Therefore, past involvement and familiarity with police may be an important factor in determining who is at risk of attempt-
ing suicide by this particular method. The potential for suicide prevention within this group may lie largely in improved education of law enforcement personnel around the best screening and prevention procedures to implement in these situations. The authors suggest that the development of interventions would be most effective through a joint effort between police and mental health workers.

Endnotes


Deaths by suicide and their relationship with general and psychiatric hospital discharge: 30-year record linkage study
British Journal of Psychiatry. Published online: 30 January 2014. doi: 10.1192/bjp.bp.112.122374, 2014

Background: Studies have rarely explored suicides completed following discharge from both general and psychiatric hospital settings. Such research might identify additional opportunities for intervention.

Aims: To identify and summarise Scottish psychiatric and general hospital records for individuals who have died by suicide.

Method: A linked data study of deaths by suicide, aged >/=15 years from 1981 to 2010.

Results: This study reports on a UK data-set of individuals who died by suicide (n = 16,411), of whom 66% (n = 10,907) had linkable previous hospital records. Those who died by suicide were 3.1 times more frequently last discharged from general than from psychiatric hospitals; 24% of deaths occurred within 3 months of hospital discharge (58% of these from a general hospital). Only 14% of those discharged from a general hospital had a recorded psychiatric diagnosis at last visit; an additional 19% were found to have a previous lifetime psychiatric diagnosis. Median time between last discharge and death was fourfold greater in those without a psychiatric history. Diagnoses also revealed that less than half of those last discharged from general hospital had had a main diagnosis of ‘injury or poisoning’.

Conclusions: Suicide prevention activity, including a better psychiatric evaluation of patients within general hospital settings deserves more attention. Improved information flow between secondary and primary care could be facilitated by exploiting electronic records of previous psychiatric diagnoses.

Comment

Main findings: Research has suggested that a large percentage of individuals who die by suicide make contact with either a general or mental health service in the year prior to their death. An Australian study found that 76.9% of suicide cases had seen a GP within the three months before death. This study analysed factors relating to the last discharge from a general or psychiatric hospital before death by suicide in Scotland. The study extracted records of 16,411 suicide deaths from the National Records of Scotland (NRS) deaths register over a 30-year period (1981-2010). Of these 16,411 individuals, 5275 had no linked hospital records, and 229 died in hospital with no previous admission, leaving 10,907 individuals who met the criteria for inclusion in the study. Seventy-six percent of individuals in the study had been last treated by a general hospital, while 21% had been last treated in a psychiatric hospital, and the remaining 3% had both general and psychiatric care in the last period of hospitalisation. Around one quarter of individuals who
died by suicide had been discharged from hospital within the three months prior to their death. Due to the large number of patients dying by suicide after general hospital discharge, the authors provided more detailed analyses on these cases. Within this group, only 14% of patients had a co-morbid psychiatric diagnosis at last visit, while 19% had a history of psychiatric diagnosis during the lifetime (not diagnosed at last visit). The time to death after general hospital discharge differed depending on psychiatric diagnosis, with results showing that individuals with a psychiatric diagnosis at last presentation had the shortest median time until death (7 months), follow by patients with a past diagnosis of psychiatric illness (9 months) and those without any diagnosis of a psychiatric condition (33 months).

**Implications:** A large number of individuals are in contact with health services prior to death by suicide\(^1\)\(^2\), creating the opportunity to work towards suicide prevention in this group. Unlike previous papers focusing solely on general\(^3\) or mental health services\(^4\), this study was able to compare differences in suicide after the last discharge from a general or psychiatric service. The finding that more people who die by suicide are in contact with a general health service than a psychiatric service is not overly surprising (due to the fact that admissions to general hospitals are much more common than psychiatric hospitals). However, the results do highlight the importance that staff members treating patients in the general setting are aware of the potential suicide risk and can implement risk screening and follow-up procedures when necessary.

**Endnotes**

Lesbian, gay, bisexual, and transgender hate crimes and suicidality among a population-based sample of sexual-minority adolescents in Boston

Duncan DT, Hatzenbuehler ML (USA)

Objectives: We examined whether past-year suicidality among sexual-minority adolescents was more common in neighborhoods with a higher prevalence of hate crimes targeting lesbian, gay, bisexual, and transgender (LGBT) individuals.

Methods: Participants’ data came from a racially/ethnically diverse population-based sample of 9th- through 12th-grade public school students in Boston, Massachusetts (n = 1292). Of these, 108 (8.36%) reported a minority sexual orientation. We obtained data on LGBT hate crimes involving assaults or assaults with battery between 2005 and 2008 from the Boston Police Department and linked the data to the adolescent’s residential address.

Results: Sexual-minority youths residing in neighborhoods with higher rates of LGBT assault hate crimes were significantly more likely to report suicidal ideation (P = .013) and suicide attempts (P = .006), than were those residing in neighborhoods with lower LGBT assault hate crime rates. We observed no relationships between overall neighborhood-level violent and property crimes and suicidality among sexual-minority adolescents (P > .05), providing evidence for specificity of the results to LGBT assault hate crimes.

Conclusions: Neighborhood context (i.e., LGBT hate crimes) may contribute to sexual-orientation disparities in adolescent suicidality, highlighting potential targets for community-level suicide-prevention programs.

Comment

Main findings: Research has shown that sexual minority adolescents are significantly more likely to experience sexual abuse, parental physical abuse, assault at school, to miss school due to fear of victimisation, and to report suicidal thoughts and behaviours. This study from Boston in the U.S. analysed whether sexual minority adolescents (9th to 12th grade) living in neighbourhoods with a higher prevalence of sexuality-related hate crimes were more likely to report suicidal ideation and attempts within the past year. Of 1,292 students who completed the survey, 108 identified as part of a minority sexual orientation as; mostly heterosexual, bisexual, mostly homosexual, gay, lesbian or unsure. Thirty-two percent of sexual-minority adolescents reported suicidal ideation in the previous year and 16.7% reported suicide attempts, compared to 9.4% and 2.4% of heterosexual peers respectively. The addresses of adolescents were matched with assault hate crime data obtained from Boston Police Department. Results showed that the sexual-minority adolescents reporting suicidal behaviour were more likely to reside in neighbourhoods which had higher numbers of assault hate crimes against LGBT individuals. Conversely, there was no significant relationship
between LGBT assault hate crimes and suicidal ideation or attempts in adolescents identifying as heterosexual or between non-LGBT crimes and increased suicidal behaviour in sexual-minority adolescents.

**Implications:** Recent research in Australia has analysed the risk of suicide mortality in LGBTI individuals with regards to individual, familial and school/work factors. This US study is one of the few to use an ecological design to examine this risk from a broader social perspective, with results suggesting that suicide prevention efforts could benefit from measures to reduce hate crimes directed at sexual-minority individuals. Further Australian research using a larger sample size and including a wider range of minority sexualities (ie. Transgender individuals) could build on these findings and be useful in determining how similar prevention efforts could be implemented in the Australian community.

**Endnotes**


Suicide attempt in young people: A signal for long-term health care and social needs

Goldman-Mellor SJ, Caspi A, Harrington H, Hogan S, Nada-Raja S, Poulton R, Moffitt TE (USA, UK, New Zealand)

 Importance: Suicidal behavior has increased since the onset of the global recession, a trend that may have long-term health and social implications.

 Objective: To test whether suicide attempts among young people signal increased risk for later poor health and social functioning above and beyond a preexisting psychiatric disorder.

 Design: We followed up a cohort of young people and assessed multiple aspects of their health and social functioning as they approached midlife. Outcomes among individuals who had self-reported a suicide attempt up through age 24 years (young suicide attempters) were compared with those who reported no attempt through age 24 years (nonattempters). Psychiatric history and social class were controlled for.

 Setting and participants: The population-representative Dunedin Multidisciplinary Health and Development Study, which involved 1037 birth cohort members comprising 91 young suicide attempters and 946 nonattempters, 95% of whom were followed up to age 38 years.

 Main outcomes and measures: Outcomes were selected to represent significant individual and societal costs: mental health, physical health, harm toward others, and need for support.

 Results: As adults approaching midlife, young suicide attempters were significantly more likely to have persistent mental health problems (eg, depression, substance dependence, and additional suicide attempts) compared with nonattempters. They were also more likely to have physical health problems (eg, metabolic syndrome and elevated inflammation). They engaged in more violence (eg, violent crime and intimate partner abuse) and needed more social support (eg, long-term welfare receipt and unemployment). Furthermore, they reported being lonelier and less satisfied with their lives. These associations remained after adjustment for youth psychiatric diagnoses and social class.

 Conclusions and relevance: Many young suicide attempters remain vulnerable to costly health and social problems into midlife. As rates of suicidal behavior rise with the continuing global recession, additional suicide prevention efforts and long-term monitoring and after-care services are needed.

 Comment

 Main Findings: Hospital treatment for deliberate self-harm, including attempted suicide, is highest among young Australians aged between their teenage years and middle age. While it has been established that suicidal attempts are one of the biggest predictors of suicidal behaviour and death by suicide later on in life, few studies have examined the potential for other negative outcomes following these events. This New Zealand paper explored the notion that suicide attempts in
young people aged 24 and under, may act as potential predictors for future vulnerability to psychiatric and physical health problems, criminal justice problems, significant costs to the welfare system and poor social well-being throughout the lifetime. Participants were sourced from the Dunedin Multidisciplinary Health and Development Study, which measured the health and behaviour of 1,037 New Zealand residents born between April 1972 and March 1973, with assessments carried out longitudinally at birth, and ages 3, 5, 7, 9, 11, 13, 15, 18, 21, 26, 32 and 38 years. Ninety-one participants of the original sample reported a suicide attempt before the age of 24 years and 86 of these people were successfully followed-up until the age of 38 years. Five of the suicide attempters had died before the final follow-up was conducted. During middle-age, young attempters were found to have more mental health problems; they were twice as likely to have ongoing problems with depression and substance abuse. In addition, suicide attempters were significantly more likely to suffer from poor physical health, to inflict harm upon others or to be victimised by their intimate partners, need more support due to histories of unemployment and dependence on welfare benefits, suffer from loneliness and to report less overall satisfaction with their lives. In line with previous findings young suicide attempters were more likely than non-attempters to continue engaging in suicidal behaviours after the first attempt (more than 20% engaged in additional suicide attempts from 26-38 years of age).

Implications: The findings of the current study have a number of important practical implications. An Australian study by SANE showed that a large number of Australians presenting to medical centres for self-harm were not referred for ongoing mental health treatment, or provided with a crisis plan to implement when feeling suicidal in the future. This paper lends support to the notion that follow-up treatment is imperative for the prevention of suicidal behaviours, but also emphasises the importance of follow-up treatment to avoid a number of other adverse psycho-social and somatic outcomes. In particular, the findings of poor physical health in individuals who attempt suicide may suggest that overall lifestyle changes may be needed to prevent patterns of self-neglect, while on a wider scale, the fact that suicidal individuals are more likely to be lonely and dissatisfied with their life may suggest the ongoing need to break down the societal stigma relating to suicide and suicidal behaviour.

Endnotes
Living beyond Aboriginal suicide: Developing a culturally appropriate and accessible suicide postvention service for Aboriginal communities in South Australia

Goodwin-Smith I, Hicks N, Hawke M, Alver G, Raftery P (Australia)

Advances in Mental Health 11, 238-245, 2013

 Anglicare SA’s Living Beyond Suicide program (LBS) is a postvention service which partners with crisis services such as the police and ambulance who attend each suicide in South Australia and who provide families with an immediate link to the service. LBS workers visit in the hours and days after the suicide, companion survivors through post-suicide processes, and provide a vital link between families and the community. The support given is practical and based on a family’s needs. It is also based on evidence which suggests that postvention services are important in mitigating the negative effects of grief and suicide contagion. Despite the overrepresentation of Aboriginal people in suicide statistics, LBS is significantly underutilised by Aboriginal people. The aim of this research is to investigate how programmes such as LBS can be made more accessible and appropriate for Aboriginal people so that all people in the community have the opportunity to access the service should they experience bereavement through suicide.

The project constitutes the beginning of a ‘both ways’, asset-based dialogue, and seeks to enhance the service’s capacity through dialogue with Aboriginal stakeholders, whilst investigating the potential of the service to augment the capacity of Aboriginal people and communities to live beyond suicide. To this end, the research here gathers information from a number of Aboriginal people who have been bereaved by suicide, and Aboriginal service providers who work with people who have been in this situation. It asks whether or not there is a need for a service such as LBS for Aboriginal families and communities and, if so, how the current programme could be modified to make it more accessible and/or appropriate for Aboriginal people. Overarching those service specific questions, the project investigates the potential utility of predicating social service provision on a process of ‘walking together’.

Comment

Main findings: Aboriginal and Torres Strait Islander Australians die by suicide at higher rates than non-Indigenous Australians\(^1\,^{2} \). This study aimed to test the successfulness and cultural appropriateness of Anglicare SA’s postvention service “Living Beyond Suicide” (LBS), in providing support to Aboriginal Australians bereaved by suicide. The main research question addressed in the study was “is there a role for a service such as LBS, in partnership with Aboriginal people, communities and service providers, to enhance a sustainable capacity for resilience in relation to the negative health and wellbeing impacts of Aboriginal suicide?” Data was collected during 2011 through four focus groups with Aboriginal service providers and health workers and 15 semi-structured interviews with Aboriginal people who had lost a loved one to suicide. Participants felt that the use of
postvention services by Aboriginal people bereaved by suicide would depend largely on the accessibility and appeal of the program. Many of the participants had never heard of the LBS program, despite being personally affected by suicide, suggesting the need for improved promotion and dissemination of material relating to the service. The composition of staff teams was raised as a significant issue, with participants noting the importance of having a choice between male and female workers, and Aboriginal or non-Aboriginal workers, as well as workers from different Aboriginal groups. Other important factors for inclusion were information on financial assistance to help with the cost of funeral services and other increased bills, information on how long processes can take after the death of a loved one (for example length of time taken to prepare coroner’s reports) and the need for services to be outreach-based so that bereaved individuals do not have to worry about travelling to access the service. The findings of the study suggest that LBS has the potential to provide important support to Aboriginal survivors of suicide, particularly if the program is enhanced to directly address the unique cultural needs of Aboriginal Australians.

**Implications:** Bereavement by suicide can result in a number of negative outcomes including an increased risk of suicidal ideation3. Postvention services providing support to those bereaved by suicide have been identified as a priority within Aboriginal communities due to the high rates of suicide and lack of support available in these communities4. The current study emphasises the importance of working in partnership with these communities to ensure that these support services are culturally appropriate and are able to provide adequate assistance to Aboriginal Australians who have lost a loved one to suicide.

**Endnotes**
Self-harm in prisons in England and Wales: An epidemiological study of prevalence, risk factors, clustering, and subsequent suicide

The Lancet. Published online: 16 December 2013. doi: 10.1016/S0140-6736(13)62118-2, 2013

Background: Self-harm and suicide are common in prisoners, yet robust information on the full extent and characteristics of people at risk of self-harm is scant. Furthermore, understanding how frequently self-harm is followed by suicide, and in which prisoners this progression is most likely to happen, is important. We did a case-control study of all prisoners in England and Wales to ascertain the prevalence of self-harm in this population, associated risk factors, clustering effects, and risk of subsequent suicide after self-harm.

Methods: Records of self-harm incidents in all prisons in England and Wales were gathered routinely between January, 2004, and December, 2009. We did a case-control comparison of prisoners who self-harmed and those who did not between January, 2006, and December, 2009. We also used a Bayesian approach to look at clustering of people who self-harmed. Prisoners who self-harmed and subsequently died by suicide in prison were compared with other inmates who self-harmed.

Findings: 139 195 self-harm incidents were recorded in 26 510 individual prisoners between 2004 and 2009; 5-6% of male prisoners and 20-24% of female inmates self-harmed every year. Self-harm rates were more than ten times higher in female prisoners than in male inmates. Repetition of self-harm was common, particularly in women and teenage girls, in whom a subgroup of 102 prisoners accounted for 17 307 episodes. In both sexes, self-harm was associated with younger age, white ethnic origin, prison type, and a life sentence or being unsentenced; in female inmates, committing a violent offence against an individual was also a factor. Substantial evidence was noted of clustering in time and location of prisoners who self-harmed (adjusted intra-class correlation 0·15, 95% CI 0·11-0·18). 109 subsequent suicides in prison were reported in individuals who self-harmed; the risk was higher in those who self-harmed than in the general prison population, and more than half the deaths occurred within a month of self-harm. Risk factors for suicide after self-harm in male prisoners were older age and a previous self-harm incident of high or moderate lethality; in female inmates, a history of more than five self-harm incidents within a year was associated with subsequent suicide.

Interpretation: The burden of self-harm in prisoners is substantial, particularly in women. Self-harm in prison is associated with subsequent suicide in this setting. Prevention and treatment of self-harm in prisoners is an essential component of suicide prevention in prisons.

Funding: Wellcome Trust, National Institute for Health Research, National Offender Management Service, and Department of Health.
Comment

**Main findings:** Prisoners in a number of countries, including Australia, have been shown to be at an increased risk of suicide compared to the general population\(^1\). A major risk factor for death by suicide in custody is previous self harm, with past research on 141 prisoners who died by suicide showing that more than half (78 prisoners) had previously engaged in self-harming behaviour\(^2\). In this large-scale study using data from prisons in England and Wales between 2004-2009, Hawton and colleagues analysed the prevalence, risk factors, and clustering effects of self-harm, as well as the risk of suicide after engagement in self-harm. During the study period, 139,195 self-harm incidents involving 26,510 prisoners were recorded. Despite making up a small percentage of the overall prison population (5-6% each year), female inmates were involved in around half of the incidents of self-harm (20-24% of female prisoners self harmed each year compared to 5-6% of male prisoners). For both males and females, self-harm was most common in younger inmates aged below 20 years (23% of males who self-harmed and 21% of females who self-harmed). Other risk factors included being Caucasian (males and females), prison type (males and females), having a life sentence or being unsentenced (males and females) and having committed a violent offence against another person (females only). Among the 26,510 individuals who had self-harmed, 109 prisoners eventually died by suicide in custody (95 males and 14 females). The mean annual rate of male inmates who self-harmed and died by suicide was close to double the rate in females (334 per 100,000 compared to 149 per 100,000) and was higher than the suicide rate in individuals who did not engage in self-harm before death (79 per 100,000 in males and 98 per 100,000 in females). Bivariate analysis showed that male prisoners aged 30-49 years were at a high risk for death by suicide, particularly those who had a history of self-harm with moderate or high lethality. In multivariate analysis, a life sentence and more than five self-harm incidents per year were significant risk factors for suicide.

**Implications:** Research has shown that suicide prevention programs can have the ability to reduce self-harm and suicide in prisons, and the identification of risk factors is imperative to the successful development and implementation of these programs\(^3\). The current paper provides important findings regarding at-risk prisoners, building on previous studies by using a large sample size and analysing risk factors in offenders of all ages, genders and in different types of correctional facilities. Risk of suicide appears to differ, depending on the characteristics of the correctional institution, suggesting that similar research in Australia may be necessary.

An important finding from the current study is the high rate of self-harm in female and young prisoners, despite the smaller proportion of these individuals in prison. This finding supports those of previous studies that female and young prisoners may have distinct health needs from the majority prison population\(^4\), and suggests the need for programs specially designed to address self-harm in these specific sub-groups.
Endnotes


Risk of suicide according to level of psychiatric treatment: A nationwide nested case-control study

Hjorthoj CR, Madsen T, Agerbo E, Nordentoft M (Denmark)

Social Psychiatry and Psychiatric Epidemiology. Published online: 18 March 2014. doi: 10.1007/s00127-014-0860-x, 2014

Purpose: Knowledge of the epidemiology of suicide is a necessary prerequisite of suicide prevention. We aimed to conduct a nationwide study investigating suicide risk in relation to level of psychiatric treatment.

Methods: Nationwide nested case-control study comparing individuals who died from suicide between 1996 and 2009 to age-, sex-, and year-matched controls. Psychiatric treatment in the previous year was graded as “no treatment,” “medicated,” “outpatient contact,” “psychiatric emergency room contact,” or “admitted to psychiatric hospital.”

Results: There were 2,429 cases and 50,323 controls. Compared with people who had not received any psychiatric treatment in the preceding year, the adjusted rate ratio (95% confidence interval) for suicide was 5.8 (5.2-6.6) for people receiving only psychiatric medication, 8.2 (6.1-11.0) for people with at most psychiatric outpatient contact, 27.9 (19.5-40.0) for people with at most psychiatric emergency room contacts, and 44.3 (36.1-54.4) for people who had been admitted to a psychiatric hospital. The gradient was steeper for married or cohabiting people, those with higher socioeconomic position, and possibly those without a history of attempted suicide.

Conclusions: Psychiatric admission in the preceding year was highly associated with risk of dying from suicide. Furthermore, even individuals who have been in contact with psychiatric treatment but who have not been admitted are at highly increased risk of suicide.

Comment

Main findings: Understanding the epidemiology of suicide is a key step in suicide prevention. Increased risks have been related to various psychiatric diagnoses, further amplified by specific demographic characteristics. An investigation into the various types of contact with the psychiatric system (inpatients, outpatients, emergency room (ER), psychiatric hospital, and medication) and the degree of contact provides the foundation of this study. From 1995 to 2009, a total of 2,429 suicide cases (71.8% men) were compared with 50,320 matched controls. Fifty-three percent had received some form of psychiatric treatment in the preceding year of their death. A significant association was observed between dying by suicide and level of contact with the psychiatric system. Compared to those suicide cases not receiving psychiatric treatment, those receiving psychiatric medication, psychiatric outpatient contact, psychiatric ER contact, and cases receiving psychiatric hospitalisation were all more likely to die by suicide. For those receiving outpatient treatment, the risk of suicide was elevated by nearly 30 times for
those diagnosed with a psychotic or affective disorder, compared to 12 times for other psychiatric disorders.

**Implications:** Australian research has shown that people who die by suicide have more frequent contacts with mental health professionals than those who die by sudden death. In the current study, increased rates of suicide were seen with increasing levels of psychiatric treatment (medication, psychiatric outpatients, psychiatric ER, and psychiatric hospitalisation). This particular pattern may indicate the ability of psychiatric treatment systems to correctly identify people in need of treatment. However, a specific focus is needed on suicidal behaviour within outpatient clinics and general practices. Greater monitoring of individuals accessing these resources for treatment should be encouraged. Furthermore, all diagnostic groups (psychotic, affective, etc.) should be assessed for risk of suicide.

**Endnotes**

Tracking suicide risk factors through twitter in the U.S.
Jashinsky J, Burton SH, Hanson CL, West J, Giraud-Carrier C, Barnes MD, Argyle T (USA)
Crisis 35, 51-59, 2014

**Background:** Suicide is a leading cause of death in the United States. Social media such as Twitter is an emerging surveillance tool that may assist researchers in tracking suicide risk factors in real time.

**Aims:** To identify suicide-related risk factors through Twitter conversations by matching on geographic suicide rates from vital statistics data.

**Method:** At-risk tweets were filtered from the Twitter stream using keywords and phrases created from suicide risk factors. Tweets were grouped by state and departures from expectation were calculated. The values for suicide tweeters were compared against national data of actual suicide rates from the Centers for Disease Control and Prevention.

**Results:** A total of 1,659,274 tweets were analyzed over a 3-month period with 37,717 identified as at-risk for suicide. Midwestern and western states had a higher proportion of suicide-related tweeters than expected, while the reverse was true for southern and eastern states. A strong correlation was observed between state Twitter-derived data and actual state age-adjusted suicide data.

**Conclusion:** Twitter may be a viable tool for real-time monitoring of suicide risk factors on a large scale. This study demonstrates that individuals who are at risk for suicide may be detected through social media.

**Comment**

**Main findings:** The majority of Twitter users post material about themselves and readily share information of a personal nature. Social media platforms possess the possibility for surveying and influencing large groups of individuals through the collection of real-time data. This data may provide an opportunity for an analysis of suicidal behaviours and relevant interventions. The authors sought to determine whether the numbers of suicide-related Twitter posts are related to actual suicide rates of US states and the District of Columbia. Following criteria used to retrieve only at-risk suicide ‘tweets’ (Twitter posts), there were a total of 733,011 tweets from 594,776 unique users over a four month period in 2012. A specific US state could be identified in 37,717 tweets from 28,088 unique users. The most at-risk (i.e. higher proportion of suicide related users than expected) states tended to be Alaska, midwestern and western states. The lowest at-risk states tended to be the southern and eastern states. The geographical distribution of actual suicide rates was significantly associated with the rates of tweets by Twitter users at risk of suicide.

**Implications:** Twitter (and other social media platforms) is regularly used in Australia and may be a useful tool for future suicide research and public health interventions. This American study provides preliminary acceptability of the value of this data source in monitoring and understanding suicide risks. However, the eco-
logical nature of the study prevents concrete conclusions being drawn. Nevertheless, the use of this type of information sharing opens up avenues for detecting and responding to suicidality on social media. Individuals flagged as at risk of suicide may be engaged in social media conversations with trained practitioners offering relevant information and direction to relevant resources. The real-time data that is provided allows for a more prompt and thorough response to users that are identified as potentially vulnerable.

Endnotes


Prospective prediction of suicide in a nationally representative sample: Religious service attendance as a protective factor

Kleiman EM, Liu RT (USA)

British Journal of Psychiatry. Published online: 10 October 2013. doi: 10.1192/bjp.bp.113.128900

**Background:** Previous research into religious service attendance as a protective factor against suicide has been conducted only retrospectively, with psychological autopsy studies using proxy informants of completed suicide, rather than prospectively, with completed suicide as a dependent variable.

**Aims:** To determine whether individuals who frequently attended religious services were less likely to die by suicide than those who did not attend so frequently.

**Method:** We analysed data from a nationally representative sample (n = 20 014), collected in the USA between 1988 and 1994, and follow-up mortality data from baseline to the end of 2006.

**Results:** Cox proportional hazard regression analysis indicated that those who frequently attended religious services were less likely to die by suicide than those who did not attend, after accounting for the effects of other relevant risk factors.

**Conclusions:** Frequent religious service attendance is a long-term protective factor against suicide.

**Comment**

**Main findings:** Religious affiliation has been associated with decreased levels of suicidal ideation and suicide attempts\(^1\). Two main theories exist for the link between religion and suicidality; that religious service attendance increases social support and integration and therefore decreases suicidality\(^2\), and that commitment to core religious beliefs, values and practices may deter suicidal behaviour\(^3\). This longitudinal prospective study analysed the frequency of religious service attendance in U.S. adults who died by suicide to further explore the role of religiosity as a potential protective factor for suicide. Data was collected from the nationally representative Third National Health and Nutrition Examination Survey (NHANES III in 1988-1994) and included information on demographic and social variables, socioeconomic status, alcohol and drug use, lifetime psychiatric diagnosis, and suicidal ideation and attempts. This information was linked with mortality files from the National Death Index (NDI) of the U.S. Government Centers for Disease Control and Prevention (CDC) until 31 December 2006. Univariate Cox proportional hazard regression analysis was used to compare time to suicide in those who frequently attended religious services (at least 24 times per year or twice per month) to those who did not attend frequently. Results showed that male gender, older age, frequent marijuana use and infrequent religious service attendance all predicted death by suicide. When controlling for other factors, only male gender and infrequent religious service attendance remained significant in the final model. In conclusion, people who attended religious services frequently were 67% less likely to die by suicide by the end of the study period.
(more specifically, only 8 out of 25 suicides reported frequent engagement in religious services).

**Implications:** Although previous studies have identified a link between religiosity and suicidality, the vast majority of this research has focused on non-fatal suicidal behaviour. This paper was the first to make use of longitudinal prospective methodology to examine the relationship between suicide mortality and religious service attendance. The use of prospective methodology reduced the potential for reporting biases which may occur when retrospective study designs are used.

The association between suicidal behaviours and religiosity is yet to be examined in Australia. Due to differences in religious practices between countries, it is important that research is carried out in the Australian context. While theories exist as to why religious attendance may act as a protective factor against suicidality, further research exploring the reasons for this association is warranted and may contribute to suicide prevention efforts.

**Endnotes**

This study aimed to estimate the risk for suicide among medical doctors and nurses compared with the education professions and the general population and to describe the characteristics of their suicides. Suicide cases and rates in the age group of 25 to 64 years were analyzed using the Queensland Suicide Register (QSR) during 1990 to 2007. The male medical doctors had lower suicide rates than those of the male education professionals and significantly lower rates than those of the general population. The female medical doctors had significantly higher rates than those of the education professionals, but the rates were similar to those of the general population. Among the nurses, both sexes had significantly higher rates than those of the education professionals; however, their rates were similar to those of the general population. Poisoning was used significantly more often by the medical professionals (59.3%) and the nurses (44.1%) than by the education professionals (23.5%) and others (18.8%). Depression was more common in suicide of the medical doctors than the nurses, the education professionals, and others. Work-related problems were most prevalent for the medical doctors (18.5%) followed by the education professionals (16.5%).

Comment

Main Findings: Like all individuals, medical professionals may experience work-related stress, depression, negative life events, and isolation. Considering their profession, they may feel uncomfortable approaching colleagues and other health professionals to seek assistance, potentially due to the belief that it will harm their careers along with the ease in self-diagnosis and self-medicating. An increased suicide rate has been acknowledged for those involved in medical occupations when compared with the general population and other academic professionals. However, inconsistent findings of suicidality among medical professionals have prompted the authors to investigate the prevalence of the risk for suicide among these professionals (aged 25 to 64), while also describing the characteristics of these suicides using data from the Queensland Suicide Register (QSR) and Australian Bureau of Statistics (ABS).

There were 27 suicides by medical doctors, 59 by nursing professionals, and 85 by teaching professionals for the period 1990 to 2007. Male nursing professionals had a significantly greater suicide rate when compared with male education professionals. This significance did not remain when compared with the rates of the total male population. Female medical doctors and nursing professionals both had significantly greater suicide rates when compared to female education professionals. However, like that of males, this significance did not remain when compared to the rates of total female population. Of these suicide cases, poisoning methods occurred in 59.3% of medical doctors and 44.1% of nursing profession-
als, significantly more than in education professionals (23.5%) and others (18.8%). There were no marked differences in somatic conditions at the time of death between the groups. However, psychiatric disorders were more prevalent among medical doctors (59.3%) and nurses (55.9%) compared to education professionals (44.7%) and others (40.1%), and were or had been more frequently receiving psychiatric treatment. Of the lifestyle factors, work-related problems were the most prevalent for medical doctors (18.5%).

Implications: Contrary to previous findings, individuals working in the medical and nursing professions do not appear to be at greater risk of suicide when compared to the total population of suicide cases. This inconsistency with previous findings may be embedded in the social nuances that distinguish one culture from the next. In Queensland, the conditions of employment for these health professionals may represent a standard that is both comfortable and prestigious, emerging from an increasing demand of these professionals. However, there is still evidence suggestive that these professionals are not immune to risks of suicide. The male suicide rate in Queensland (2007 to 2009) was 3.5 times higher than the female rate\(^4\), much more than the difference observed between male and female medical doctor suicides (i.e. 1.5 times greater for men) in this study. This convergence may signify an importance of the factors that surround these types of professions. Self-poisoning was found to be the most frequent suicide method for medical doctors and nurses, a relationship tied to their knowledge of and ease of access to potentially lethal drugs. Work-related problems were also identified as a potential risk and are considered an important aspect of suicide in medical doctors. However, there appears to be no lack of treatment seeking among medical and nursing professionals, as many cases were found to have engaged another professional, particularly for psychiatric conditions.

Endnotes
Longitudinal follow-up study of adolescents who report a suicide attempt: Aspects of suicidal behavior that increase risk of a future attempt

Miranda R, De Jaegere E, Restifo K, Shaffer D (USA, Belgium, The Netherlands)

Depression and Anxiety 31, 19-26, 2013

**Background:** Previous studies have noted that a past suicide attempt (SA) predicts a future SA, but few studies have reported whether previous SAs that predict a future attempt differ from those that do not. Knowing which characteristics of previous SAs predict future attempts would assist in evaluating adolescents at risk of attempt repetition. This longitudinal study of an unreferred sample examined which characteristics of adolescent SAs increased risk for repeat attempts.

**Methods:** Fifty-four adolescents who had attempted suicide were identified through a two-stage screening of 1,729 high school students. Adolescents reported details of their past SA on the Adolescent Suicide Interview and were reassessed 4-6 years later by telephone.

**Results:** Eighteen of the 54 teens (33%) reported that they had made another SA since baseline, and 17 of these reported characteristics of their later attempt. The odds of a further attempt were significantly increased by being alone (OR = 6.1, 95% CI = 1.1-34.8), retrospectively reporting a serious wish to die (OR = 5.2, 95% CI = 1.2-22.7), and planning the attempt for an hour or more (OR = 5.1, 95% CI = 1.1-25.0). The method of attempt remained consistent from baseline to follow-up attempt (□ = .67).

**Conclusions:** Screening high school students to identify those who are at risk for making future SAs should include questions about number of previous SAs and such indicators of risk as isolation, wish to die, and extent of planning prior to a SA.

**Comment**

**Main findings:** The period of adolescence can be one of increased psychosocial stressors that may further increase risk for suicidal behaviour. Understanding the factors involved in repetitions of suicide attempt among this group could help direct clinical examination to improve identification of those at risk of another suicide attempt. The purpose of this US study was to examine the features of an adolescent suicide attempt that increase the risk for future attempts. A further examination of changes in suicide attempt method with repetition was also carried out. The study involved follow-up of 54 adolescents (aged 12 to 18 years) with a history of suicide attempt. At the initial assessment, overdose (61%) and cutting (26%) were the most predominant suicide methods. Over half of the adolescents reported that they thought (or were uncertain) that the method of attempt would kill them. A second attempt, occurring within the 4 to 6 year follow-up period, was made by one third of adolescents (16 females and 2 males). Those reporting that they wanted to die had over five times higher odds of making a subsequent suicide attempt compared to those who did not wish to die or were...
uncertain. All adolescents making an additional attempt had reported a definite or uncertain wish to die during their initial attempt. The majority (87%) of these repeat attempts were planned for less than an hour and involved no warnings or threats. Planning, isolation, and wish to die were features of a suicide attempt that enhanced risk of repeat attempts.

**Implications:** In order to determine risk for repetition of a suicide attempt, assessment of adolescents who attempt suicide might benefit from questions regarding planning, isolation, and wish to die. Clinicians working with adolescents who attempt suicide should particularly focus on reducing the seriousness of the adolescent’s desire to die (e.g. thoughts of burdensomeness). Treatment of this group should also seek to build problem-solving capacity when encountering circumstances that lead to consideration of suicide. This may be encouraged in areas of Australian schooling where there may be opportunities to help engage adolescents in problem-solving skills relevant in the community.

**Endnote**

Mental pain as a mediator of suicidal tendency: A path analysis
Nahaliel S, Sommerfeld E, Orbach I, Weller A, Apter A, Zalsman G (Israel)
Comprehensive Psychiatry 55, 944-951, 2014

**Background:** This study used path-analysis to examine the assumption that the presence of mental pain in adults mediates the relationship between self-destruction, number of losses experienced in one’s life, and suicidal tendency.

**Methods:** Fifty suicidal inpatients, 50 non-suicidal inpatients and 50 healthy volunteers were assessed for self-destruction, losses experienced, depression, suicidal tendency, and mental pain.

**Results:** Self-destruction was found to have both a direct effect on suicidal tendency as well as one mediated by the presence of mental pain. Number of losses effected suicidal tendency only indirectly, mediated by the presence of mental pain. Overall, self-destruction was a more significant determinant of suicidal tendency than were the number of losses experienced during one’s life. A competing model, with depression replacing mental pain as the mediator, was also found to fit the data.

**Discussion:** These findings provide evidence that the presence of mental pain is a mediator in the relationships between both self-destruction and number of losses experienced, and between suicidal tendencies. More studies are needed in order to further differentiate between mental pain and depression as mediators in suicidal tendency.

**Comment**

**Main findings:** Consideration of the various processes and interactions between predictive factors could contribute to a greater understanding of suicidality. The current study from Israel investigated combinations of three predictors (self-destruction processes, losses over one’s life, and mental pain) drawn from a model of known factors involved in suicidal behaviour. The predicted outcome of suicidal tendency is derived from attitudes toward life and death (e.g. repulsion to life and attraction to death). Suicidal inpatients, non-suicidal inpatients, and healthy participants formed the groups analysed in the study, with each participant completing relevant measures (questionnaires) on all factors. Overall, suicidal inpatients reported higher levels of suicidal tendency compared to the other groups; this group also scored higher in measures of self-destruction processes (internal modes of self-abuse). Collectively the inpatients reported higher levels of loss (material, mental, physical, social) than healthy participants. Suicidal inpatients also reported higher levels of mental pain in comparison to the other groups. The model developed for the predictors of suicidal tendency shows that self-destruction has a direct and indirect effect on suicidal tendency. However, number of losses had only an indirect effect on suicidal tendency that was mediated by the presence of mental pain. The mediating role of mental pain was similar to that of depression.
**Implications:** Self-destruction processes appear to be a more important determinant of suicidal tendency than lifetime number of losses. An individual experiencing a number of losses seems to be at risk of suicidal tendencies when in the presence of intense psychological pain. This mental pain provides a connection between life circumstances and suicidality. Furthermore, mental pain and depression may both play a similar role in mediating the relationship between losses and self-destruction with suicidal tendencies. These two factors are highly associated yet distinct from one another. Not every depressed person is suicidal and not every suicide attempt occurs during a depressive episode\(^3\). Thus, mental pain may prove to be a useful predictor of suicide.

**Endnotes**

Background: Suicide in young adults remains an important public health issue in Australia. The attributable risks associated with broader socioeconomic factors, compared to more proximal psychiatric disorders, have not been considered previously in individual-level studies of young adults. This study compared the relative contributions of psychiatric disorder and socio-economic disadvantage associated with suicide in terms of relative and attributable risk in young adults.

Method: A population-based case-control study of young adults (18-34 years) compared cases of suicide (n = 84) with randomly selected controls (n = 250) from population catchments in New South Wales (Australia), with exposure information collected from key informant interviews (for both cases and controls). The relative and attributable risk of suicide associated with ICD-10 defined substance use, affective, and anxiety disorder was compared with educational achievement and household income, adjusting for key confounders. Prevalence of exposures from the control group was used to estimate population attributable fractions (PAF).

Results: Strong associations were evident between mental disorders and suicide for both males and females (ORs 3.1 to 18.7). The strongest association was for anxiety disorders (both males and females), followed by affective disorders and substance use disorders. Associations for socio-economic status were smaller in magnitude than for mental disorders for both males and females (ORs 1.1 to 4.8 for lower compared to high SES groups). The combined PAF% for all mental disorders (48% for males and 52% for females) was similar in magnitude to socio-economic status (46% for males and 58% for females).

Conclusion: Socio-economic status had a similar magnitude of population attributable risk for suicide as mental disorders. Public health interventions to reduce suicide should incorporate socio-economic disadvantage in addition to mental illness as a potential target for intervention.

Comment

Main findings: Suicide is the leading cause of death in the young Australians. Although this rate has been declining (18.1/100,000 persons in 2003), the most recent finalised data for 2010 from the Australian Bureau of statistics shows that Australian young adults aged 25-34 years still died by suicide at a rate of 13.3/100,000 persons (higher than the national average of 11.3/100,000 persons). This study analysed prevalent psychiatric disorders and socio-economic disadvantage as potential risk factors for suicide in young adult Australians aged 18-34, living in New South Wales. Information collected from interviews with the next of kin of eighty-four suicide cases, was compared to information recorded from...
interviews with a nominated informant (parent, relative, friend) of 250 randomly selected living controls. For both males and females, psychiatric disorders were strongly associated with suicide risk, particularly anxiety disorders, even when adjusting for marital status, family history and socio-economic status. The association between socio-economic status and suicide risk was less prominent, particularly when controlling for marital status and family history of mental disorder. Despite this, suicide risk was higher in the lowest and middle socio-economic status groups in both males and females when compared to the highest socio-economic group. The adjusted population attributable fractions (PAF%) were highest for substance use disorder in males, and anxiety disorders for females. When combined, the PAF% for all psychiatric disorders was similar in magnitude to socio-economic status in both males and females.

**Implications:** There are a wide range of suicide prevention efforts worldwide, with programs focussing on increasing public awareness of suicide risk and mental illness, improving responses by mental health professionals, the responsible media reporting of suicides and removing access to means. While research has suggested that increased physician education on treatment and identification of depression and the restriction of access to lethal means have the ability to reduce suicide rates, other interventions are in need of further research to determine their efficacy. The need for further research is also evident when looking specifically at youth suicide prevention, the Australian National Youth Prevention Strategy (NYSPS), introduced in 1995, was not associated with any significant decrease in suicide rates, however research evaluating this program included a number of limitations which would be important to address.

The results of this study on suicide mortality support those of previous studies focussing on suicide attempts in Australia, which suggest the importance of the introduction of suicide prevention initiatives which target the effects of socio-economic deprivation on young adults in the Australian community.

**Endnotes**

Objective: To assess whether willingness to disclose experience of a mental disorder and treatment, and awareness of others' experiences have changed over a 16-year period.

Methods: In 2011, telephone interviews were carried out with 6019 Australians aged 15+. The survey interview used the same questions as those of the 1995 and 2003/4 national mental health literacy surveys, in which participants were presented with a case vignette describing either depression, depression with suicidal thoughts (2003/4 only), early schizophrenia or chronic schizophrenia (2003/4 only). Participants were asked whether they had a close friend or family member who had experienced a problem similar to that described in the vignette and whether the person received professional help. They were also asked whether they had experienced such a problem and whether they received professional help.

Results: The numbers of those disclosing experiences of depression and early schizophrenia, and of having received professional help for depression, have increased since 1995. Awareness of a family member or close friend with experiences of depression and early schizophrenia also increased between these years, as did awareness that the person received professional help.

Conclusions: The numbers of those disclosing experiences of and treatment for mental disorders has increased in the last 16 years. This is likely to be due to increased willingness to disclose rather than increased prevalence of disorders or increased rates of help-seeking.

Comment

Main findings: People suffering from a mental illness may face stigmatising attitudes from the general community, leading to social isolation, distress and difficulties in gaining employment. Research has shown that Australians may perceive stigmatising attitudes in the community to be more prevalent than they actually are, meaning that even when these attitudes are not present, individuals may still be reluctant to disclose their mental illness or seek professional help over fears of discrimination. This paper assessed whether the willingness to disclose a mental disorder has changed over the past 16 years, using data collected through telephone interviews with 6,019 Australians aged 15 and over. Change over time was analysed by comparing the results of the current 2011 interview to data collected from the 1995 and 2003/2004 National Mental Health Literacy surveys. Results showed a significant increase since 1995 of individuals disclosing depression and early schizophrenia, as well as an increase in awareness of a family member or close friend with depression or early schizophrenia. Between 2003/4 and 2011 there was a significant increase in the number of respondents seeking professional help.
help for depression. Between 2003/4 and 2011 the change in females receiving professional help for depression was significantly greater than the change for males and individuals born outside of Australia were significantly more likely to disclose depression with suicidal thoughts than those born in Australia.

Implications: Mental illness is a major risk factor for both non-fatal and fatal suicidal behaviour³. The reduction of stigma may help to prevent suicide by ensuring that people with mental illness are more inclined to access support from the community or from mental health professionals. This paper shows that Australians who have been diagnosed with a mental disorder are more inclined to disclose this information or to access help than they were in 1995. These results may reflect the efforts of services such as the beyondblue: The national depression initiative⁴ and suggest the importance of continuing efforts to improve the mental health literacy of Australians.

Endnotes

What do the bereaved by suicide communicate in online support groups?

Schotanus-Dijkstra M, Havinga P, van Ballegooijen W, Delfosse L, Mokkenstorm J, Boon B (The Netherlands, Belgium)


**Background:** Every year, more than six million people lose a loved one through suicide. These bereaved by suicide are at relatively high risk for mental illnesses including suicide. The social stigma attached to suicide often makes it difficult to talk about grief. Participating in online forums may be beneficial for the bereaved by suicide, but it is unknown what they communicate in these forums.

**Aims:** What do the bereaved by suicide communicate in online forums? We examined which self-help mechanisms, grief reactions, and experiences with healthcare services they shared online.

**Method:** We conducted a content analysis of 1,250 messages from 165 members of two Dutch language forums for the bereaved by suicide.

**Results:** We found that sharing personal experiences featured most prominently in the messages, often with emotional expressions of grief. Other frequently used self-help mechanisms were expressions of support or empathy, providing advice, and universality (recognition), while experiences with healthcare services featured only occasionally. Compared with previous studies about online forums for somatic illnesses, the bereaved by suicide communicated more personal experiences and engaged much less in chitchat.

**Conclusion:** Online forums appear to have relevant additional value as a platform for talking about grief and finding support.

**Comment**

**Main findings:** Bereavement support groups encourage individuals to recognise and share feelings and experiences relating to the death of a loved one. A relatively new form of bereavement support is the use of online support groups, which allow individuals to share these feelings without the need for face-to-face interactions. This study aimed to determine which self-help mechanisms, grief reactions, and experiences with healthcare services are communicated by individuals in an online support group for people bereaved by suicide. The authors conducted a content analysis of messages in two online forums in Belgium (958 forum members and 5,281 messages on the forum) and the Netherlands (1,064 forum members and 1,039 messages on the forum). The study included 1,250 messages that were posted by 165 members between September 2010 and May 2011 (messages from moderators, double-posted messages and suicidal messages were excluded). The majority of participants were women (70%) and the mean age was 32 years of age. Five percent of participants had lost more than one loved one to suicide. Results indicated that participants shared personal experiences in 77% of the messages including information on their loved one, the method of suicide and
the circumstances of the day that the suicide happened, and their current and past feelings about the loss. Forty percent of messages on the forums contained messages of support or empathy for other bereaved individuals, while around one quarter of messages contained some message of information or advice. Negative grief reactions were noted in 45% of messages, while only 14% contained positive grief reactions. Only 7% of posts contained any positive mention of health-care services and participants reported greater satisfaction with online support groups, specialised psychologists and spiritual support providers rather than general psychologists or practitioners. On the other hand, five percent of messages expressed negative feelings towards health care services.

**Implications:** Research on bereavement support groups has so far returned mixed results regarding the effectiveness of these groups\(^1\). This study adds to the current knowledge about the effectiveness of these services, particularly online support services for those bereaved by suicide. Studies including such services are important considering previous suggestions that the experiences of individuals bereaved by suicide may differ from bereavement through other causes of death, and that stigma may result in increased isolation and the need for increased social support in these individuals\(^2\).

Participants appeared to be satisfied with their experience of online support forums which suggests that services such as “Support after Suicide”\(^3\) in Australia may offer low-cost and easily accessible alternatives to conventional health-care services.

**Endnotes**

High impact child abuse may predict risk of elevated suicidality during antidepressant initiation

Singh AB, Bousman CA, Ng CH, Berk M (Australia)

Australian and New Zealand Journal of Psychiatry 47, 1191-1195, 2013

Background: Concerns have emerged that initiation of an antidepressant can lead to or exacerbate suicidality. If those more at risk could be identified prior to treatment, treatment risk benefit analysis and patient risk management could be assisted.

Aims: This study investigated the role of child abuse and ongoing emotional impact from abuse on the risk of suicidality during the first week of treatment with an antidepressant. The patient sample for this study was drawn from one site of a larger pharmacogenetic study. The hypothesis was that subjects with high impact child abuse would have greater elevation of suicidality during the first week of antidepressant treatment.

Methods: Fifty-one subjects were initiated on either venlafaxine (VEN) or escitalopram (ESC) for major depressive disorder (MDD) and had pre-treatment suicidality assayed with the reasons for living scale (RFLS), which was repeated after one week of treatment. Several clinical, demographic and genotype variables were controlled for. The 15-item Impact of Event Scale (IES-15) was administered to subjects reporting abuse to dichotomise the abuse group into low and high (IES-15 ≥ 26) impact groups for sub-analysis as per the scales validated rating guidelines.

Results: Subjects reporting no child abuse exposure were less likely to have increased suicidality during the first week of antidepressant treatment (7.6%) compared to subjects with low impact abuse (38.5%, p = 0.041) and high impact abuse (58.3%, p = 0.009). Only high impact abuse predicted increased suicidality after adjustment for potential confounders such as depression severity (OR = 31.5, 95% CI = 1.3 to 748.7, p = 0.03).

Conclusions: If these findings are replicated in larger samples, child abuse history could become an important element of assessing risk benefit balance when initiating antidepressants and may help guide the level of patient review needed during antidepressant initiation.

Comment

Main findings: Child abuse and neglect may potentially influence the development of psychological disorders and suicidality later in life. However, the Food and Drug Administration in the US have previously issued warnings concerning antidepressant initiation and suicidality in younger populations. In order to establish those more at risk, this Australian study investigated the role of child abuse on risk of suicidality during antidepressant initiation of patients (18 years and over) with a principle diagnosis of Major Depressive Disorder (MDD). Compared to those with childhood abuse exposure, those with no childhood abuse
exposure were less likely to have increased suicidality from pre-treatment to one week of antidepressant treatment. However, there was no difference in suicidality at this time between those with low and high impact child abuse exposure. During the first week of antidepressant treatment, patients with high impact of child abuse exposure had significantly higher risk of suicidal ideation after controlling for other clinical factors (e.g. depression severity) compared to those reporting no child abuse exposure.

**Implications:** From this Australian study it appears that those with MDD and significant ongoing emotional impact from child abuse are at greater risk of developing suicidality. However, further investigation into this relationship is needed due to the small size of the sample in the current study. The emotional impact from child abuse risk factor may assist those prescribing antidepressant medications to carefully monitor and conduct more frequent clinical reviews for individuals at greater risk. It may also help prescribers to weigh-up potential risks and benefits of antidepressant treatment, allowing for a more informed treatment plan. The use of other mental health resources (e.g. community supports) may be encouraged or strengthened during the initial stages of antidepressant treatment among the at-risk group (high impact child abuse).

**Endnote**

Effectiveness of online self-help for suicidal thoughts: Results of a randomised controlled trial

Spijker AJ, Straten Av, Kerkhof JF (The Netherlands)

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Background: Many people with suicidal thoughts do not receive treatment. The Internet can be used to reach more people in need of support.

Objective: To test the effectiveness of unguided online self-help to reduce suicidal thoughts.

Method: 236 adults with mild to moderate suicidal thoughts were randomised to the intervention (n = 116) or a waitlist control group (n = 120). Assessments took place at baseline, and 2, 4 and 6 weeks later. Primary outcome was suicidal thoughts. Secondary outcomes were depressive symptoms, anxiety, hopelessness, worry, and health status.

Results: The intervention group showed a small significant effect in reducing suicidal thoughts (d = 0.28). Effects were more pronounced for those with a history of repeated suicide attempts. There was also a significant reduction in worry (d = 0.33). All other secondary outcomes showed small but non-significant improvements.

Conclusions: Although effect sizes were small, the reach of the internet could enable this intervention to help many people reduce their suicidal thoughts.

Comment

Main findings: Many people experiencing suicidal ideation encounter interpersonal barriers to help seeking\(^1\). Web-based interventions provide an avenue for additional support collaborated with regular treatment. In order to investigate the effectiveness of such interventions in reducing the frequency and intensity of suicidal thoughts, this randomised intervention trial compared an unguided web-based self-help online tool with a waitlist control group in Netherlands. The self-help intervention is based on cognitive behavioural therapy (CBT), as well as components of dialectic behavioural therapy (DBT), problem solving therapy (PST), and mindfulness based cognitive therapy (MBCT). Participants in the waitlist group received general information about suicidality. Suicidal thoughts, depression, hopelessness, anxiety, worry, and health status were substantial at baseline measures among the sample. There was significantly greater improvement in suicidal thoughts over time in the online self-help group compared to the waitlist group. Measures of worry also revealed a significant difference in improvement for the online self-help group compared to controls. Overall, the average reduction in suicidal thoughts was twice as much per two-week period in the intervention group compared to the waitlist group. Those with a history of suicide attempt also benefited from the online self-help intervention.

Implications: The advent of new technologies is an opportunity for innovative methods in healthcare, such as the use of social media in understanding suicide\(^2\).
Web-based self-help interventions can be an effective means to reduce suicidal thoughts. This online method offers a valid way of reaching people who might not be actively seeking help. As there were participants in the sample who had already been receiving care, this online intervention may be employed in conjunction with regular care. Those who are reluctant to engage in help seeking, due to intrapersonal barriers, may benefit from the anonymity of online intervention tools. Integrating additional preventative strategies (e.g. email referrals to more intensive supports) on the online platform provides an immediate response to at-risk individuals.

Endnotes
Self-harm in young adolescents (12-16 years): Onset and short-term continuation in a community sample

BMC Psychiatry 13, 328, 2013

Background: To investigate the prevalence of self-harm in young adolescents and factors associated with onset and continuity over a one year period.

Method: Prospective longitudinal study. Participants were young adolescents (n = 3964) aged 12-16 years attending 8 secondary schools in the Midlands and South West of England.

Results: Over a one year period 27% of young adolescents reported thoughts of self-harm and 15% reported at least one act of self-harm. Of those who self-harmed, less than one in five (18%) had sought help for psychological problems of anxiety or depression. Compared with boys, girls were at increased risk of developing thoughts (OR 1.61, 95% CI 1.26-2.06) and acts (OR 1.40, 95% CI 1.06-1.84) of self-harm, particularly amongst those girls in school year 9 (aged 13/14, thoughts adjusted Odds Ratio (aOR) 1.97, 95% CI 1.27-3.04; acts aOR 2.59, 95% CI 1.52-4.41). Of those reporting thoughts of self-harm at baseline, 60% also reported these thoughts at follow-up. Similarly 55% of those who reported an act of self-harm at baseline also reported that they had self-harmed at follow-up. Insecure peer relationships increased the likelihood that boys and girls would develop self-harming behaviours, as did being bullied for boys. Low mood was associated with the development of self-harming thoughts and behaviours for boys and girls, whilst a strong sense of school membership was associated with a reduced risk of developing thoughts of self-harm for boys and increased the likelihood of self-harming thoughts and behaviours ceasing for girls.

Conclusion: Self-harm in young adolescents is common, with one in four reporting self-harming thoughts and one in six engaging in self-harming behaviour over a one year period. Self-harm is already established by 12/13 years of age and for over half of our sample, self-harming thoughts and behaviour persisted over the year. Secure peer and strong school relationships were associated with less self-harm. Few seek help for psychological problems, suggesting a need to increase awareness amongst all professionals who work with young adolescents about self-harm and associated risk factors.

Comment

Main findings: Self-harming thoughts and behaviours in adolescence are a notable problem. Of the adolescents who do self-harm, approximately half will do so more than once. Thoughts of self-harm are also associated with non-fatal suicidal behaviour in adolescents within the community. In order to understand the factors associated with short-term continuation or cessation of self-harm in young adolescents, the authors examined pupils from 8 schools in the UK over a time period of 12-months (assessed twice for suicide ideation in the preceding 6
months). Of the participants, 27% experienced thoughts of self-harm and 15% reported acts of self-harm at some stage over the time-period. Of those not reporting thoughts of self-harm initially, 9.1% reported experiencing thoughts of self-harm over the 6-month period; more girls (11%) than boys (7%). Of those not reporting any self-harm behaviour initially, 6.0% had self-harmed by the second assessment; more acts by girls (7%) than boys (5%). Continuation of self-harming thoughts were reported by 59.5% of those initially thinking of self-harm, while 55.1% of those initially self-harming reported continued acts of self-harm. Cannabis use and symptoms of low mood increased the risk of developing self-harming thoughts and behaviours. Boys who were being regularly bullied were twice as likely to report thoughts of self-harm continuation. Adolescents reporting initial self-harm thoughts were more likely to develop self-harming behaviour than those who did not initially report self-harm thoughts or behaviours.

**Implications:** Adolescents as young as 12 years of age are known to experience self-harming thoughts and behaviours; these experiences can persist over time. Self-harming prevention activities should incorporate a focus on young adolescents, before these experiences become firmly established later on in life. Improving general mental health and developing positive cognitive skills is likely to help reduce the numbers of self-harming events. This may be achieved with an increased awareness of these behaviours and their associated risk factors. Training addressing the nature of self-harm and its risk factors may be provided to those who are in regular contact with young adolescents to improve identification of such behaviours. Schools offer an opportune location for delivering programs to improve mental wellbeing and prevent suicide such as the MindMatters project in Australia.

**Endnotes**

Objectives: This study aimed to investigate whether violent and non-violent offending were related to elevated risk of suicide. We also investigated whether the risk was higher among those with repeated offences and how experiences of substance misuse and suicide attempt modified the relationship.

Design: A nationwide prospective cohort study.


Participants: A birth cohort of 48,834 men who were mandatory conscripted for military service in 1969/70 at the age of 18-20 years. Possible confounders were retrieved from psychological assessments at conscription and the cohort was linked to mortality and hospitalisation and crime records from 1970 onwards. Estimates of suicide risks were calculated as HR with 95% CIs using Cox proportional regression analyses with adjustment for potential confounding by family, psychological and behavioural factors including substance use and psychiatric disorders.

Results: Of the total cohort, 2671 (5.5%) persons died during the follow-up period. Of these, 615 (23%) persons died due to suicide. Non-violent criminality was evident for 29% and violent criminality for 4.7% of all the participants. In the crude model, the violent offenders had nearly five times higher risk (HR=4.69, 3.56 to 6.19) to die from suicide and non-violent criminals had about two times higher risk (HR=2.08, 1.72 to 2.52). In the fully adjusted model, the HRs were still significant for suicide in the non-violent group.

Conclusions: Experiences of violent or non-violent criminality were associated with increased risk of suicide. Comorbidity with alcohol and substance use and psychiatric disorders modified the risk, but the suicide risk remained significantly elevated for non-violent criminals. It is crucial to identify offenders and especially repeated offenders who also suffer from alcohol or substance misuse and psychiatric illness in clinical settings in order to prevent suicide.

Comment

Main findings: Prison inmates and offenders recently released from prison are at an increased risk of suicide compared to the general population. Limited studies have assessed the risk of suicide in offenders who have not been incarcerated, despite research showing that as many people are in contact with a police officer (either as victim or offender) in the three weeks before death by suicide, than are in contact with a mental health professional. This longitudinal Swedish study followed 48,834 adult males aged 18-20 over 35 years to examine the relationship between offending and risk of completed suicide. Participants initially completed
two questionnaires and a structured interview including factors relating to their family and psychosocial background and health, and their alcohol and drug use behaviours. Follow-up involved the use of data from the National Crime Register and the Cause of Death Register. Overall, 2,671 participants died during the 35 year follow-up period, 615 of whom died by suicide. Suicide was the cause of death in close to one-third of individuals who had committed a violent offence before death and one quarter of those who committed a non-violent offence before death. When a number of confounding factors were controlled for (including fathers occupation, medication for nervous problems among family members, conduct problems at school, prior contact with police, medication for a psychiatric disorder, emotional control, intellectual capacity, psychiatric diagnosis, contact with police and juvenile authorities) both violent and non-violent offenders had significantly higher risks of suicide when compared to non-offenders. However, when alcohol and substance misuse and past attempted suicide were controlled for in the fully adjusted model, only non-violent offending remained a significant predictor of increased risk of suicide.

**Implications:** In an area which has been largely neglected in research to date, this paper provides important findings; strengthened by the large national cohort, longitudinal study design and the inclusion of a number of potential confounding variables. The results suggest the need for research in Australia which includes non-incarcerated violent and non-violent offenders rather than focusing solely on current or recently released inmates. Suicide prevention efforts directed at offenders should also attempt to target these individuals.

**Endnotes**

Influence of violent video gaming on determinants of the acquired capability for suicide

Teismann T, Förtsch EMAD, Baumgart P, Het S, Michalak J (Germany)

*Psychiatry Research* 215, 217-222, 2013

The interpersonal theory of suicidal behavior proposes that fearlessness of death and physical pain insensitivity is a necessary requisite for self-inflicted lethal self-harm. Repeated experiences with painful and provocative events are supposed to cause an incremental increase in acquired capability. The present study examined whether playing a first-person shooter-game in contrast to a first-person racing game increases pain tolerance, a dimension of the acquired capability construct, and risk-taking behavior, a risk factor for developing acquired capability. N=81 male participants were randomly assigned to either play an action-shooter or a racing game before engaging in a game on risk-taking behavior and performing a cold pressor task (CPT). Participants exhibited higher pain tolerance after playing an action shooter game than after playing a racing game. Furthermore, playing an action shooter was generally associated with heightened risk-taking behavior. Group-differences were not attributable to the effects of the different types of games on self-reported mood and arousal. Overall these results indicate that action-shooter gaming alters pain tolerance and risk-taking behavior. Therefore, it may well be that long-term consumption of violent video games increases a person’s capability to enact lethal self-harm.

**Comment**

*Main findings:* Violent video games have been associated with an increased propensity for violent and aggressive behaviour in children and young adults, as well as increases in psychological arousal and aggressive thoughts and feelings, and a decrease in prosocial behaviour. This study was the first of its kind in analysing the effect of these games on the potential for suicidal behaviour, based on Thomas Joiner’s Interpersonal Psychological Theory of Suicidal Behaviour. The theory purports that three factors must be present for someone to die by suicide: A sense of thwarted belongingness, perceived burdensomeness and an acquired capability for suicide, stemming from recurring exposure to painful and or/ fear inducing experiences. Teismann and colleagues tested the effect of violent video games on the acquired capability for suicide by examining whether a first person shooting game (Counter Strike: Source) increased levels of pain tolerance (measured through a cold pressor task) and impulsivity (measured through a risk taking game) more than a non-violent racing game (Need for Speed: Shift). The sample included 81 males aged 18-39 years who were recruited through face-to-face interaction or by responding to posted flyers. After playing both of the games, participants felt more animated and slightly less positive than before they played. Differences emerged between the two games, with participants playing Counter Strike having higher levels of pain tolerance and risk-taking behaviour compared to those playing Need for Speed.
**Implications:** While violent video games have been linked to violent behaviour against others in the past, this study provides the first step in analysing whether these games may have an effect on the propensity for self-directed violence through suicidal behaviour. As noted by the authors, further research that takes into account the relationship between these games and fear of dying may be a valuable addition to the findings reported in this study. From a practical sense, the results may suggest that the restriction of access to these video games or the time spent playing these games may play a role in the prevention of suicidality in vulnerable individuals.

**Endnotes**


Anxiety disorders are independently associated with suicide ideation and attempts: Propensity score matching in two epidemiological samples

Thibodeau MA, Welch PG, Sareen J, Asmundson GJG (Canada)
Depression and Anxiety 30, 947-954, 2013

Background: Research suggests that suicidal behavior in individuals with anxiety disorders is attributable to cooccurring risk factors, such as depression. We argue that these conclusions are founded primarily in statistical adjustments that may obscure independent associations. We explored independent associations between specific anxiety disorders and suicide attempts and ideation by means of propensity score matching, a process that simulates a case-control study by creating matched groups that differ in group status (e.g., diagnosis of a specific anxiety disorder) but that are statistically equivalent on observed covariates.

Methods: We made use of the National Comorbidity Survey Replication (NCS-R) and the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), which include a total of 43,935 adults. Diagnoses included agoraphobia without panic disorder, generalized anxiety disorder, panic disorder with or without agoraphobia, posttraumatic stress disorder, social anxiety disorder, and specific phobia.

Results: Each anxiety disorder was (95% confidence intervals) associated with increased odds of lifetime suicide attempts (odds ratios 3.57-6.64 [NCS-R], 3.03-7.00 [NESARC]) and suicidal ideation (odds ratios 2.62-4.87 [NCS-R], 3.34-10.57 [NESARC]). Odds ratios for each disorder remained statistically significant after matching on diagnostic status of dysthymia, major depressive disorder, alcohol abuse/dependence, substance abuse/dependence, bipolar disorder I, bipolar disorder II, all other anxiety disorders, and on sociodemographic variables.

Conclusions: This is the first report to present evidence that each anxiety disorder is associated with suicide ideation and suicide attempts beyond the effects of cooccurring mental disorders. These findings warrant consideration in assessment, intervention, and related policies.

Comment

Main findings: Anxiety disorders are an exceedingly common mental disorder with 14.4% of Australians aged 16 to 85 years reporting an anxiety disorder within a 12-month period. However, investigations into anxiety disorders and suicide have not been as thorough as current methods allow. In an effort to estimate causal effects, the authors have adopted a statistical technique (propensity score matching) to explore independent associations between specific anxiety disorders (agoraphobia without panic disorder, generalised anxiety disorder, panic disorder, posttraumatic stress disorder, social anxiety disorder, and specific phobia) and suicide ideation and suicide attempts. Two separate US national surveys were used and involved matching people who experienced suicide ideation and suicide ideation.
attempt to those without. The odds of each specific anxiety disorder were significantly greater in people with suicide ideation – compared to those without – in both national surveys. Similar results were found for attempted suicide, but only in one of the surveys used (agoraphobia without panic disorder did not increase odds of suicide attempt in the second survey).

**Implications:** Individuals with anxiety disorders have higher risk of suicide ideation and attempts, independent of common co-occurring mental disorders. Australians with any anxiety disorder also experience suicidal ideation (8.9%) and suicide attempts (2.1%)\(^3\). However, no Australian research has investigated suicidality in specific anxiety disorders. The established relationship between anxiety disorders and suicidality might suggest similar causal pathways as other disorders, such as depression. The impact of anxiety disorders on the multifaceted nature of suicidality should be reflected in health policies, training opportunities for healthcare providers, and the development of interventions for this type of mental disorder. Patients with anxiety disorders not reporting symptoms of depression might benefit from screening and monitoring practices for suicidality. Adequate identification of suicide risk in individuals with an anxiety disorder supersedes the risks inherent in overlooking this vulnerability for suicide.

**Endnotes**

Suicide-related events in young people following prescription of SSRIs and other antidepressants: A self-controlled case series analysis

Wijlaars LPMM, Nazareth I, Whitaker HJ, Evans SJW, Petersen I (UK)
British Medical Journal Open 3, e003247, 2013

Objectives: We aimed to examine the temporal association between selective serotonin reuptake inhibitors (SSRI) and tricyclic antidepressant (TCA) prescriptions and suicide-related events in children and adolescents.

Design: Self-controlled case series.

Setting: Electronic health records were used from 479 general practices in The Health Improvement Network (THIN) UK primary care database from 1995 to 2009.

Participants: 81 young people aged 10-18 years with a record of completed suicide, 1496 who attempted suicide, 1178 with suicidal ideation and 2361 with intentional self-harm.

Main Outcome Measures: Incidence Rate Ratios (IRRs) for completed and attempted suicide, suicidal ideation and intentional self-harm.

Results: For non-fatal suicide-related behaviour, IRRs were similar for the time the person was prescribed either SSRIs or TCAs: IRRs increased during pre-exposure, peaked on prescription day, were stable up to the fourth prescription-week, and decreased after the prescriptions were stopped. For both types of antidepressants, IRRs were lower or similar to pre-exposure levels during the period of prescription. For SSRIs, there was an increase in the IRR for completed suicide on the day of prescription (N=5; IRR=42.5, 95% CI 4.5 to 403.4), and during the fourth week of SSRI prescription (N=2; IRR=11.3, 95% CI 1.1 to 115.6).

Conclusions: We found that a very small number of young people were prescribed antidepressants and that there was an absence of a sustained increase in rates of suicide-related events in this group. There were no systematic differences between the association of TCAs and SSRIs and the incidence risk ratios for attempted suicide, suicidal ideation or intentional self-harm and, apart from the day of prescription, rates did not exceed pre-exposure levels. The pattern of IRR for suicide for SSRIs was similar to that found in non-fatal suicide-related events. Our results warrant a re-evaluation of the current prescription of SSRIs in young people. We recommend the creation of a pragmatic registry for active pharmacovigilance.

Comment

Main findings: Vulnerability to major depression and suicidality emerges particularly at the time of adolescence. There exists concern that selective serotonin reuptake inhibitors (SSRI’s) may increase the rate of suicide-related events and self-harm. This potential susceptibility has prompted the authors to investigate the time-based association between pharmaceutical treatments, i.e., SSRI and tri-
cyclic antidepressant (TCA) prescriptions, and risk of suicidality and self-harm in young people in the UK. Prospectively recorded primary care data of young people (aged 10 to 18 years) was taken from the Health Improvement Network between the start of 1995 to end of 2009. This sample contained information regarding a suicide-related event (suicide: 81 cases, suicide attempt: 1,496 cases, suicide ideation: 1,178 cases, and self-harm: 2,361 cases) along with prescribed antidepressant medication. The risk period of interest included a baseline measure, four 1-month pre-exposure periods, the day of prescription, four 1-week early exposure periods, remainder period of antidepressant exposure, and three 1-month periods after the end of the antidepressant episode.

The non-fatal suicidal behaviours of young people prescribed SSRI or TCA showed similar patterns of the behaviour over the risk period (i.e. upward trend during pre-exposure; peak on the day of exposure; stable/slight increase during first weeks of prescription, decrease to the end of antidepressant episode). The greatest increase on the day of prescription was for young people with a record of suicidal ideation. Of those that had died by suicide and were taking SSRIs, 14% had died within the risk period with the highest incidence on the day of prescription. Apart from the day of prescription, there were no significant increases in risk from pre-exposure levels.

**Implications:** Some suicide-related events are expected to occur within a young population experiencing symptoms of depression, irrespective of SSRI prescription\(^1\). A failure to relieve suicide-related events during the first month of prescription may possibly be due to a lag in the antidepressant effect or treatment-resistant depression. Furthermore, novel suicidal emotions and experiences may arise as a result of the antidepressant treatment, whereby early improvements in clinical depression may lead to individuals acting on existing suicidal feelings (activation syndrome\(^2\)). However, the increase in suicide-related events on the day of prescription could also be explained by GP recording behaviour and the severity of the symptoms/condition. The findings suggest that risk posed by untreated depression may be greater than any potential temporary increase in suicide-related events due to the use of SSRI’s.

**Endnotes**

Distinctive emotional responses of clinicians to suicide-attempting patients — a comparative study

Yaseen ZS, Briggs J, Kopeykina I, Orchard KM, Silberlicht J, Bhingradia H, Galynker II (USA)

BMC Psychiatry 13, 230, 2013

**Background:** Clinician responses to patients have been recognized as an important factor in treatment outcome. Clinician responses to suicidal patients have received little attention in the literature however, and no quantitative studies have been published. Further, although patients with high versus low lethality suicidal behaviors have been speculated to represent two distinct populations, clinicians’ emotional responses to them have not been examined.

**Methods:** Clinicians’ responses to their patients when last seeing them prior to patients’ suicide attempt or death were assessed retrospectively with the Therapist Response/Countertransference Questionnaire, administered anonymously via an Internet survey service. Scores on individual items and subscale scores were compared between groups, and linear discriminant analysis was applied to determine the combination of items that best discriminated between groups.

**Results:** Clinicians reported on patients who completed suicide, made high-lethality attempts, low-lethality attempts, or died unexpectedly non-suicidal deaths in a total of 82 cases. We found that clinicians treating imminently suicidal patients had less positive feelings towards these patients than for non-suicidal patients, but had higher hopes for their treatment, while finding themselves notably more overwhelmed, distressed by, and to some degree avoidant of them. Further, we found that the specific paradoxical combination of hopefulness and distress/avoidance was a significant discriminator between suicidal patients and those who died unexpectedly non-suicidal deaths with 90% sensitivity and 56% specificity. In addition, we identified one questionnaire item that discriminated significantly between high- and low-lethality suicide patients.

**Conclusions:** Clinicians’ emotional responses to patients at risk versus not at risk for imminent suicide attempt may be distinct in ways consistent with responses theorized by Malsberger and Buie in 1974. Prospective replication is needed to confirm these results, however. Our findings demonstrate the feasibility of using quantitative self-report methodologies for investigation of the relationship between clinicians’ emotional responses to suicidal patients and suicide risk.

**Comment**

**Main findings:** When treating patients for suicide, clinicians may sometimes struggle to identify signs and symptoms that could provide an opportunity for appropriate intervention. Furthermore, the way in which a clinician responds emotionally to their patients is an important factor related to treatment outcome. This online survey compared emotional responses of clinicians in the encounter preceding a suicide-related event (i.e. death by suicide, high-lethality attempters, and low-lethality attempters) and non-suicide death. Half of the sample was...
medical doctors (50%) followed by clinicians with a PhD qualification (17.5%). Clinicians treating suicidal patients recalled moderately positive feelings towards these patients (although significantly less than clinicians recalling non-suicidal patients). These clinicians had higher hopes for treatment but experienced more distress and avoidance of the patient. A combination of feelings of hopefulness and distress/avoidance distinguished between clinicians treating suicidal patients and those treating non-suicide patients. There was no clear distinction between clinicians experiences of patients that made high-lethality attempts (or died by suicide) and low-lethality attempts. However, clinicians treating patients in the group that had died or made highly lethal attempts experienced more sadness in their encounter.

**Implications:** Problems in the management of emotional reactions to patients may interfere with the effectiveness of treatment. One Australian study has identified poor staff-patient relationships as a key factor in clinical suicide prevention. Quantitative self-assessment of emotional responses in the treatment of suicidal patients may provide a foundation for treatment efficacy. This type of self-assessment may reveal patterns generated by the clinician’s unconscious processes, bringing greater awareness of the clinician’s interpersonal experience with the patient and a greater opportunity to appropriately assess suicide-risk.

**Endnotes**

Recommended Readings
Severe bereavement stress during the prenatal and childhood periods and risk of psychosis in later life: Population based cohort study

Abel KM, Heuvelman HP, Jorgensen L, Magnusson C, Wicks S, Susser E, Hallkvist J, Dalman C (UK, Sweden, USA)

British Medical Journal 348, f7679, 2014

Objective: To examine the risk of psychosis associated with severe bereavement stress during the antenatal and postnatal period, between conception to adolescence, and with different causes of death.

Design: Population based cohort study.

Setting: Swedish national registers including births between 1973 and 1985 and followed-up to 2006.

Participants: In a cohort of 1 045 336 Swedish births (1973-85), offspring born to mothers exposed to severe maternal bereavement stress six months before conception or during pregnancy, or exposed to loss of a close family member subsequently from birth to 13 years of age were followed until 2006. Admissions were identified by linkage to national patient registers.

Main Outcome Measures: Crude and adjusted odds ratios for all psychosis, non-affective psychosis, and affective psychosis.

Results: Maternal bereavement stress occurring preconception or during the prenatal period was not associated with a significant excess risk of psychosis in offspring (adjusted odds ratio, preconception 1.24, 95% confidence interval 0.96 to 1.62; first trimester 0.95, 0.58 to1.56; second trimester 0.79, 0.46 to 1.33; third trimester 1.14, 0.78 to 1.66). Risks increased modestly after exposure to the loss of a close family member from birth to adolescence for all psychoses (adjusted odds ratio 1.17, 1.04 to 1.32). The pattern of risk was generally similar for non-affective and affective psychosis. Thus estimates were higher after death in the nuclear compared with extended family but remained non-significant for prenatal exposure; the earlier the exposure to death in the nuclear family occurred in childhood (all psychoses: adjusted odds ratio, birth to 2.9 years 1.84, 1.41 to 2.41; 3-6.9 years 1.47, 1.16 to 1.85; 7-12.9 years 1.32, 1.10 to 1.58) and after suicide. Following suicide, risks were especially higher for affective psychosis (birth to 2.9 years 3.33, 2.00 to 5.56; 6.9 years 1.84, 1.04 to 3.25; 7-12.9 years 2.68, 1.84 to 3.92). Adjustment for key confounders attenuated but did not explain associations with risk.

Conclusions: Postnatal but not prenatal bereavement stress in mothers is associated with an increased risk of psychosis in offspring. Risks are especially high for affective psychosis after suicide in the nuclear family, an effect that is not explained by family psychiatric history. Future studies are needed to understand possible sources of risk and resilience so that structures can be put in place to support vulnerable children and their families.
Health care contacts in the year before suicide death

Background: Suicide prevention is a public health priority, but no data on the health care individuals receive prior to death are available from large representative United States population samples.

Objective: To investigate variation in the types and timing of health services received in the year prior to suicide, and determine whether a mental health condition was diagnosed.

Design: Longitudinal study from 2000 to 2010 within eight Mental Health Research Network health care systems serving eight states.

Participants: In all, 5,894 individuals who died by suicide, and were health plan members in the year before death.

Main Measures: Health system contacts in the year before death. Medical record, insurance claim, and mortality records were linked via the Virtual Data Warehouse, a federated data system at each site.

Key Results: Nearly all individuals received health care in the year prior to death (83 %), but half did not have a mental health diagnosis. Only 24 % had a mental health diagnosis in the 4-week period prior to death. Medical specialty and primary care visits without a mental health diagnosis were the most common visit types. The individuals more likely to make a visit in the year prior to death (p < 0.05) tended to be women, individuals of older age (65+ years), those where the neighborhood income was over $40,000 and 25 % were college graduates, and those who died by non-violent means.

Conclusions: This study indicates that opportunities for suicide prevention exist in primary care and medical settings, where most individuals receive services prior to death. Efforts may target improved identification of mental illness and suicidal ideation, as a large proportion may remain undiagnosed at death.
Using structured telephone follow-up assessments to improve suicide-related adverse event detection

Arias SA, Zhang Z, Hillerns C, Sullivan AF, Boudreaux ED, Miller I, Camargo CA (USA)
Suicide and Life-Threatening Behavior. Published online: 3 March 2014. doi: 10.1111/sltb.12088, 2014

Adverse event (AE) detection and reporting practices were compared during the first phase of the Emergency Department Safety Assessment and Follow-up Evaluation (ED-SAFE), a suicide intervention study. Data were collected using a combination of chart reviews and structured telephone follow-up assessments postenrollment. Beyond chart reviews, structured telephone follow-up assessments identified 45% of the total AEs in our study. Notably, detection of suicide attempts significantly varied by approach with 53 (18%) detected by chart review, 173 (59%) by structured telephone follow-up assessments, and 69 (23%) marked as duplicates. Findings provide support for utilizing multiple methods for more robust AE detection in suicide research.

Cholesterol and the “cycle of violence” in attempted suicide

Asellus P, Nordström P, Nordström AL, Jokinen J (Sweden)
Psychiatry Research 215, 646-650, 2014

An association between low levels of serum cholesterol and violent or suicidal behaviour has frequently been reported. However the role of serum cholesterol in the cycle of violence (Widom, 1989) has not been studied. The aim of this study was to investigate association between exposure to violence during childhood and used adult violence in suicide attempters with low and high serum cholesterol levels. 81 suicide attempters were assessed with the Karolinska Interpersonal Violence Scale (KIVS) measuring exposure to violence and expressed violent behaviour in childhood (between 6 and 14 years of age) and during adult life (15 years or older). We used median split to dichotomise groups below and above median serum cholesterol. In patients with serum cholesterol below median, the correlation between exposure to violence as a child and used adult violence was significant (rho=0.52, p=0.002), while in patients with serum cholesterol above median, the correlation between exposure to violence as a child and expressed violent behaviour as an adult was not significant (rho=0.25, p=0.2). Comorbid substance abuse predicted violent behaviour as an adult only in patients with serum cholesterol above median. Serum cholesterol may modify the effect of the “Cycle of Violence”.

Prison suicides in South Australia: 1996-2010

Austin AE, van den Heuvel C, Byard RW (Australia)

Forty-eight deaths occurring in prisons in South Australia were identified between January 1996 and December 2010, including 25 cases of suicide (mean age = 37 years; median age = 34 years; age range = 24-70 years). Most suicides were due to hanging (23/25; 92.0%) with victims using bedding, belts, or shoelaces attached to cell shelves, air vents, doors, or other accessible projections. There were no suicides attributed to drug overdose or sharp force injury. Over a third of all suicides (39.1%) occurred during the first month of confinement, with 26.1% of cases occurring within the first week. There was one suicide reported after 2 years of imprisonment. Given that suicide in state prisons currently occurs at a rate approximately eight times that of the general South Australian community, it appears that the subset of incarcerated individuals represents a group in need of effective preventive strategies to enable more appropriate provisions of existing prisoner resources.

Depressive symptoms and suicide risk in older adults: Value placed on autonomy as a moderator for men but not women

Bamonti PM, Price EC, Fiske A (USA)
Suicide and Life-Threatening Behavior. Published online: 13 November 2013. doi: 10.1111/sltb.12062, 2013

Risk for suicide is elevated among older men. We examined whether value placed on autonomy amplifies the relation between depressive symptoms and suicide risk differently for older men and women. Participants were 98 community-dwelling older adults, M age 73.6 (SD = 8.6), 65.1% female, 93.1% White. Questionnaires measured suicide risk (SBQ-R), depressive symptoms (CESD), and value placed on autonomy (PSI-II autonomy). Among men, depressive symptoms were associated with suicide risk only when PSI-II autonomy was elevated. Among women, greater depressive symptoms were associated with suicide risk at all levels of PSI-II autonomy. Further research on attitudes toward autonomy is warranted.
Management of suicidal and self-harming behaviors in prisons: Systematic literature review of evidence-based activities
Barker E, Kõlves K, De Leo D (Australia)
Archives of Suicide Research. Published online: 10 March 2014. doi: 10.1080/13811118.2013.824830, 2014

Objectives: Systematically analyse existing literature testing the effectiveness of programs involving the management of suicidal and self-harming behaviours in prisons.

Methods: 545 English-language articles published in peer reviewed journals were retrieved using the terms “suicid*”, “prevent*” “prison”, or “correctional facility” in SCOPUS, MEDLINE, PROQUEST and Web of Knowledge.

Results: Twelve articles were relevant, six involving multi-factored suicide prevention programs, and two involving peer focused programs. Others included changes to the referral and care of suicidal inmates, staff training, legislation changes and a suicide prevention program for inmates with Borderline Personality Disorder.

Conclusions: Multi-factored suicide prevention programs appear most effective in the prison environment. Using trained inmates to provide social support to suicidal inmates is promising. Staff attitudes towards training programs were generally positive.

Rapid treatment response of suicidal symptoms to lithium, sleep deprivation, and light therapy (chronotherapeutics) in drug-resistant bipolar depression
Benedetti F, Riccaboni R, Locatelli C, Poletti S, Dallaspezia S, Colombo C (Italy)
Journal of Clinical Psychiatry 75, 133-140, 2014

Background: One third of patients with bipolar disorder attempt suicide. Depression in bipolar disorder is associated with drug resistance. The efficacy of antidepressants on suicidality has been questioned. Total sleep deprivation and light therapy prompt a rapid and stable antidepressant response in bipolar disorder.

Method: We studied 143 consecutively admitted inpatients (December 2006-August 2012) with a major depressive episode in the course of bipolar disorder (DSM-IV criteria). Among the 141 study completers, 23% had a positive history of attempted suicide and 83% had a positive history of drug resistance. During 1 week, patients were administered 3 consecutive total sleep deprivation cycles (each composed of a period of 36 hours awake followed by recovery sleep) combined with bright light therapy in the morning for 2 weeks. At admission, patients who had been taking lithium continued it, and those who had not been taking lithium started it. Severity of depression was rated according to the Hamilton Depression Rating Scale (HDRS) (primary outcome measure) and Beck Depression Inventory (BDI).

Results: Two patients switched polarity. Among the 141 who completed the treatment, 70% achieved a 50% reduction in HDRS score in 1 week, which persisted 1
month after in 55%. The amelioration involved an immediate and persistent decrease in suicide scores soon after the first total sleep deprivation cycle (F3,411 = 42.78, P < .00001). A positive history of suicide attempts was associated with worse early life stress and with worse suicide scores at baseline, but it did not influence response. Patients with current suicidal thinking or planning responded equally well (F 3,42 = 20.70, P < .00001). Remarkably, however, nonresponders achieved a benefit, with significantly decreased final scores also including suicidality ratings (F3,120 = 6.55, P = .0004). Self-ratings showed the same pattern of change. Previous history of drug resistance did not hamper response. During the following month, 78 of 99 responders continued to stay well and were discharged from the hospital on lithium therapy alone.

**Conclusions:** The combination of total sleep deprivation, light therapy, and lithium is able to rapidly decrease depressive suicidality and prompt antidepressant response in drug-resistant major depression in the course of bipolar disorder.

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**Suicidal behaviors among adolescents in juvenile detention: Role of adverse life experiences**

Bhatta MP, Jefferis E, Kavadas A, Alemagno SA, Shaffer-King P (USA)

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**Purpose:** The purpose of this study was to assess the influence of multiple adverse life experiences (sexual abuse, homelessness, running away, and substance abuse in the family) on suicide ideation and suicide attempt among adolescents at an urban juvenile detention facility in the United States.

**Materials and Methods:** The study sample included a total of 3,156 adolescents processed at a juvenile detention facility in an urban area in Ohio between 2003 and 2007. The participants, interacting anonymously with a voice enabled computer, self-administered a questionnaire with 100 items related to health risk behaviors.

**Results:** Overall 19.0% reported ever having thought about suicide (suicide ideation) and 11.9% reported ever having attempted suicide (suicide attempt). In the multivariable logistic regression analysis those reporting sexual abuse (Odds Ratio = 2.75; 95% confidence interval = 2.08-3.63) and homelessness (1.51; 1.17-1.94) were associated with increased odds of suicide ideation, while sexual abuse (3.01; 2.22-4.08), homelessness (1.49; 1.12-1.98), and running away from home (1.38; 1.06-1.81) were associated with increased odds of a suicide attempt. Those experiencing all four adverse events were 7.81 times more likely (2.41-25.37) to report having ever attempted suicide than those who experienced none of the adverse events.

**Conclusions:** Considering the high prevalence of adverse life experiences and their association with suicidal behaviors in detained adolescents, these factors should not only be included in the suicide screening tools at the intake and during detention, but should also be used for the intervention programming for suicide prevention.
Predicting suicidal ideations in sexually abused female adolescents: A 12-month prospective study

Brabant M-E, Hébert M, Chagnon F (Canada)

This study investigates the contribution of post-traumatic stress symptoms to the prediction of suicidality among female adolescent survivors of sexual abuse. A one-year prospective study of 52 female survivors aged 12 to 18 years was conducted. A negative binomial regression analysis revealed that depressive symptoms as well as post-traumatic stress symptoms associated with the sexual trauma were significant predictors of suicidal ideations a year later. Post-traumatic stress symptoms remained a significant predictor of suicidal ideations even when controlling for depressive symptomatology and the presence of a past suicide attempt, thus emphasizing the relevance of post-traumatic stress symptoms in regard to suicidality in sexually abused youths. Results are discussed within the context of therapeutic modalities for survivors of a sexual trauma.

Last suicide attempt before completed suicide in severe depression: An extended suicidal process may be found in men rather than women

Bradvik L (Sweden)
Archives of Suicide Research 17, 426-433, 2013

The objective of this study was to compare the time from last suicide attempt to suicide in men and women with major depressive disorder with melancholic and/or psychotic features. The case records of 100 suicide victims with severe depression were evaluated. All suicide attempts during the course of depression were noted. The time from last suicide attempt to suicide was compared as well as the occurrence of suicide attempt during the last depressive episode, by gender. Male suicide attempters made fewer suicide attempts than women during their last depressive episode before suicide (8% versus 37%). Men appeared to have a more extended suicidal process from suicide attempt to completed suicide, which ought to be considered in the after-care.
Suicide ideation and associated mortality in adult survivors of childhood cancer


_Cancer_ 120, 271-277, 2013

**Background:** Adult survivors of childhood cancer are at risk for suicide ideation, although longitudinal patterns and rates of recurrent suicide ideation are unknown. This study investigated the prevalence of late report (ie, after initial assessment) and recurrent suicide ideation in adult survivors of childhood cancer, identified predictors of suicide ideation, and examined associations among suicide ideation and mortality.

**Methods:** Participants included 9128 adult survivors of childhood cancer and 3082 sibling controls enrolled in the Childhood Cancer Survivor Study who completed a survey question assessing suicide ideation on one or more occasions between 1994 and 2010. Suicide ideation was assessed using the Brief Symptom Inventory-18 instrument. Mortality data was ascertained from the National Death Index.

**Results:** Survivors were more likely to report late (odds ratio [OR]=1.9, 95% confidence interval [CI]=1.5-2.5) and recurrent suicide ideation (OR=2.6, 95% CI=1.8-3.8) compared to siblings. Poor physical health status was associated with increased risk of suicide ideation in survivors (late report: OR=1.9, 95% CI=1.3-2.7; recurrent: OR=1.9, 95% CI=1.2-2.9). Suicide ideation was associated with increased risk for all-cause mortality (hazard ratio=1.3, 95% CI=1.03-1.6) and death by external causes (hazard ratio=2.4, 95% CI=1.4-4.1).

**Conclusions:** Adult survivors of childhood cancer are at risk for late-report and recurrent suicide ideation, which is associated with increased risk of mortality. Routine screening for psychological distress in adult survivors appears warranted, especially for survivors who develop chronic physical health conditions.
Life-time prevalence and psychosocial correlates of adolescent direct self-injurious behavior: A comparative study of findings in 11 European countries


Objectives: To investigate the prevalence and associated psychosocial factors of occasional and repetitive direct self-injurious behavior (D-SIB), such as self-cutting, -burning, -biting, -hitting, and skin damage by other methods, in representative adolescent samples from 11 European countries.

Methods: Cross-sectional assessment of adolescents was performed within the European Union funded project, Saving and Empowering Young Lives in Europe (SEYLE), which was conducted in 11 European countries. The representative sample comprised 12,068 adolescents (F/M: 6,717/5,351; mean age: 14.9 +/- 0.89) recruited from randomly selected schools. Frequency of D-SIB was assessed by a modified 6-item questionnaire based on previously used versions of the Deliberate Self-Harm Inventory (DSHI). In addition, a broad range of demographic, social, and psychological factors was assessed.

Results: Overall lifetime prevalence of D-SIB was 27.6%; 19.7% reported occasional D-SIB and 7.8% repetitive D-SIB. Lifetime prevalence ranged from 17.1% to 38.6% across countries. Estonia, France, Germany, and Israel had the highest lifetime rates of D-SIB, while students from Hungary, Ireland, and Italy reported low rates. Suicidality as well as anxiety and depressive symptoms had the highest odds ratios for both occasional and repetitive D-SIB. There was a strong association of D-SIB with both psychopathology and risk-behaviors, including family related neglect and peer-related rejection/victimization. Associations between psychosocial variables and D-SIB were strongly influenced by both gender and country. Only a minor proportion of the adolescents who reported D-SIB ever received medical treatment.

Conclusion: These results suggest high lifetime prevalence of D-SIB in European adolescents. Prevalence as well as psychosocial correlates seems to be significantly influenced by both gender and country. These results support the need for a multidimensional approach to better understand the development of SIB and facilitate culturally adapted prevention/intervention.
The fallen hero: Masculinity, shame and farmer suicide in Australia

Bryant L, Garnham B (Australia)
Gender, Place and Culture. Published online: 7 February 2014. doi: 10.1080/0966369X.2013.855628, 2014

The drought-stricken Australian rural landscape, cultures of farming masculinity and an economy of value, moral worth and pride form a complex matrix of discourses that shape subjective dynamics that render suicide a possibility for distressed farmers. However, the centrality of a ‘mental health’ perspective and reified notions of ‘stoicism’ within this discursive field operate to exclude consideration of the ways in which cultural identity is linked to emotions. To illuminate and explore complex connections between subjectivity, moral worth and affect in relation to understanding farmer suicide, this article draws on theory and literature on agrarian discourses of masculine subjectivity and shame to analyze empirical data from interviews with farmers during times of environmental, social and economic crisis. The idealized notion of the farming man as ‘Aussie battler’ emerges from romantic agrarian mythology in which pride and self-worth are vested in traditional values of hard work, struggle and self-sacrifice. However, the structural context of agriculture, as it is shaped by the political economy of neoliberalism, threatens farm economic viability and is eroding the pride, self-worth and masculine identity of farmers. The article suggests that the notion of the ‘fallen hero’ captures a discursive shift of a masculinity ‘undone’, a regress from the powerful position of masculine subjectivity imbued with pride to one of shame that is of central importance to understanding how suicide emerges as a possibility for farmers.

The effect of successful and unsuccessful smoking cessation on short-term anxiety, depression, and suicidality

Capron DW, Allan NP, Norr AM, Zvolensky MJ, Schmidt NB (USA)
Addictive Behaviors 39, 782-788, 2014

Research on the mental health effects of quitting smoking is limited. Smokers with mental illness appear to be at a higher risk of unsuccessful smoking cessation. Recent work suggests they are at elevated risk for post-cessation increases in anxiety, depression and suicidal ideation. The current study tested the effects of successful and unsuccessful smoking cessation on short-term psychopathology in 192 community participants. Smoking cessation outcomes were classified using expired carbon monoxide levels that were taken at quit week, 1 and 2. week follow-up and 1. month follow-up. We found no psychopathology increases in participants who successfully quit smoking. For individuals struggling to quit our results partially supported a recently proposed struggling quitters hypothesis. However, the vast majority of individuals posited to be vulnerable by the struggling quitters hypothesis did not experience clinically significant increases in psychopathology. These findings have implications for clinicians whose clients are interested in smoking cessation.
A newly identified group of adolescents at “invisible” risk for psychopathology and suicidal behavior: Findings from the SEYLE study


World Psychiatry 13, 78-86, 2014

This study explored the prevalence of risk behaviors (excessive alcohol use, illegal drug use, heavy smoking, reduced sleep, overweight, underweight, sedentary behavior, high use of Internet-TV/videogames for reasons not related to school or work, and truancy), and their association with psychopathology and self-destructive behaviors, in a sample of 12,395 adolescents recruited in randomly selected schools across 11 European countries. Latent class analysis identified three groups of adolescents: a low-risk group (57.8%) including pupils with low or very low frequency of risk behaviors; a high-risk group (13.2%) including pupils who scored high on all risk behaviors, and a third group (“invisible” risk, 29%) including pupils who were positive for high use of Internet-TV/videogames for reasons not related to school or work, sedentary behavior and reduced sleep. Pupils in the “invisible” risk group, compared with the high-risk group, had a similar prevalence of suicidal thoughts (42.2% vs. 44%), anxiety (8% vs. 9.2%), subthreshold depression (33.2% vs. 34%) and depression (13.4% vs. 14.7%). The prevalence of suicide attempts was 5.9% in the “invisible” group, 10.1% in the high-risk group and 1.7% in the low-risk group. The prevalence of all risk behaviors increased with age and most of them were significantly more frequent among boys. Girls were significantly more likely to experience internalizing (emotional) psychiatric symptoms. The “invisible” group may represent an important new intervention target group for potentially reducing psychopathology and other untoward outcomes in adolescence, including suicidal behavior.

Medication nonadherence and psychiatry

Chapman SCE, Horne R (UK)

Current Opinion in Psychiatry 26, 446, 2013

Nonadherence to appropriately prescribed medication for psychiatric disorders prevents patients from realizing the full benefits of their treatment and negatively impacts on individuals, their families and the healthcare system. Understanding and reducing nonadherence is therefore a key challenge to quality care for patients with psychiatric disorders. This review highlights findings regarding the prevalence and consequence of nonadherence, barriers to adherence and new intervention methods from 2012 onwards. Recent research has highlighted that nonadherence is a global challenge for psychiatry and has linked nonadherence to poorer outcomes, including hospital admissions, suicide and mortality. Optimiz-
ing medication regimens can reduce nonadherence; however, often a complex interplay of factors affects individuals’ motivation and ability to follow their prescription. Psychiatrists can enable patients to develop an accurate model of their illness and treatment and facilitate adherence. However, nonadherence is often a hidden issue within consultations. Novel interventions using new technologies and tailoring techniques may have the potential to reduce nonadherence. Nonadherence remains a significant challenge for patients with psychiatric disorders, physicians and healthcare systems. New developments demonstrate the importance of developing tailored interventions to enable patients to overcome perceptual and practical barriers to adherence.

Risk of adolescent offspring’s completed suicide increases with prior history of their same-sex parents’ death by suicide

Cheng Ccj, Yen Wj, Chang Wt, Wu Kc-c, Ko Mc, Li Cy (Taiwan)
Psychological Medicine. Published online: 24 September 2013. doi: 10.1017/S0033291713002298, 2013

Background: To investigate the risk of completed suicide in offspring during adolescence in relation to prior history of the same-sex parent’s death by suicide and other causes.

Method: A total of 500 adolescents who died by suicide at age 15-19 years between 1997 and 2007 were identified from the Taiwan Mortality Registration (TMR). For each case, 30 age- and time-matched controls were selected randomly from all adolescents registered in the Taiwan Birth Registry (TBR). A multivariate conditional logistic regression model was used to assess the risk of adolescent completed suicide in relation to their same-sex parent.

Results: Adolescent suicide risk was positively associated with both paternal [odds ratio (OR) 5.38, 95% confidence interval (CI) 2.17-13.33] and maternal suicide (OR 6.59, 95% CI 1.82-23.91). The corresponding risk estimates associated with paternal and maternal deaths from non-suicidal causes were much lower, at 1.88 and 1.94 respectively. The risk of suicide in male adolescents was significantly associated with prior history of paternal death by suicide (OR 8.23, 95% CI 2.96-22.90) but not of maternal death by suicide (OR 3.50, 95% CI 0.41-30.13). On the other contrary, the risk of suicidal death in female adolescents was significantly associated with prior history of maternal suicide (OR 9.71, 95% CI 1.89-49.94) but not of paternal suicide (OR 2.42, 95% CI 0.30-19.57). However, these differences did not reach statistical significance.

Conclusions: Although limited by sample size, our study indicates that adolescent offspring suicidal death is associated with prior history of their same-sex parent’s death by suicide.
The relationship between prior suicidal behavior and mortality among individuals in community corrections

Clark CB, Waesche MC, Hendricks PS, McCullumsmith CB, Redmond N, Katiyar N, Lawler RM, Cropsey KL (USA)
Crisis 34, 428-433, 2013

**Background:** Individuals under community corrections have multiple risk factors for mortality including exposure to a criminal environment, drug use, social stress, and a lack of medical care that predispose them to accidents, homicides, medical morbidities, and suicide. The literature suggests that prior suicidal behavior may be a particularly potent risk factor for mortality among individuals in the criminal justice system.

**Aims:** This study looked to extend the link between history of a suicide attempt and future mortality in a community corrections population.

**Method:** Using an archival dataset (N = 18,260) collected from 2002 to 2007 of individuals being monitored under community corrections supervision for an average of 217 days (SD = 268), we examined the association between past history of a suicide attempt and mortality.

**Results:** A Cox Proportional Hazard Model controlling for age, race, gender, and substance dependence indicated that past history of a suicide attempt was independently associated with time to mortality, and demonstrated the second greatest effect after gender.

**Conclusion:** These data suggest the need for a greater focus on screening and preventive services, particularly for individuals with a history of suicidal behavior, so as to reduce the risk of mortality in community corrections populations.

The health and well-being of transgender high school students: Results from the New Zealand adolescent health survey (youth’12)

Clark TC, Lucassen MFG, Bullen P, Denny SJ, Fleming TM, Robinson EM, Rossen FV (New Zealand)

**Purpose:** To report the prevalence of students according to four gender groups (i.e., those who reported being non-transgender, transgender, or not sure about their gender, and those who did not understand the transgender question), and to describe their health and well-being.

**Methods:** Logistic regressions were used to examine the associations between gender groups and selected outcomes in a nationally representative high school health and well-being survey, undertaken in 2012.

**Results:** Of the students (n = 8,166), 94.7% reported being non-transgender, 1.2% reported being transgender, 2.5% reported being not sure about their gender, and 1.7% did not understand the question. Students who reported being transgender or not sure about their gender or did not understand the question had compro-
mised health and well-being relative to their non-transgender peers; in particular, for transgender students perceiving that a parent cared about them (odds ratio [OR], 0.3; 95% confidence interval [CI], 0.2-0.4), depressive symptoms (OR, 5.7; 95% CI, 3.6-9.2), suicide attempts (OR, 5.0; 95% CI, 2.9-8.8), and school bullying (OR, 4.5; 95% CI, 2.4-8.2).

Conclusions: This is the first nationally representative survey to report the health and well-being of students who report being transgender. We found that transgender students and those reporting not being sure are a numerically small but important group. Transgender students are diverse and are represented across demographic variables, including their sexual attractions. Transgender youth face considerable health and well-being disparities. It is important to address the challenging environments these students face and to increase access to responsive services for transgender youth.

Antidepressants and suicide attempts in children
Cooper WO, Callahan ST, Shintani A, Fuchs DC, Shelton RC, Dudley JA, Graves AJ, Ray WA (USA)

Objectives: Recent data showing possible increased risk for suicidal behavior among children and adolescents treated with selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs) antidepressants have created significant concern among patients, families, and providers, including concerns about the risk of individual antidepressants. This study was designed to compare the risk for medically treated suicide attempts among new users of sertraline, paroxetine, citalopram, escitalopram, and venlafaxine to risk for new users of fluoxetine.

Methods: A retrospective cohort study included 36,842 children aged 6 to 18 years enrolled in Tennessee Medicaid between 1995 and 2006 who were new users of 1 of the antidepressant medications of interest (defined as filling no prescriptions for antidepressants in the preceding 365 days). Medically treated suicide attempts were identified from Medicaid files and vital records and confirmed with medical record review.

Results: Four hundred nineteen cohort members had a medically treated suicide attempt with explicit or inferred attempt to die confirmed through medical record review, including 4 who completed suicide. The rate of confirmed suicide attempts for the study drugs ranged from 24.0 per 1000 person-years to 29.1 per 1000 person-years. The adjusted rate of suicide attempts did not differ significantly among current users of SSRIs and SNRI antidepressants compared with current users of fluoxetine. Users of multiple antidepressants concomitantly had increased risk for suicide attempt.

Conclusions: In this population-based study of children recently initiating an antidepressant, there was no evidence that risk of suicide attempts differed for commonly prescribed SSRIs and SNRI antidepressants.
Comfort from suicidal cognition in recurrently depressed patients
Crane C, Barnhofer T, Duggan DS, Eames C, Hepburn S, Shah D, Williams JMG (UK)
Journal of Affective Disorders 155, 241-246, 2013

**Background**: Previous research has suggested that some individuals may obtain comfort from their suicidal cognitions.

**Method**: This study explored clinical variables associated with comfort from suicidal cognition using a newly developed 5 item measure in 217 patients with a history of recurrent depression and suicidality, of whom 98 were followed up to at least one relapse to depression and reported data on suicidal ideation during the follow-up phase.

**Results**: Results indicated that a minority of patients, around 15%, reported experiencing comfort from suicidal cognitions and that comfort was associated with several markers of a more severe clinical profile including both worst ever prior suicidal ideation and worst suicidal ideation over a 12 month follow-up period.

**Limitations**: Few patients self-harmed during the follow-up period preventing an examination of associations between comfort and repetition of self-harm.

**Conclusions**: These results, although preliminary, suggest that future theoretical and clinical research would benefit from further consideration of the concept of comfort from suicidal thinking.

The power of the web: A systematic review of studies of the influence of the internet on self-harm and suicide in young people
Daine K, Hawton K, Singaravelu V, Stewart A, Simkin S, Montgomery P (UK)
PLoS ONE. Published online: 30 October 2013. doi: 10.1371/journal.pone.0077555, 2013

**Background**: There is concern that the internet is playing an increasing role in self-harm and suicide. In this study we systematically review and analyse research literature to determine whether there is evidence that the internet influences the risk of self-harm or suicide in young people.

**Methods**: An electronic literature search was conducted using the PsycINFO, MEDLINE, EMBASE, Scopus, and CINAHL databases. Articles of interest were those that included empirical data on the internet, self-harm or suicide, and young people. The articles were initially screened based on titles and abstracts, then by review of the full publications, after which those included in the review were subjected to data extraction, thematic analysis and quality rating.

**Results**: Youth who self-harm or are suicidal often make use of the internet. It is most commonly used for constructive reasons such as seeking support and coping strategies, but may exert a negative influence, normalising self-harm and potentially discouraging disclosure or professional help-seeking. The internet has created channels of communication that can be misused to ‘cyber-bully’ peers; both cyber-bullying and general internet use have been found to correlate with
increased risk of self-harm, suicidal ideation, and depression. Correlations have also been found between internet exposure and violent methods of self-harm. **Conclusions:** Internet use may exert both positive and negative effects on young people at risk of self-harm or suicide. Careful high quality research is needed to better understand how internet media may exert negative influences and should also focus on how the internet might be utilised to intervene with vulnerable young people.

**A retrospective study of murder-suicide at the forensic institute of Ghent University, Belgium: 1935-2010**

De Koning E, Piette MH (Belgium)
*Medicine, Science and the Law* 54, 88-98, 2014

Murder followed by suicide (M-S) is a rare phenomenon that has been studied in several countries. Previous studies show that offenders of M-S are predominately men who live in an intimate relationship. Amorous jealousy is often the trigger to commit M-S. Shooting is the most common way to kill a partner and/or children. In general, women are likely to become victims. The aim of this study was to identify M-S and detect patterns of M-S in the district of Ghent and the surrounding areas, since no research on this event was conducted in Belgium. Over a period of 75 years, a total of 80 M-S incidents was recorded involving 176 individuals. Eighty-six percent of the offenders were males and 14% were females. Murder-suicides were mostly completed with firearms. The main motive for offenders to execute M-S is amorous jealousy (56%), followed by familial, financial, or social stressors (27%). In addition, three types of M-S were selected (e.g., spousal murder-suicides, filicide-suicides, and familicides-suicides). Our results suggest differences in these types of M-S in which younger couples’ intentions were amorous jealousy; as for older couples the prominent motive was mercy killing; most likely women killed their children and only men committed familicides. Finally a study of the evolution during this period was carried out.
Preterm birth and mortality and morbidity: A population-based quasi-experimental study

D’Onofrio BM, Class QA, Rickert ME, Larsson H, Langstrom N, Lichtenstein P (USA, Sweden)

*JAMA Psychiatry* 70, 1231-1240, 2013

**Importance:** Preterm birth is associated with increased mortality and morbidity. However, previous studies have been unable to rigorously examine whether confounding factors cause these associations rather than the harmful effects of being born preterm.

**Objective:** To estimate the extent to which the associations between early gestational age and offspring mortality and morbidity are the result of confounding factors by using a quasi-experimental design, the sibling-comparison approach, and by controlling for statistical covariates that varied within families.

**Design, Setting and Participants:** A population-based cohort study, combining Swedish registries to identify all individuals born in Sweden from 1973 to 2008 (3,300,708 offspring of 1,736,735 mothers) and link them with multiple outcomes.

**Main Outcomes and Measures:** Offspring mortality (during infancy and throughout young adulthood) and psychiatric (psychotic or bipolar disorder, autism, attention-deficit/hyperactivity disorder, suicide attempts, substance use, and criminality), academic (failing grades and educational attainment), and social (partnering, parenthood, low income, and social welfare benefits) outcomes through 2009.

**Results:** In the population, there was a dose-response relationship between early gestation and the outcome measures. For example, extreme preterm birth (23-27 weeks of gestation) was associated with infant mortality (odds ratio, 288.1; 95% CI, 271.7-305.5), autism (hazard ratio [HR], 3.2; 95% CI, 2.6-4.0), low educational attainment (HR, 1.7; 1.5-2.0), and social welfare benefits (HR, 1.3; 1.2-1.5) compared with offspring born at term. The associations between early gestation and mortality and psychiatric morbidity generally were robust when comparing differentially exposed siblings and controlling for statistical covariates, whereas the associations with academic and some social problems were greatly or completely attenuated in the fixed-effects models.

**Conclusions and Relevance:** The mechanisms responsible for the associations between preterm birth and mortality and morbidity are outcome-specific. Associations between preterm birth and mortality and psychiatric morbidity are largely independent of shared familial confounds and measured covariates, consistent with a causal inference. However, some associations, particularly predicting suicide attempt, educational attainment, and social welfare benefits, are the result of confounding factors. The findings emphasize the importance of both reducing preterm birth and providing wraparound services to all siblings in families with an offspring born preterm.
Paternal age at childbearing and offspring psychiatric and academic morbidity


JAMA Psychiatry 71, 432-438, 2014

**Importance:** Advancing paternal age is associated with increased genetic mutations during spermatogenesis, which research suggests may cause psychiatric morbidity in the offspring. The effects of advancing paternal age at childbearing on offspring morbidity remain unclear, however, because of inconsistent epidemiologic findings and the inability of previous studies to rigorously rule out confounding factors.

**Objective:** To examine the associations between advancing paternal age at childbearing and numerous indexes of offspring morbidity.

**Design, Setting, and Participants:** We performed a population-based cohort study of all individuals born in Sweden in 1973-2001 (N = 2 615 081), with subsets of the data used to predict childhood or adolescent morbidity. We estimated the risk of psychiatric and academic morbidity associated with advancing paternal age using several quasi-experimental designs, including the comparison of differentially exposed siblings, cousins, and first-born cousins.

**Exposure:** Paternal age at childbearing.

**Main Outcomes and Measures:** Psychiatric (autism, attention-deficit/hyperactivity disorder, psychosis, bipolar disorder, suicide attempt, and substance use problem) and academic (failing grades and low educational attainment) morbidity.

**Results:** In the study population, advancing paternal age was associated with increased risk of some psychiatric disorders (eg, autism, psychosis, and bipolar disorders) but decreased risk of the other indexes of morbidity. In contrast, the sibling-comparison analyses indicated that advancing paternal age had a dose-response relationship with every index of morbidity, with the magnitude of the associations being as large or larger than the estimates in the entire population. Compared with offspring born to fathers 20 to 24 years old, offspring of fathers 45 years and older were at heightened risk of autism (hazard ratio [HR] = 3.45; 95% CI, 1.62-7.33), attention-deficit/hyperactivity disorder (HR = 13.13; 95% CI, 6.85-25.16), psychosis (HR = 2.07; 95% CI, 1.35-3.20), bipolar disorder (HR = 24.70; 95% CI, 12.12-50.31), suicide attempts (HR = 2.72; 95% CI, 2.08-3.56), substance use problems (HR = 2.44; 95% CI, 1.98-2.99), failing a grade (odds ratio [OR] = 1.59; 95% CI, 1.37-1.85), and low educational attainment (OR = 1.70; 95% CI, 1.50-1.93) in within-sibling comparisons. Additional analyses using several quasi-experimental designs obtained commensurate results, further strengthening the internal and external validity of the findings.

**Conclusions and Relevance:** Advancing paternal age is associated with increased risk of psychiatric and academic morbidity, with the magnitude of the risks being as large or larger than previous estimates. These findings are consistent with the hypothesis that new genetic mutations that occur during spermatogenesis are causally related to offspring morbidity.
The effects of suicide ideation assessments on urges to self-harm and suicide

Eynan R, Bergmans Y, Antony J, Cutcliffe JR, Harder HG, Ambreen M, Balderson K, Links PS (Canada)
Crisis 35, 123-131, 2013

Background: Participants’ safety is the primary concern when conducting research with suicidal or potentially suicidal participants. The presence of suicide risk is often an exclusion criterion for research participants. Subsequently, few studies have examined the effects of research assessments on study participants’ suicidality.

Aims: The purpose of this research was to examine the patterns of postassessment changes in self-harm and suicide urges of study participants who were recently discharged from an inpatient psychiatric service.

Method: Study participants (N = 120) were recruited from patients with a lifetime history of suicidal behavior admitted with current suicidal ideation or suicide attempt to an inpatient psychiatric service and/or a crisis stabilization unit. Participants were assessed for suicidal ideation with the Suicide Ideation Scale at 1, 3, and 6 months following their discharge from hospital. The risk assessment protocol was administered at the start and at the end of each of the study follow-up assessments.

Results: Changes in self-harm and suicide urges following study assessments were small, infrequent, and were most likely to reflect a decrease in suicidality. Similarly, participants rarely reported worsening self-control over suicidal urges, and when they did, the effect was minimal. By the end of the 6-month follow-up period, increases in self-harm and suicidal urges postassessment were not seen.

Conclusion: The inclusion of suicidal participants in research interviews rarely increased suicide risk. Research involving suicidal individuals is possible when study protocols are well planned and executed by trained assessors and clinicians who are able to identify participants at risk and provide intervention if necessary. The few participants that required intervention had high levels of suicide ideation and behavior at baseline and almost all reported symptoms of posttraumatic stress disorder. Further study is needed to better characterize this subgroup of participants.
Older men have a higher rate of suicide than the general population, but little is known about the prevalence and correlates of suicidality among older male veterans. In this study, we evaluated the prevalence, and risk and protective factors associated with current suicidal ideation (SI) and past suicide attempt (SA) in a contemporary, nationally representative sample of older male veterans. We analyzed data from 1962 male veterans aged 60 or older who participated in the National Health and Resilience Veterans Survey (NHRVS) between October and December 2011. Bivariate analyses and multivariate logistic regression were used to evaluate risk and protective factors associated with current SI and past SA in the full sample, and separately among combat and non-combat veterans. Six percent of the sample reported past 2-week SI, and combat veterans were more likely to contemplate suicide (9.2%) than non-combat (4.0%) veterans. Lifetime SA was reported by 2.6% of respondents. Major depression and physical health difficulties were the strongest risk factors for SI in combat veterans, while generalized anxiety disorder (GAD) was the strongest risk factor for SI in non-combat veterans. Posttraumatic stress disorder (PTSD) was independently associated with SI in both groups of veterans, and social connectedness was negatively related to SI in both groups. These results suggest that a significant proportion of older male veterans in the United States contemplates suicide, with higher rates of SI among combat than non-combat veterans. Interventions designed to mitigate psychological distress and physical difficulties, and to promote social connectedness may help mitigate suicidality risk in this population.
Higher perceived stress but lower cortisol levels found among young Greek adults living in a stressful social environment in comparison with Swedish young adults

Faresjo A, Theodorsson E, Chatziarzenis M, Sapouna V, Claesson H-P, Koppner J, Faresjo T (Sweden, Greece)

PLoS ONE. Published online: 16 September 2013. doi: 10.1371/journal.pone.0073828, 2013

The worldwide financial crisis during recent years has raised concerns of negative public health effects. This is notably evident in southern Europe. In Greece, where the financial austerity has been especially pronounced, the prevalence of mental health problems including depression and suicide has increased, and outbreaks of infectious diseases have risen. The main objective in this study was to investigate whether different indicators of health and stress levels measured by a new biomarker based on cortisol in human hair were different amongst comparable Greek and Swedish young adults, considering that Sweden has been much less affected by the recent economic crises. In this cross-sectional comparative study, young adults from the city of Athens in Greece (n = 124) and from the city of Linkoping in Sweden (n = 112) participated. The data collection comprised answering a questionnaire with different health indicators and hair samples being analyzed for the stress hormone cortisol, a biomarker with the ability to retrospectively measure long-term cortisol exposure. The Greek young adults reported significantly higher perceived stress (p < 0.0001), had experienced more serious life events (p = 0.002), had lower hope for the future (p < 0.0001), and had significantly more widespread symptoms of depression (p < 0.0001) and anxiety (p < 0.0001) than the Swedes. But, the Greeks were found to have significantly lower cortisol levels (p < 0.0001) than the Swedes, and this difference was still significant in a multivariate regression (p < 0.0001), after adjustments for potential intervening variables. A variety of factors related to differences in the physical or sociocultural environment between the two sites, might possibly explain this finding. However, a potential biological mechanism is that long-term stress exposure could lead to a lowering of the cortisol levels. This study points out a possible hypothesis that the cortisol levels of the Greek young adults might have been suppressed and their HPA-axis down-regulated after living in a stressful environment with economic and social pressure.
Suicide, fatal injuries, and other causes of premature mortality in patients with traumatic brain injury: A 41-year Swedish population study
JAMA Psychiatry 71, 326-333, 2014

Importance: Longer-term mortality in individuals who have survived a traumatic brain injury (TBI) is not known.

Objectives: To examine the relationship between TBI and premature mortality, particularly by external causes, and determine the role of psychiatric comorbidity.

Design, Setting and Patients: We studied all persons born in 1954 or later in Sweden who received inpatient and outpatient International Classification of Diseases-based diagnoses of TBI from 1969 to 2009 (n = 218 300). We compared mortality rates 6 months or more after TBI to general population controls matched on age and sex (n = 2 163 190) and to unaffected siblings of patients with TBI (n = 150 513). Furthermore, we specifically examined external causes of death (suicide, injury, or assault). We conducted sensitivity analyses to investigate whether mortality rates differed by sex, age at death, severity (including concussion), and different follow-up times after diagnosis.

Main Outcomes and Measures: Adjusted odds ratios (AORs) of premature death by external causes in patients with TBI compared with general population controls.

Results: Among those who survived 6 months after TBI, we found a 3-fold increased odds of mortality (AOR, 3.2; 95% CI, 3.0-3.4) compared with general population controls and an adjusted increased odds of mortality of 2.6 (95% CI, 2.3-2.8) compared with unaffected siblings. Risks of mortality from external causes were elevated, including for suicide (AOR, 3.3; 95% CI, 2.9-3.7), injuries (AOR, 4.3; 95% CI, 3.8-4.8), and assault (AOR, 3.9; 95% CI, 2.7-5.7). Among those with TBI, absolute rates of death were high in those with any psychiatric or substance abuse comorbidity (3.8% died prematurely) and those with solely substance abuse (6.2%) compared with those without comorbidity (0.5%).

Conclusions and Relevance: Traumatic brain injury is associated with substantially elevated risks of premature mortality, particularly for suicide, injuries, and assaults, even after adjustment for sociodemographic and familial factors. Current clinical guidelines may need revision to reduce mortality risks beyond the first few months after injury and address high rates of psychiatric comorbidity and substance abuse.
Control strategies and suicidal ideation in older primary care patients with functional limitations

Fiske A, Bamonti P, Nadorff M, Petts R, Sperry J (USA)  

**Objectives:** Failure to adapt to limitations in control may place older adults at risk for suicidal behavior. The present study examined the relation between control strategies, depressive symptoms, and suicidal ideation in older adults with health-related limitations.

**Methods:** Cross-sectional study of 50 older adult (aged 65-94) primary care patients with health-related limitations.

**Results:** Compensatory primary control strategies characterized by seeking help from others were associated with lower levels of suicidal ideation, independent of depressive symptoms. Selective primary control strategies (e.g., persistence) were also associated with reduced suicidal ideation independent of depressive symptoms, but only when a low level of compensatory primary control strategies was endorsed. Selective secondary control strategies were associated with higher suicidal ideation, whereas compensatory secondary control strategies (e.g., goal disengagement) were unrelated in this sample after controlling for covariates.

**Conclusions:** Findings demonstrate that primary care patients with functional limitations who are not striving to meet their goals, either through persistence or by seeking help from others, are at elevated risk of suicidal thinking.

Aggression-impulsivity, mental pain, and communication difficulties in medically serious and medically non-serious suicide attempters

Gvion Y, Horresh N, Levi-Belz Y, Fischel T, Treves I, Weiser M, David HS, Stein-Reizer O, Apter A  
*Comprehensive Psychiatry* 55, 40-50, 2014

**Background:** Unbearable mental pain, depression, and hopelessness have been associated with suicidal behavior in general, while difficulties with social communication and loneliness have been associated with highly lethal suicide attempts in particular. The literature also links aggression and impulsivity with suicidal behavior but raises questions about their influence on the lethality and outcome of the suicide attempt.

**Objectives:** To evaluate the relative effects of aggression and impulsivity on the lethality of suicide attempts we hypothesized that impulsivity and aggression differentiate between suicide attempters and non-attempters and between medically serious and medically non-serious suicide attempters.

**Method:** The study group included 196 participants divided into four groups: 43 medically serious suicide attempters; 49 medically non-serious suicide attempters, 47 psychiatric patients who had never attempted suicide; and 57 healthy control subjects. Data on sociodemographic parameters, clinical history, and details of the
suicide attempts were collected. Participants completed a battery of instruments for assessment of aggression-impulsivity, mental pain, and communication difficulties. **Results:** The medically serious and medically non-serious suicide attempters scored significantly higher than both control groups on mental pain, depression, and hopelessness (p < .001 for all) and on anger-in, anger-out, violence, and impulsivity (p < .05 for all), with no significant difference between the two suicide attempter groups. Medically serious suicide attempters had significantly lower self-disclosure (p < .05) and more schizoid tendencies (p < .001) than the other three groups and significantly more feelings of loneliness than the medically non-serious suicide attempters and nonsuicidal psychiatric patients (p < .05). Analysis of aggression-impulsivity, mental pain, and communication variables with suicide lethality yielded significant correlations for self-disclosure, schizoid tendency, and loneliness. The interaction between mental pain and schizoid traits explained some of the variance in suicide lethality, over and above the contribution of each component alone. **Conclusions:** Aggression-impulsivity and mental pain are risk factors for suicide attempts. However, only difficulties in communication differentiate medically serious from medically non-serious suicide attempters. The combination of unbearable mental pain and difficulties in communication has a magnifying effect on the risk of lethal suicidal behavior.

**Suicidal ideation, mental health problems and social function in adolescents with eczema: A population-based study**

Halvorsen JA, Lien L, Dalgard F, Bjertness E, Stern RS (Norway, China, USA) *Journal of Investigative Dermatology.* Published online: 4 February 2014. doi: 10.1038/jid.2014.70, 2014

There are few studies of psycho-social problems in adolescents with eczema. We performed a cross-sectional, questionnaire-based study to explore the relationship of suicidal ideation, mental health problems, and social functioning with eczema. A total of 4,744 adolescents (18-19 years) were invited and 3,775 (80%) participated. The overall prevalence of current eczema was 9.7%. Among those with current eczema, 15.5% reported suicidal ideation compared to 9.1% among those without eczema, significantly associated in a multivariate model (odds ratio 1.87, 95% confidence interval 1.31-2.68). In a subgroup analyses the prevalence of suicidal ideation in those with both eczema and itch was 23.8%, and was significantly associated compared to those without eczema (3.57, 2.46-5.67). Eczema was associated with mental health problems assessed by Strength and Difficulties Questionnaire (1.72, 1.21-2.45) and Hopkins Symptom Checklist 10 (1.63, 1.23-2.16). Five questions assessed social function: feeling attached to family and friends, thriving at school, experiencing bullying, and romantic relationship. Boys with current eczema were less likely to have had romantic relationship (1.93, 1.21-3.08). Eczema in late adolescence is associated with suicidal ideation and mental health problems, but rarely with social problems. Our findings point to the importance of addressing mental health issues in adolescents with eczema.
Other- and self-directed forms of violence and their relationships to DSM-IV substance use and other psychiatric disorders in a national survey of adults

Harford TC, Yi H-y, Grant BF (USA)
Comprehensive Psychiatry 54, 731-739, 2013

Objective: To examine associations between DSM-IV psychiatric disorders and other- and self-directed violence in the general population.

Methods: Data were obtained from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) Waves 1 & 2 (n = 34,653). Four violence categories were derived from a latent class analysis (LCA) of 5 other-directed and 4 self-directed violent behavior indicators. Multinomial logistic regression examined class associations for gender, race ethnicity, age and DSM-IV substance use, mood, anxiety, and personality disorders.

Results: Approximately 16% of adults reported some form of violent behavior distributed as follows: other-directed only, 4.6%; self-directed only, 9.3%; combined self- and other-directed, 2.0%; and no violence, 84.1%. The majority of the DSM-IV disorders included in this study were significantly and independently related to each form of violence. Generally, other-directed violence was more strongly associated with any substance use disorders (81%) and any personality disorders (42%), while self-directed violence was more strongly associated with mood (41%) and anxiety disorders (57%). Compared with these two forms of violence, the smaller group with combined self- and other-directed violence was more strongly associated with any substance use disorders (88%), mood disorders (63%), and personality disorders (76%).

Conclusion: Findings from this study are consistent with recent conceptualizations of disorders as reflecting externalizing disorders and internalizing disorders. The identification of the small category with combined forms of violence further extends numerous clinical studies which established associations between self- and other-directed violent behaviors. The extent to which the combined violence category represents a meaningful and reliable category of violence requires further detailed studies.
Exploring the use and effects of deliberate self-harm websites: An internet-based study

Harris IM, Roberts LM (UK)
Journal of Medical Internet Research 15, e285, 2013

Background: In the United Kingdom, rates of deliberate self-harm (DSH) are rising. Alongside this, there has been an increase in the number of websites available with DSH content, and the Internet is known as a valuable resource for those who feel isolated by their condition(s). However, there is little and contradictory evidence available on the effects of using such websites. Further research is therefore required to examine the use and effects of DSH websites.

Objective: Our objectives were to explore (1) the reasons people engage in the use of self-harm forums/websites, (2) the beliefs of users of self-harm forums regarding the role of such websites, (3) how the use of self-harm forums/websites modulates self-harm behaviors, and (4) other ways that self-harm forums affect the lives of individuals who use them.

Methods: Data were collected by a questionnaire hosted on 20 websites with self-harm content. Participants were self-selected from users of these sites. Results were analyzed using descriptive statistics and simple thematic analysis.

Results: In total, 329 responses were received with 91.8% (302/329) from female site users. The majority of participants (65.6%, 187/285) visited these sites at least twice per week, and most participants used the sites to find information (78.2%, 223/285) or participate in the forums (68.4%, 195/285). Positive effects of website use such as gaining help and support, isolation reduction, and a reduction in self-harm behaviors were reported by a large number of participants. However, smaller but important numbers reported negative effects including worsened self-harm, being triggered to self-harm, and additional negative physical and psychological effects.

Conclusions: This is the first multisite study to explore DSH website use in depth. There are clear and important benefits to engaging in website use for many individuals; however, these are not experienced by all website users. Negative effects were experienced by moderate numbers following website use, and clinicians should consider the impact of a patient’s website use when consulting.
Psychiatric disorders in patients presenting to hospital following self-harm: A systematic review
Hawton K, Saunders K, Topiwala A, Haw C (UK)
Journal of Affective Disorders 151, 821-830, 2013

**Background:** Psychiatric disorders occur in approximately 90% of individuals dying by suicide. The prevalence of psychiatric disorders in people who engage in non-fatal self-harm has received less attention.

**Method:** Systematic review using electronic databases (Embase, PsychINFO and Medline) for English language publications of studies in which psychiatric disorders have been assessed using research or clinical diagnostic schedules in self-harm patients of all ages presenting to general hospitals, followed by meta-analyses using random effects methods.

**Results:** A total of 50 studies from 24 countries were identified. Psychiatric (Axis I) disorders were identified in 83.9% (95% CI 74.7-91.3%) of adults and 81.2% (95% CI 60.9-95.5%) of adolescents and young persons. The most frequent disorders were depression, anxiety and alcohol misuse, and additionally attention deficit hyperactivity disorder (ADHD) and conduct disorder in younger patients. Personality (Axis II) disorders were found in 27.5% (95% CI 17.6-38.7%) of adult patients. Psychiatric disorders were somewhat more common in patients in Western (89.6%, 95% CI 83.0-94.7%) than non-Western countries (70.6%, 95% CI 50.1-87.6%).

**Limitations:** Heterogeneity between study results was generally high. There were differences between studies in identification of study participants and diagnostic procedures.

**Conclusions:** Most self-harm patients have psychiatric disorders, as found in people dying by suicide. Depression and anxiety disorders are particularly common, together with ADHD and conduct disorder in adolescents. Psychosocial assessment and aftercare of self-harm patients should include careful screening for such disorders and appropriate therapeutic interventions. Longitudinal studies of the progress of these disorders are required.
Differences in incidence of suicide attempts between bipolar I and II disorders and major depressive disorder

Holma KM, Haukka J, Suominen K, Valtonen HM, Mantere O, Melartin TK, Sokero TP, Oquendo MA, Isometsä ET (Finland, USA)

*Bipolar Disorders.* Published online: 17 March 2014. doi: 10.1111/bdi.12195, 2014

**Objectives:** Whether risk of suicide attempts (SAs) differs between patients with bipolar disorder (BD) and patients with major depressive disorder (MDD) is unclear. We investigated whether cumulative risk differences are due to dissimilarities in time spent in high-risk states, incidence per unit time in high-risk states, or both.

**Methods:** Incidence rates for SAs during various illness phases, based on prospective life charts, were compared between patients from the Jorvi Bipolar Study (n = 176; 18 months) and the Vantaa Depression Study (n = 249; five years). Risk factors and their interactions with diagnosis were investigated with Cox proportional hazards models.

**Results:** By 18 months, 19.9% of patients with BD versus 9.5% of patients with MDD had attempted suicide. However, patients with BD spent 4.6% of the time in mixed episodes, and more time in major depressive episodes (MDEs) (35% versus 21%, respectively) and in subthreshold depression (39% versus 31%, respectively) than those with MDD. Compared with full remission, the combined incidence rates of SAs were 5-, 25-, and 65-fold in subthreshold depression, MDEs, and BD mixed states, respectively. Between cohorts, incidence of attempts was not different during comparable symptom states. In Cox models, hazard was elevated during MDEs and subthreshold depression, and among patients with preceding SAs, female patients, those with poor social support, and those aged < 40 years, but was unrelated to BD diagnosis.

**Conclusions:** The observed higher cumulative incidence of SAs among patients with BD than among those with MDD is mostly due to patients with BD spending more time in high-risk illness phases, not to differences in incidence during these phases, or to bipolarity itself. BD mixed phases contribute to differences involving very high incidence, but short duration. Diminishing the time spent in high-risk phases is crucial for prevention.
School effects on risk of non-fatal suicidal behaviour: A national multilevel cohort study
Jablonska B, Ostberg V, Hjern A, Lindberg L, Rasmussen F, Modin B (Sweden)

Objective: Research has demonstrated school effects on health, over and above the effects of students’ individual characteristics. This approach has however been uncommon in mental health research. The aim of the study was to assess whether there are any school-contextual effects related to socioeconomic characteristics and academic performance, on the risk of hospitalization from non-fatal suicidal behaviour (NFSB).

Methods: A Swedish national cohort of 447,929 subjects was followed prospectively in the National Patient Discharge Register from the completion of compulsory school in 1989-93 (approximately 16 years) until 2001. Multilevel logistic regression was used to assess the association between school-level characteristics and NFSB.

Results: A small but significant share of variation in NFSB was accounted for by the school context (variance partition coefficient <1%, median odds ratio = 1.26). The risk of NFSB was positively associated with the school’s proportion of students from low socioeconomic status (SES), single parent household, and the school’s average academic performance. School effects varied, in part, by school location.

Conclusion: NFSB seems to be explained mainly by individual-level characteristics. Nevertheless, a concentration of children from disadvantaged backgrounds in schools appears to negatively affect mental health, regardless of whether or not they are exposed to such problems themselves. Thus, school SES should be considered when planning prevention of mental health problems in children and adolescents.

Predictors of suicidal ideation in a community sample: Roles of anger, self-esteem, and depression
Jang JM, Park JI, Oh KY, Lee KH, Kim MS, Yoon MS, Ko SH, Cho HC, Chung YC (Korea)
Psychiatry Research 216, 74-81, 2014

The objective of this cross-sectional study was to investigate the relationships of anger, self-esteem, and depression with suicidal ideation. A survey was conducted in a wide range of community areas across Jeollabuk-do Province, Korea. A total of 2964 subjects (mean age=44.4 yr) participated in this study. Hierarchical regression was used to investigate predictors of suicidal ideation in terms of their sociodemographic characteristics, depression, self-esteem, and anger. Hierarchical regression analyses revealed that anger and self-esteem were significantly associated with suicidal ideation regardless of age and after controlling for depression. Moderation analysis showed that the impact of anger on suicidal ideation was sig-
nificantly greater among females than males in adolescents, but not in other age groups. Additionally, there were some differences in sociodemographic predictors of suicidal ideation among age groups. Predictors included gender and family harmony in adolescents, marital status and family harmony in middle-aged individuals, and economic status and family harmony in elderly individuals. Our results revealed that anger and self-esteem play important roles in suicidal ideation beyond the effect of depression. Development and implementation of preventive strategies, including management of anger and self-esteem, could possibly reduce suicidal ideation and subsequent suicide attempts.

A pocket of very high suicide rates in a non-violent, egalitarian and cooperative population of south-east Asia

Jollant F, Malafosse A, Docto R, Macdonald C (Canada, Switzerland, Philippines, France)
Psychological Medicine. Published online: 17 January 2014. doi: 10.1017/S0033291713003176, 2014

Background: Extremely high rates of suicide localized within subgroups of populations where suicide is rare have been reported. We investigated this intriguing observation in a population of South-East Asia, where local culture should theoretically be preventative of suicide.

Method: A team including an anthropologist and a psychiatrist surveyed all cases of suicide that had occurred over 10 years in four isolated regions. A psychological autopsy was carried out comparing each suicide case with two matched control cases.

Results: In a region of 1192 inhabitants, 16 suicides occurred, leading to an annual suicide rate of 134/1 000 00 which is 10 times the rate in the USA or Canada. By contrast, three ethnically similar distant communities showed low to null rates. The gender ratio was three males to one female and two-thirds of cases were aged below 35 years. Methods of suicide were poisoning and hanging and motives mainly included interpersonal discord. The pattern of developmental and clinical risk factors was somewhat different from Western countries, showing no childhood maltreatment, only one case of alcohol/substance abuse and impulsive-aggressive personality but elevated rates of social anxiety. Suicide cases had very high frequencies of second-degree biological relatives who committed suicide.

Conclusions: Our study confirms a persistent phenomenon of high suicide rates restricted to a subgroup of a pre-industrialized population. We hypothesized this might be explained by isolation and endogamy, which may have promoted the selection/amplification of genetic vulnerability factors, or a contagion effect. These findings shed light on suicide from both a singular and a universal perspective, suggesting that particular local conditions may significantly modulate the rate of this complex behavior.
The impact of indiscriminate media coverage of a celebrity suicide on a society with a high suicide rate: Epidemiological findings on copycat suicides from South Korea

Ju Ji N, Young Lee W, Seok Noh M, Yip PSF (Korea, Hong Kong)

*Journal of Affective Disorders* 156, 56-61, 2013

**Background:** This study examines the extent to which the indiscriminate media coverage of the famous young actress Lee Eun-ju’s suicide in 2005 affected suicides overall and in specific subgroups (by age, gender, and suicide method) in a suicide-prone society, South Korea.

**Methods:** South Korea’s 2003-2005 suicide data (n=34,237) were obtained from death certificate records of the National Statistical Office (NSO). Data was analyzed with Poisson time series auto-regression models.

**Results:** After adjusting for confounding factors (such as seasonal variation, calendar year, temperature, humidity, and unemployment rate), there was a significant increase in suicide (RR=1.40, 95%, CI=1.30-1.51, no. of excess mortalities=331; 95% CI=267-391) during the 4 weeks after Lee’s suicide. This increase was more prominent in subgroups with similar characteristics to the celebrity. In particular, the relative risk of suicide during this period was the largest (5.24; 95% CI=3.31-8.29) in young women who used the same suicide method as the celebrity. Moreover, the incidence of these copycat suicides during the same time significantly increased in both genders and in all age subgroups among those who committed suicide using the same method as the celebrity (hanging).

**Limitations:** It is difficult to prove conclusively that the real motivation of the suicides was Lee’s death.

**Conclusions:** The findings from this study imply that, if the media indiscreetly reports the suicide of a celebrity in a suicide-prone society, the copycat effect can be far-reaching and very strong, particularly for vulnerable people.

Railway suicide attempts are associated with amount of sunlight in recent days

Kadotani H, Nagai Y, Sozu T (Japan)

*Journal of Affective Disorders* 152-154, 162-168, 2013

**Background:** To assess the relationship between hours of sunlight and railway suicide attempts, 3-7 days before these attempts.

**Methods:** All railway suicide attempts causing railway suspensions or delays of 30 min or more between 2002 and 2006. We used a linear probability model to assess this relationship. This study was conducted at Tokyo, Kanagawa, and Osaka prefectures in Japan. Data were collected from the railway delay incident database of the Japanese Railway Technical Research Institute and public weather database of the Japan Meteorological Agency.

**Results:** About 971 railway suicides attempts occurred between 2002 and 2006 in
Tokyo, Kanagawa, and Osaka. Less sunlight in the 7 days leading up to the railway suicide attempts was associated with a higher proportion of attempts (p=0.0243). Sunlight over the 3 days before an attempt had a similar trend (p=0.0888). No difference was found in sunlight hours between the days with (median: 5.6 [IQR: 1.1-8.8]) and without (median: 5.7 [IQR: 1.0-8.9]) railway suicide attempts in the evening. Finally, there was no apparent correlation between the railway suicide attempts and the monthly average sunlight hours of the attempted month or those of a month before.

Limitations: Railway suicides were not the main suicidal methods in Japan.

Conclusions: We observed an increased proportion of railway suicide attempts after several days without sunlight. Light exposure (blue light or bright white light) in trains may be useful in reducing railway suicides, especially when consecutive days without sunshine are forecasted.

Association between antidepressant prescribing and suicide rates in OECD countries: An ecological study
Kamat MA, Edgar L, Niblock P, McDowell C, Kelly CB (UK)
Pharmacopsychiatry 47, 18-21, 2013

We have conducted an ecological study to assess the association between antidepressant prescribing and suicide rates using the Organisation for Economic Co-operation and Development (OECD) health data, making this the largest ecological study in recent times. Data were derived for the years 1995-2008 from the OECD health data set. The residuals for all variables were adjusted for country and year within each country. These were then analysed to identify predictors of suicide rate. Pearson's rank correlation coefficient and linear regression model were employed to assess associations and identify significant predictors of suicide rate. Suicide rate has significant positive correlations with antidepressant rates (p=0.031) and unemployment (p=0.028). It also has a significant negative correlation with inpatient psychiatric beds (p=0.039). The actual coefficients are less than +/-0.16, indicating weak relationships. After adjusting for other variables, the only variable that is a statistically significant predictor of suicide rate is antidepressant prescribing (p=0.005, r(2)=0.09). Our analysis using this large data set suggests a statistically significant, albeit weak positive, association between antidepressant prescribing and suicide rates.
Long-term depression and suicidal ideation outcomes subsequent to emancipation from foster care: Pathways to psychiatric risk in the métis population

Kaspar V (Canada)

Major depressive episode (MDE) and suicidal ideation (SI) associated with history of foster care placement (HxFCP), and mediating effects of psychosocial and socioeconomic factors through which placement may confer psychiatric risks in the years subsequent to emancipation were examined in a national sample of 7534 Métis. More than one third of emancipated respondents reported past year MDE, a prevalence rate nearly 50% higher than the rate of MDE among Métis respondents without a history of placement in foster care. The 25% lifetime prevalence rate of SI in the emancipated group was more than twice the rate observed in the non-fostered group. Direct effects of HxFCP on post placement MDE and SI were significant in multivariate logistic regression analyses, even when effects of childhood predispositional risk factors were controlled statistically. Emancipated individuals were unduly affected by psychosocial and socioeconomic disadvantages signifying pathways that linked foster care placement history and psychiatric status. Main mediators of the effects demonstrated using effect decomposition procedures were self-esteem, income, and community adversity. The findings warrant consideration of foster care history in clarifying the complex etiologies of suicidal ideation and major depressive episode in the Métis population and risk factors ensuing in the intervening years as integral to the process linking placement to long-term psychiatric outcomes.

Social support and positive events as suicide resiliency factors: Examination of synergistic buffering effects

Kleiman EM, Riskind JH, Schaefer KE (USA)
Archives of Suicide Research. Published online: 12 March 2014. doi: 10.1080/13811118.2013.826155, 2014

Objectives: We present a study on the role of social support and positive events as protective factors in suicide.

Methods: Participants (n = 379) were administered measures of social support, life events, depressive symptoms and suicide ideation.

Results: Results indicated that (a) social support had a direct protective effect on suicide ideation (b) social support and positive events acted as individual buffers in the relationship between negative events and suicide ideation, and (c) social support and positive events synergistically buffered the relationship between negative events and suicide ideation.

Conclusion: Our results provide evidence that positive events and social support act as protective factors against suicide individually and synergistically when they co-occur.
Suicide risk among individuals with sleep disturbances in Japan: A case-control psychological autopsy study
Sleep Medicine 15, 430-435, 2014

Objective: This case-control psychological autopsy study aimed to explore a relationship between sleep disturbances and suicide among Japanese, as well as determine the importance and usability of screening for sleep disturbances in suicide prevention.

Methods: A semi-structured interview was conducted with the close family members of 49 adult suicide completers and 145 gender-, age-, and residential municipality-matched living controls. The survey included sections on demographics, sleep disturbances, and mental disorders. Conditional logistic regression analyses were performed to compare sleep disturbance prevalence between the two groups.

Results: A significantly higher prevalence of sleep disturbances was found among the suicide group (75.5%) compared to the controls (11.0%) (odds ratio \[OR\]=21.6, \(p < 0.001\)). The association remained significant after adjusting for mental disorders (\(OR = 12.7, p < 0.001\)). The population attributable risk percent of suicide associated with sleep disturbances and mental disorders was estimated to be 56.4% and 35.3%, respectively.

Conclusions: The study confirmed that sleep disturbances are an important risk factor of suicide, independent of mental disorders. Sleep disturbances accounted for a greater proportion of suicide cases than did mental disorders in the Japanese population given the higher prevalence, and could thus be considered an important target in suicide prevention in Japan.

Improving communication and practical skills in working with inpatients who self-harm: A pre-test/post-test study of the effects of a training programme
Kool N, van Meijel B, Koekkoek B, van der Bijl J, Kerkhof A (The Netherlands)
BMC Psychiatry 14, 64, 2014

Background: Differing perspectives of self-harm may result in a struggle between patients and treatment staff. As a consequence, both sides have difficulty communicating effectively about the underlying problems and feelings surrounding self-harm. Between 2009 and 2011, a programme was developed and implemented to train mental health care staff (nurses, social workers, psychologists, psychiatrists, and occupational therapists) in how to communicate effectively with and care for patients who self-harm. An art exhibition focusing on self-harm supported the programme. Lay experts in self-harm, i.e. people who currently harm themselves, or who have harmed themselves in the past and have the skills to disseminate their knowledge and experience, played an important role throughout the programme.
Methods: Paired sample t-tests were conducted to measure the effects of the training programme using the Attitude Towards Deliberate Self-Harm Questionnaire, the Self-Perceived Efficacy in Dealing with Self-Harm Questionnaire, and the Patient Contact Questionnaire. Effect sizes were calculated using r. Participants evaluated the training programme with the help of a survey. The questionnaires used in the survey were analysed descriptively.

Results: Of the 281 persons who followed the training programme, 178 completed the questionnaires. The results show a significant increase in the total scores of the three questionnaires, with large to moderate effect sizes. Respondents were positive about the training, especially about the role of the lay expert.

Conclusion: A specialised training programme in how to care for patients who self-harm can result in a more positive attitude towards self-harm patients, an improved self-efficacy in caring for patients who self-harm, and a greater closeness with the patients. The deployment of lay experts is essential here.

Feasibility of a web-based gatekeeper training: Implications for suicide prevention
Lancaster PG, Moore JT, Putter SE, Chen PY, Cigularov KP, Baker A, Quinnett P (USA, Australia)
Suicide and Life-Threatening Behavior. Published online: 27 February 2014. doi: 10.1111/sltb.12086, 2014

Web-based training programs have advantages such as increased scheduling flexibility and decreased training costs. Yet the feasibility of applying them to injury prevention programs such as suicide prevention gatekeeper training has not been empirically verified. Two studies were conducted to assess the feasibility and effectiveness of a web-based version of the Question, Persuade, and Refer (QPR) gatekeeper training program. Results of Study 1 revealed that participants in a web-based training demonstrated significant gains in knowledge of suicide prevention, self-efficacy for suicide prevention, and behavioral intentions to engage in suicide prevention, as compared to those in a control group. Results of Study 2 further showed that the web-based training may be as effective as the face-to-face QPR training across pre- (T1) and post training (T2); however, knowledge, self-efficacy, and behavioral intentions in both groups generally declined from T2 to 6-months after the training. Overall, these results provide initial evidence to support the feasibility of adopting web-based media to deliver gatekeeper training. Moreover, the present findings suggest the need to understand how to maintain gatekeepers’ knowledge, confidence, motivation, and skills after training.
Background: Self-harm entails high costs to individuals and society in terms of suicide risk, morbidity and healthcare expenditure. Repetition of self-harm confers yet higher risk of suicide and risk assessment of self-harm patients forms a key component of the health care management of self-harm patients. To date, there has been no systematic review published which synthesises the extensive evidence on risk factors for repetition.

Objective: This review is intended to identify risk factors for prospective repetition of self-harm after an index self-harm presentation, irrespective of suicidal intent.

Data Sources: PubMed, PsychInfo and Scirus were used to search for relevant publications. We included cohort studies which examining factors associated with prospective repetition among those presenting with self-harm to emergency departments. Journal articles, abstracts, letters and theses in any language published up to June 2012 were considered. Studies were quality-assessed and synthesised in narrative form.

Results: A total of 129 studies, including 329,001 participants, met our inclusion criteria. Some factors were studied extensively and were found to have a consistent association with repetition. These included previous self-harm, personality disorder, hopelessness, history of psychiatric treatment, schizophrenia, alcohol abuse/dependence, drug abuse/dependence, and living alone. However, the sensitivity values of these measures varied greatly across studies. Psychological risk factors and protective factors have been relatively under-researched but show emerging associations with repetition. Composite risk scales tended to have high sensitivity but poor specificity.

Conclusions: Many risk factors for repetition of self-harm match risk factors for initiation of self-harm, but the most consistent evidence for increased risk of repetition comes from long-standing psychosocial vulnerabilities, rather than characteristics of an index episode. The current review will enhance prediction of self-harm and assist in the efficient allocation of intervention resources.
Clinical and sociodemographic correlates of suicidality in patients with major depressive disorder from six Asian countries

Lim AY, Lee AR, Hatim A, Tian-Mei S, Liu CY, Jeon HJ, Udomratn P, Bautista D, Chan E, Liu SI, Chua HC, Hong JP (South Korea, Malaysia, China, Taiwan, Thailand, Singapore)

BMC Psychiatry 14, 37, 2014

**Background:** East Asian countries have high suicide rates. However, little is known about clinical and sociodemographic factors associated with suicidality in Asian populations. The aim of this study was to evaluate the factors associated with suicidality in patients with major depressive disorder (MDD) from six Asian countries.

**Methods:** The study cohort consisted of 547 outpatients with MDD. Patients presented to study sites in China (n = 114), South Korea (n = 101), Malaysia (n = 90), Singapore (n = 40), Thailand (n = 103), and Taiwan (n = 99). All patients completed the Mini-International Neuropsychiatric Interview (MINI), the Montgomery-Asberg Depression Rating Scale (MADRS), the Global Severity Index (SCL-90R), the Fatigue Severity Scale, the 36-item short-form health survey, the Sheehan Disability Scale, and the Multidimensional Scale of Perceived Social Support (MSPSS). Patients were classified as showing high suicidality if they scored $\geq 6$ on the MINI suicidality module. Multivariate logistic regression analysis was used to examine sociodemographic and clinical factors related to high suicidality.

**Results:** One hundred and twenty-five patients were classed as high suicidality. Unemployed status (adjusted odds ratio [OR] 2.43, p < 0.01), MADRS score (adjusted OR 1.08, p < 0.001), and GSI (SCL-90R) score (adjusted OR 1.06, p < 0.01) were positively related to high suicidality. Hindu (adjusted OR 0.09, p < 0.05) or Muslim (adjusted OR 0.21, p < 0.001) religion and MSPSS score (adjusted OR 0.82, p < 0.05) were protective against high suicidality.

**Conclusions:** A variety of sociodemographic and clinical factors were associated with high suicidality in Asian patients with MDD. These factors may facilitate the identification of MDD patients at risk of suicide.

The association between suicidality and internet addiction and activities in Taiwanese adolescents

Lin IH, Ko CH, Chang YP, Liu TL, Wang PW, Lin HC, Huang MF, Yeh YC, Chou WJ, Yen CF (Taiwan, USA)

Comprehensive Psychiatry 55, 504-510, 2014

**Objective:** The aims of this cross-sectional study were to examine the associations of suicidal ideation and attempt with Internet addiction and Internet activities in a large representative Taiwanese adolescent population.

**Methods:** 9510 adolescent students aged 12-18 years were selected using a stratified random sampling strategy in southern Taiwan and completed the questionnaires. The five questions from the Kiddie Schedule for Affective Disorders and Schizophrenia were used to inquire as to the participants’ suicidal ideation and attempt in the past one month. The Chen Internet Addiction Scale was used to
assess participants’ Internet addiction. The kinds of Internet activities that the adolescents participated in were also recorded. The associations of suicidal ideation and attempt with Internet addiction and Internet activities were examined using logistic regression analysis to control for the effects of demographic characteristics, depression, family support and self-esteem.

**Results:** After controlling for the effects of demographic characteristics, depression, family support and self-esteem, Internet addiction was significantly associated with suicidal ideation and suicidal attempt. Online gaming, MSN, online searching for information, and online studying were associated with an increased risk of suicidal ideation. While online gaming, chatting, watching movies, shopping, and gambling were associated with an increased risk of suicidal attempt, watching online news was associated with a reduced risk of suicidal attempt.

**Conclusions:** The results of this study indicated that adolescents with Internet addiction have higher risks of suicidal ideation and attempt than those without. Meanwhile, different kinds of Internet activities have various associations with the risks of suicidal ideation and attempt.

**Offspring death and subsequent psychiatric morbidity in bereaved parents: Addressing mechanisms in a total population cohort**

Ljung T, Sandin S, Langstrom N, Runeson B, Lichtenstein P, Larsson H (Sweden)

*Psychological Medicine.* Published online: 01 November 2013. doi: 10.1017/S0033291713002572, 2013

**Background:** It is unclear if psychiatric morbidity among parents bereaved of a child is related to major loss in general or if the cause of death matters. Whether such a link is consistent with a causal explanation also remains uncertain.

**Method:** We identified 3 114 564 parents through linkage of Swedish nationwide registers. Risk of psychiatric hospitalization was assessed with log-linear Poisson regression and family-based analyses were used to explore familial confounding.

**Results:** A total of 3284 suicides and 14 095 any-cause deaths were identified in offspring between 12 and 25 years of age. Parents exposed to offspring suicide had considerably higher risk of subsequent psychiatric hospitalization than unexposed parents [relative risk (RR) 1.90, 95% confidence interval (CI) 1.72-2.09], higher than parents exposed to offspring non-suicide death relative to controls (RR 1.18, 95% CI 1.11-1.26). We found no risk increase among stepfathers differentially exposed to biologically unrelated stepchildren’s death or suicide, and the relative risk was notably lower among full siblings differentially exposed to offspring death or suicide.

**Conclusions:** Parental psychiatric hospitalization following offspring death was primarily found in offspring suicide. Familial (e.g. shared genetic) effects seemed important, judging from both lack of psychiatric hospitalization in bereaved stepfathers and attenuated risk when bereaved parents were contrasted to their non-bereaved siblings. We conclude that offspring suicide does not ‘cause’ psychiatric hospitalization in bereaved parents.
Preventing suicide at suicide hotspots: A case study from Australia


Suicide and Life-Threatening Behavior. Published online: 15 February 2014. doi: 10.1111/sltb.12080, 2014

The Gap Park Self-Harm Minimisation Masterplan project is a collaborative attempt to address jumping suicides at Sydney’s Gap Park through means restriction, encouraging help-seeking, and increasing the likelihood of third-party intervention. We used various data sources to describe the Masterplan project’s processes, impacts, and outcomes. There have been reductions in reported jumps and confirmed suicides, although the trends are not statistically significant. There has been a significant increase in police call-outs to intervene with suicidal people who have not yet reached the cliff’s edge. The collaborative nature of the Masterplan project and its multifaceted approach appear to be reaping benefits.


Lukaschek K, Baumert J, Erazo N, Ladwig KH (Germany)

BMC Public Health 14, 124, 2014

Background: The majority of fatalities on the European Union (EU) railways are suicides, representing about 60% of all railway fatalities. The aim of this study was to compare time patterns of suicidal behaviour on railway tracks in Germany between two observation periods (1995-1998 and 2005-2008) in order to investigate their stability and value in railway suicide prevention.

Methods: Cases were derived from the National Central Registry of person accidents on the German railway network (STABAG). The association of daytime, weekday and month with the mean number of suicides was analysed applying linear regression. Potential differences by observation period were assessed by adding observation period and the respective interaction terms into the linear regression. A 95% confidence interval for the mean number of suicides was computed using the t distribution.

Results: A total of 7,187 railway suicides were recorded within both periods: 4,102 (57%) in the first period (1995-1998) and 3,085 (43%) in the second (2005-2008). The number of railway suicides was highest on Mondays and Tuesdays in the first period with an average of 3.2 and 3.5 events and of 2.6 events on both days in the second period. In both periods, railway suicides were more common between 6:00 am and noon, and between 6:00 am and midnight. Seasonality was only prominent in the period 1995-1998.

Conclusions: Over the course of two observation periods, the weekday and circadian patterns of railway suicides remained stable. Therefore, these patterns should be an integral part of railway suicide preventive measures, e.g. gatekeeper training courses.
Acute influence of alcohol, thc or central stimulants on violent suicide: A Swedish population study
Lundholm L, Thiblin I, Runeson B, Leifman A, Fugelstad A (Sweden)

Alcohol and substance abuse in general is a risk factor for suicide, but very little is known about the acute effect in relation to suicide method. Based on information from 18,894 medico-legal death investigations, including toxicological findings and manner of death, did the present study investigate whether acute influence of alcohol, tetrahydrocannabinol (THC), or central stimulants (amphetamine and cocaine) was related to the use of a violent suicide method, in comparison with the nonviolent method self-poisoning and alcohol-/illicit drug-negative suicide decedents. Multivariate analysis was conducted, and the results revealed that acute influence of THC was related to using the violent suicide method— jumping from a height (RR 1.62; 95% CI 1.01-2.41). Alcohol intoxication was not related to any violent method, while the central stimulant-positive suicide decedent had a higher, albeit not significant, risk of several violent methods. The study contributes with elucidating suicide methods in relation to acute intoxication.

A mixed method study to determine the attitude of Australian emergency health professionals towards patients who present with deliberate self-poisoning
Martin C, Chapman R (Australia)

Introduction: Deliberate self-poisoning is one of the frequent presentation types to emergency departments. It has been reported that attitudes of emergency staff may have negative consequences for the wellbeing of the self-poisoning patient. Aim: Determine the attitude of nursing and medical staff towards patients who present with deliberate self-poisoning and to identify if differences exist between the two groups. Design: Mixed-method. Methodology: The “Attitudes towards Deliberate Self-Harm Questionnaire” was distributed to all nursing and medical staff who had direct patient contact at three emergency departments (N = 410). Total and factor scores were generated and analysed against variables age, gender, length of experience working in the emergency department, level of education and by profession. Two open ended questions asked staff to write their perceptions and stories about patients who deliberate self-poison and were analysed using qualitative data analysis. Results: Forty-five percent of staff returned the questionnaire. The attitude of emergency nurses and doctors was positive towards patients who deliberately self-poison. Doctors had significantly higher total and Factor 2 ‘dealing effectively with the deliberate self-poisoning patient’ scores than nurses. After adjusting for length of time working in the emergency department only Factor 2 ‘dealing effectively
with the deliberate self-poisoning patient’ remained statistically significant. Staff reported high levels of frustration, in particular to patients who represent.

**Conclusion/Relevance to practice:** This information may be used to develop and implement educational strategies for staff to improve the experiences of and better support patients presenting to the emergency department who deliberately self-poison.

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**The effect of public awareness campaigns on suicides: Evidence from Nagoya, Japan**

Matsubayashi T, Ueda M, Sawada Y (Japan)

*Journal of Affective Disorders* 152-154, 526-529, 2013

**Background:** Public awareness campaigns about depression and suicide have been viewed as highly effective strategies in preventing suicide, yet their effectiveness has not been established in previous studies. This study evaluates the effectiveness of a public-awareness campaign by comparing suicide counts before and after a city-wide campaign in Nagoya, Japan, where the city government distributed promotional materials that were aimed to stimulate public awareness of depression and promote care-seeking behavior during the period of 2010-2012.

**Methods:** In each of the sixteen wards of the city of Nagoya, we count the number of times that the promotional materials were distributed per month and then examine the association between the suicide counts and the frequency of distributions in the months following such distributions. We run a Poisson regression model that controls for the effects of ward-specific observed and unobserved heterogeneities and temporal shocks.

**Findings:** Our analysis indicates that more frequent distribution of the campaign material is associated with a decrease in the number of suicides in the subsequent months. The campaign was estimated to have been especially effective for the male residents of the city.

**Limitation:** The underlying mechanism of how the campaign reduced suicides remains to be unclear.

**Conclusion:** Public awareness campaigns can be an effective strategy in preventing suicide.

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**Group problem-solving skills training for self-harm: Randomised controlled trial**


*British Journal of Psychiatry.* Published online: 16 January 2014. doi: 10.1192/bjp.bp.111.101816, 2014

**Background:** Rates of self-harm are high and have recently increased. This trend and the repetitive nature of self-harm pose a significant challenge to mental health services.

**Aims:** To determine the efficacy of a structured group problem-solving skills
training (PST) programme as an intervention approach for self-harm in addition to treatment as usual (TAU) as offered by mental health services.

**Method:** A total of 433 participants (aged 18-64 years) were randomly assigned to TAU plus PST or TAU alone. Assessments were carried out at baseline and at 6-week and 6-month follow-up and repeated hospital-treated self-harm was ascertained at 12-month follow-up.

**Results:** The treatment groups did not differ in rates of repeated self-harm at 6-week, 6-month and 12-month follow-up. Both treatment groups showed significant improvements in psychological and social functioning at follow-up. Only one measure (needing and receiving practical help from those closest to them) showed a positive treatment effect at 6-week ($P = 0.004$) and 6-month ($P = 0.01$) follow-up. Repetition was not associated with waiting time in the PST group.

**Conclusions:** This brief intervention for self-harm is no more effective than treatment as usual. Further work is required to establish whether a modified, more intensive programme delivered sooner after the index episode would be effective.

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**Risk factors for suicide among rural men: Are farmers more socially isolated?**

McPhedran S, De Leo D (Australia)

*The International Journal of Sociology and Social Policy* 33, 762-772, 2013

**Purpose:** International evidence demonstrates elevated suicide rates among farming occupations, relative to other occupations. A psychosocial factor commonly argued to contribute to farmer suicide is social isolation and lack of social support, which in turn may indicate a need for policies and programs to support farmers’ social participation and connectedness with others. However, there has been very little empirical investigation of perceived levels of social connectedness and social participation among farmers. The paper aims to discuss these issues.

**Design/methodology/approach:** This study used a cross-section of a nationally representative dataset, the Household, Income, and Labour Dynamics in Australia survey. This enabled quantification of Australian farmers’ self-reported levels of social connectedness and social participation, relative to rural adult males in other occupations.

**Findings:** Levels of perceived social support and social participation among farmers were approximately equivalent to social support and social participation among rural men in other occupations.

**Research Limitations/Implications:** Possible mediating variables, such as influences of social support on mental health, were not examined in this study. However, these findings nonetheless suggest the assumption that social isolation is higher among farmers requires careful consideration.

**Originality/value:** This is the first study that quantifies social support and social participation among farmers, using a comparative approach.
Purpose: Physical illness has been shown to be a risk factor for suicidal behaviour in older adults. The association between functional disability and suicidal behaviour in older adults is less clear. The aim of this study was to examine the relationship between functional disability and death wishes in late life.

Methods: Data from 11 population studies on depression in persons aged 65 and above were pooled, yielding a total of 15,890 respondents. Level of functional disability was trichotomised (no, intermediate, high). A person was considered to have death wishes if the death wish/suicidal ideation item of the EURO-D scale was endorsed. Odds ratios for death wishes associated with functional disability were calculated in a multilevel logistic regression model.

Results: In total, 5% of the men and 7% of the women reported death wishes. Both intermediate (OR 1.89, 95% CI 1.42; 2.52) and high functional disability (OR 3.22, 95% CI 2.34; 4.42) were associated with death wishes. No sex differences could be shown. Results remained after adding depressive symptoms to the model.

Conclusions: Functional disability was independently associated with death wishes in older adults. Results can help inform clinicians who care for older persons with functional impairment.
predetermined criteria. We examined a total of 1480 articles and selected 86 that matched our search criteria. The literature is heterogeneous, with no consensus regarding the operational definitions of suicide reattempters. Comparison groups in the literature have also been inconsistent and include subjects making a single lifetime attempt and subjects who did not reattempt during a defined study period. Suicide reattempters were associated with higher rates of the following characteristics: unemployment, unmarried status, diagnosis of mental disorders, suicidal ideation, stressful life events, and family history of suicidal behavior. Additional research is needed to establish adequate differentiation and effective treatment plans for this population.

**Antidepressant class, age, and the risk of deliberate self-harm: A propensity score matched cohort study of SSRI and SNRI users in the USA**

Miller M, Pate V, Swanson Sa, Azrael D, White A, Stürmer T (USA)

*CNS Drugs* 28, 79-88, 2013

**Background:** The US Food and Drug Administration’s meta-analyses of placebo-controlled antidepressant trials found approximately twice the rate of suicidal behaviors among children and adults aged 24 years and younger who were randomized to receive antidepressant medication than among those who were randomized to placebo. Rates of suicidal behavior were similar for subjects aged 25-64 years whether they received antidepressants or placebo, and subjects aged 65 years or older randomized to antidepressants were found to have lower rates of suicidal behavior. The age-stratified FDA meta-analyses did not have adequate power to investigate rates of suicidal behaviors by antidepressant drug class.

**Objective:** Our objective was to assess the risk of deliberate self-harm associated with the two most commonly prescribed classes of antidepressant agents.

**Design:** Propensity score matched cohort study of incident users of antidepressant agents.

**Setting:** Population-based healthcare utilization data of US residents.

**Patients:** US residents aged 10-64 years with a recorded diagnosis of depression who initiated use of selective serotonin reuptake inhibitors (SSRIs) or serotonin norepinephrine reuptake inhibitors (SNRIs) between 1 January 1998 and 31 December 2010.

**Main Outcome Measures:** ICD-9 external cause of injury codes E950.x-E958.x (deliberate self-harm).

**Results:** A total of 102,647 patients aged between 10 and 24 years, and 338,021 aged between 25 and 64 years, initiated therapy with antidepressants. Among 10-24 year olds, prior to propensity score matching, 75,675 initiated therapy with SSRIs and 5,344 initiated SNRIs. After matching, there were 5,344 SNRI users and 10,688 SSRI users. Among the older cohort, 36,037 SNRI users were matched to 72,028 SSRI users (from an unmatched cohort of 225,952 SSRI initiators).
Regardless of age cohort, patients initiating SSRIs and patients initiating SNRIs had similar rates of deliberate self-harm. Restriction to patients with no antidepressant use in the past 3 years did not alter our findings. 

**Conclusions:** Our findings of similar rates of deliberate self-harm for depressed patients who initiate treatment with either an SSRI or an SNRI suggests that physicians who have decided that their patients would benefit from initiating antidepressant therapy need not weigh differential suicide risk when deciding which class of antidepressant to prescribe.

**The effects of involuntary job loss on suicide and suicide attempts among young adults: Evidence from a matched case-control study**


**Objective:** To assess the influence of involuntary job loss on suicide and attempted suicide in young adults.

**Method:** A population-based case-control study of young adults (18–34 years) was conducted in New South Wales, Australia. Cases included both suicides (n=84) and attempts (n=101). A structured interview was conducted with next of kin (for suicide cases) and suicide attempters admitted to hospital. Controls selected from the general population were matched to cases by age and sex. Job dismissal or redundancy (involuntary job loss) in the 12 months before suicide or attempt was the main study variable of interest. Suicide and attempts were modelled separately and in combination as outcomes using conditional logistic regression modelling. The analysis was also adjusted for marital status, socio-economic status and diagnosis of an affective or anxiety disorder.

**Results:** Following adjustment for other variables, involuntary job loss was associated with an odds ratio of 1.82 for suicide and attempted suicide (combined) (95% CI 0.98 to 3.37; p=0.058). Low socio-economic status was associated with an odds ratio of 3.80 for suicide and attempted suicide (95% CI 2.16 to 6.67; p&lt;0.001) compared to high socio-economic status (after adjustment). Diagnosis of a mental disorder was associated with a 7.87 (95% CI 5.16 to 12.01; p&lt;0.001) odds ratio of suicide and attempted suicide compared to no diagnosis (after adjustment). Involuntary job loss was associated with increased odds of suicide and attempts when these were modelled separately, but results did not reach statistical significance.

**Conclusions:** Involuntary job loss was associated with increased odds of suicide and attempted suicide. The strength of this relationship was attenuated after adjustment for socio-economic status and mental disorders, which indicates that these may have a stronger influence on suicide than job loss.
Is transition to disability pension in young people associated with changes in risk of attempted suicide?
Mittendorfer-Rutz E, Alexanderson K, Westerlund H, Lange T (Sweden, Denmark)
Psychological Medicine. Published online: 17 January 2014. doi: 10.1017/S0033291713003097, 2014

Background: The aim of the present study was to investigate trajectories of suicide attempt risks before and after granting of disability pension in young people.
Method: The analytic sample consisted of all persons 16-30 years old and living in Sweden who were granted a disability pension in the years 1995-1997; 2000-2002 as well as 2005-2006 (n = 26 624). Crude risks and adjusted odds ratios for suicide attempt were computed for the 9-year window around the year of disability pension receipt by repeated-measures logistic regressions.
Results: The risk of suicide attempt was found to increase continuously up to the year preceding the granting of disability pension in young people, after which the risk declined. These trajectories were similar for women and men and for disability pension due to mental and somatic diagnoses. Still, the multivariate odds ratios for suicide attempts for women and for disability pension due to mental disorders were 2.5- and 3.8-fold increased compared with the odds ratios for men and disability pension due to somatic disorders, respectively. Trajectories of suicide attempts differed for young individuals granted a disability pension during 2005-2006 compared with those granted during 1995-1997 and 2000-2002.
Conclusions: We found an increasing risk of suicide attempt up until the granting of a disability pension in young individuals, after which the risk decreased. It is of clinical importance to monitor suicide attempt risk among young people waiting for the granting of a disability pension.

Past suicide attempts in depressed inpatients: Clinical versus research assessment
Molero P, Grunebaum MF, Galfalvy HC, Bongiovi MA, Lowenthal D, Almeida MG, Burke AK, Stevenson E, Mann JJ, Oquendo MA (USA)
Archives of Suicide Research 18, 50-57, 2013

Objective: To compare structured clinical assessment versus research measurement of suicidal risk among inpatients with major depression.
Methods: 50 depressed inpatients underwent a structured clinical and an independent research assessment of suicidal risk. Agreement between both assessments and its impact upon time to first readmission was tested.
Results: A false negative rate of 25% in the clinical screening of past suicide attempts was associated with older age, concealment and reported lower frequency of suicidal thoughts. Mean times to first readmission (2.5-years follow-up) were 74 weeks (discordant responders) and 118 weeks (concordant responders).
Conclusion: A failure to detect 25% of patients with past suicide attempt history in the clinical assessment was associated with older age and concealment of suicidal thoughts.
Association of training on attitudes towards self-injuring clients across health professionals

Muehlenkamp JJ, Claes L, Quigley K, Prosser E, Claes S, Jans D (USA, Belgium)
Archives of Suicide Research 17, 462-468, 2013

The objective of this study was to evaluate associations between self-injury training and attitudes across different health care professions. In the study, 342 psychologists, social workers, psychiatric, and medical nurses were recruited from 12 hospitals in Belgium. Participants completed a confidential questionnaire assessing attitudes, perceived knowledge/competence in self-injury, and prior self-injury training. Professionals with training reported more positive empathy, less negative attitudes, and greater perceived knowledge/competence, which was related to positive attitudes. Mental health providers had more positive attitudes than medical professionals. Conclusions: Attitudes towards self-injuring patients are multifaceted and vary across health professions. Training on self-injury should be incorporated into the educational curriculum of all health care professions.

A review of ketamine in affective disorders: Current evidence of clinical efficacy, limitations of use and pre-clinical evidence on proposed mechanisms of action

Naughton M, Clarke G, Oleary OF, Cryan JF, Dinan TG (Ireland)
Journal of Affective Disorders 156, 24-35, 2013

Introduction: Recent research has seen low-dose ketamine emerge as a novel, rapid-acting antidepressant. Ketamine, an N-methyl-d-aspartate (NMDA) receptor antagonist, leads to effects on the glutamatergic system and abnormalities in this neurotransmitter system are present in depression. This article aims to (1) review the clinical literature on low-dose ketamine as a rapid-acting antidepressant in affective disorders, (2) provide a critical overview of the limitations of ketamine and research attempts to overcome these (3) discuss the proposed mechanisms of action of ketamine and (4) point towards future research directions.

Method: The electronic database Pubmed, Web of Science and sciencedirect were searched using the keywords: ketamine, N-methyl-d-aspartate receptor antagonist, rapid-acting antidepressant, depression, treatment-resistant depression, bipolar depression, suicidal ideation, electroconvulsive therapy, mechanism of action.

Result: The literature demonstrates evidence supporting a rapid-acting antidepressant effect of low-dose intravenous ketamine in major depressive disorder, in bipolar depression and in depression with suicidal ideation. There are mixed results as to whether ketamine leads to a reduction in time to remission in patients undergoing electroconvulsive therapy (ECT). Efforts to unravel ketamine’s therapeutic mechanism of action have implicated the mammalian target of rapamycin (mTOR)-dependent synapse formation in the rat prefrontal cortex, eukaryotic
elongation factor 2 phosphorylation (p-eEF2) and glycogen synthase kinase (GSK-3). Ketamine’s limiting factors are the transient nature of its antidepressant effect and concerns regarding abuse, and research efforts to overcome these are reviewed.

**Conclusion:** Current and future research studies are using ketamine as a promising tool to evaluate the glutamatergic neurotransmitter system to learn more about the pathophysiology of depression and develop more specific rapid-acting antidepressant treatments.

**Characteristics of U.S. Suicide decedents in 2005-2010 who had received mental health treatment**

Niederkrotenthaler T, Logan JE, Karch DL, Crosby A (USA)

Psychiatric Services 65, 387-390, 2014

**Objective:** To inform suicide prevention efforts in mental health treatment, the study assessed associations between recent mental health treatment, personal characteristics, and circumstances of suicide among suicide decedents.

**Methods:** Data from 18 states reporting to the National Violent Death Reporting System between 2005 and 2010 (N=57,877 suicides) were used to compare circumstances among adult decedents receiving any or no type of mental health treatment within two months before death.

**Results:** Of suicide decedents, 28.5% received treatment before suicide. Several variables were associated with higher odds of receiving treatment, including death by poisoning with commonly prescribed substances (adjusted odds ratio [AOR]=3.04, 95% confidence interval [CI]=2.84-3.26), a history of suicide attempts (AOR=2.77, CI=2.64-2.90), depressed mood (AOR=1.69, CI=1.62-1.76), and nonalcoholic substance abuse or dependence (AOR=1.13, CI=1.07-1.19).

**Conclusions:** For nearly a third of all suicide decedents, better mental health care might have prevented death. Efforts to reduce access to lethal doses of prescription medications seem warranted to prevent overdosing with commonly prescribed substances.
Prevalence and correlates of suicidal behavior among soldiers: Results from the army study to assess risk and resilience in servicemembers (army STARRS)


*JAMA Psychiatry.* Published online: 3 March 2014. doi:10.1001/jamapsychiatry.2014.30, 2014

**Importance:** The suicide rate among US Army soldiers has increased substantially in recent years.

**Objectives:** To estimate the lifetime prevalence and sociodemographic, Army career, and psychiatric predictors of suicidal behaviors among nondeployed US Army soldiers.

**Design, Setting, and Participants:** A representative cross-sectional survey of 5428 nondeployed soldiers participating in a group self-administered survey.

**Main Outcomes and Measures:** Lifetime suicidal ideation, suicide plans, and suicide attempts.

**Results:** The lifetime prevalence estimates of suicidal ideation, suicide plans, and suicide attempts are 13.9%, 5.3%, and 2.4%. Most reported cases (47.0%-58.2%) had pre-enlistment onsets. Pre-enlistment onset rates were lower than in a prior national civilian survey (with imputed/simulated age at enlistment), whereas post-enlistment onsets of ideation and plans were higher, and post-enlistment first attempts were equivalent to civilian rates. Most reported onsets of plans and attempts among ideators (58.3%-63.3%) occur within the year of onset of ideation. Post-enlistment attempts are positively related to being a woman (with an odds ratio [OR] of 3.3 [95% CI, 1.5-7.5]), lower rank (OR = 5.8 [95% CI, 1.8-18.1]), and previously deployed (OR = 2.4-3.7) and are negatively related to being unmarried (OR = 0.1-0.8) and assigned to Special Operations Command (OR = 0.0 [95% CI, 0.0-0.0]). Five mental disorders predict post-enlistment first suicide attempts in multivariate analysis: pre-enlistment panic disorder (OR = 0.1 [95% CI, 0.0-0.8]), pre-enlistment posttraumatic stress disorder (OR = 0.1 [95% CI, 0.0-0.7]), post-enlistment depression (OR = 3.8 [95% CI, 1.2-11.6]), and both pre- and post-enlistment intermittent explosive disorder (OR = 3.7-3.8). Four of these 5 ORs (posttraumatic stress disorder is the exception) predict ideation, whereas only post-enlistment intermittent explosive disorder predicts attempts among ideators. The population-attributable risk proportions of lifetime mental disorders predicting post-enlistment suicide attempts are 31.3% for pre-enlistment onset disorders, 41.2% for post-enlistment onset disorders, and 59.9% for all disorders.

**Conclusions and Relevance:** The fact that approximately one-third of post-enlistment suicide attempts are associated with pre-enlistment mental disorders suggests that pre-enlistment mental disorders might be targets for early screening and intervention. The possibility of higher fatality rates among Army suicide attempts than among civilian suicide attempts highlights the potential importance of means control (ie, restricting access to lethal means [such as firearms]) as a suicide prevention strategy.
Epidemiologic studies have documented that injury survivors are at increased risk for suicide. We evaluated 206 trauma survivors to examine demographic, clinical, and injury characteristics associated with suicidal ideation during hospitalization and across 1 year. Results indicate that mental health functioning, depression symptoms, and history of mental health services were associated with suicidal ideation in the hospital; being a parent was a protective factor. Pre-injury post-traumatic stress disorder symptoms, assaultive injury mechanism, injury-related legal proceedings, and physical pain were significantly associated with suicidal ideation across 1 year. Readily identifiable risk factors early after traumatic injury may inform hospital-based screening and intervention procedures.

Objective: To identify the proportion of female carers who experience death thoughts and the factors associated with these thoughts, using data from the Australian Longitudinal Study on Women’s Health (ALSWH).

Methods: A cross-sectional analysis of the fifth ALSWH survey was conducted. 10,528 middle-aged women provided data on caring and death thoughts, 3077 were carers and 2005 of those were included in the multivariate analysis.

Results: 7.1% of female carers had felt life was not worth living in the previous week and were classified as having experienced death thoughts, compared with 5.7% of non-carers (p = .01). Carers with death thoughts had poorer physical and mental health, higher levels of anxiety, lower levels of optimism, and reported less social support (p < .01). In a multivariate model social support, mental health, carer satisfaction, and depressive symptoms significantly predicted death thoughts. Carers with clinically significant depressive symptoms were four times more likely to experience death thoughts than those without. Carers who were satisfied with their role were 50% less likely to have experienced death thoughts than those who were dissatisfied.

Conclusions: A small but significant proportion of female carers experience death thoughts and may be at risk for suicide. These findings add to the growing body of evidence on suicide-related thoughts and behaviours in carers and have implications for health professionals and service providers.
A diffusion tensor imaging study of suicide attempters
Olvet DM, Peruzzo D, Thapa-Chhetry B, Sublette ME, Sullivan GM, Oquendo MA, Mann JJ, Parsey RV (USA, Italy)

Background: Few studies have examined white matter abnormalities in suicide attempters using diffusion tensor imaging (DTI). This study sought to identify white matter regions altered in individuals with a prior suicide attempt.

Methods: DTI scans were acquired in 13 suicide attempters with major depressive disorder (MDD), 39 non-attempters with MDD, and 46 healthy participants (HP). Fractional anisotropy (FA) and apparent diffusion coefficient (ADC) were determined in the brain using two methods: region of interest (ROI) and tract-based spatial statistics (TBSS). ROIs were limited a priori to white matter adjacent to the caudal anterior cingulate cortex, rostral anterior cingulate cortex, dorsomedial prefrontal cortex, and medial orbitofrontal cortex.

Results: Using the ROI approach, suicide attempters had lower FA than MDD non-attempters and HP in the dorsomedial prefrontal cortex. Uncorrected TBSS results confirmed a significant cluster within the right dorsomedial prefrontal cortex indicating lower FA in suicide attempters compared to non-attempters. There were no differences in ADC when comparing suicide attempters, non-attempters and HP groups using ROI or TBSS methods.

Conclusions: Low FA in the dorsomedial prefrontal cortex was associated with a suicide attempt history. Converging findings from other imaging modalities support this finding, making this region of potential interest in determining the diathesis for suicidal behavior.

Effectiveness of a multimodal community intervention program to prevent suicide and suicide attempts: A quasi-experimental study
PLoS ONE. Published online: 9 October 2013. doi: 10.1371/journal.pone.0074902, 2013

Background: Multilevel and multimodal interventions have been suggested for suicide prevention. However, few studies have reported the outcomes of such interventions for suicidal behaviours.

Methods: We examined the effectiveness of a community-based multimodal intervention for suicide prevention in rural areas with high suicide rates, compared with a parallel prevention-as-usual control group, covering a total of 631,133 persons. The effectiveness was also examined in highly populated areas near metropolitan cities (1,319,972 persons). The intervention started in July 2006, and continued for 3.5 years. The primary outcome was the incidence of composite outcome, consisting of completed suicides and suicide attempts requiring admission to an emergency ward for critical care. We compared the rate ratios (RRs) of
the outcomes adjusted by sex, age group, region, period and interaction terms. Analyses were performed on an intention-to-treat basis and stratified by sex and age groups.

**Findings:** In the rural areas, the overall median adherence of the intervention was significantly higher. The RR of the composite outcome in the intervention group decreased 7% compared with that of the control group. Subgroup analyses demonstrated heterogeneous effects among subpopulations: the RR of the composite outcome in the intervention group was significantly lower in males (RR = 0.77, 95% CI 0.59-0.998, p = 0.0485) and the RR of suicide attempts was significantly lower in males (RR = 0.39, 95% CI 0.22-0.68, p = 0.001) and the elderly (RR = 0.35, 95% CI 0.17-0.71, p = 0.004). The intervention had no effect on the RR of the composite outcome in the highly populated areas.

**Interpretation:** Our findings suggest that this community-based multimodal intervention for suicide prevention could be implemented in rural areas, but not in highly populated areas. The effectiveness of the intervention was shown for males and for the elderly in rural areas.

**Life events: A complex role in the timing of suicidal behavior among depressed patients**

Oquendo M, Perez-Rodriguez M, Poh E, Sullivan G, Burke Ak, Sublette Me, Mann Jj, Galfalvy H

*USA*

*Molecular Psychiatry.* Published online: 15 October 2013. doi: 10.1038/mp.2013.128, 2013

Suicidal behavior is often conceptualized as a response to overwhelming stress. Our model posits that given a propensity for acting on suicidal urges, stressors such as life events or major depressive episodes (MDEs) determine the timing of suicidal acts. Depressed patients (n=415) were assessed prospectively for suicide attempts and suicide, life events and MDE over 2 years. Longitudinal data were divided into 1-month intervals characterized by MDE (yes/no), suicidal behavior (yes/no) and life event scores. Marginal logistic regression models were fit, with suicidal behavior as the response variable and MDE and life event score in either the same or previous month, respectively, as time-varying covariates. Among 7843 person-months, 33% had MDE and 73% had life events. MDE increased the risk for suicidal behavior (odds ratio (OR)=4.83, P<0.0001). Life event scores were unrelated to the timing of suicidal behavior (OR=1.06 per 100 point increase, P=0.32), even during a MDE (OR=1.12, P=0.15). However, among those without borderline personality disorder (BPD), both health- and work-related life events were key precipitants, as was recurrent MDE, with a 13-fold effect. The relationship of life events to suicidal behavior among those with BPD was more complex. Recurrent MDE was a robust precipitant for suicidal behavior, regardless of BPD comorbidity. The specific nature of life events is key to understanding the timing of suicidal behavior. Given unanticipated results regarding the role of BPD and study limitations, these findings require replication. Of note, that MDE, a treatable risk factor, strongly predicts suicidal behaviors is cause for hope.
Suicide bereavement and risk for suicide attempt: A national cross-sectional survey of young adults

Pitman A, Osborn D, King M (UK)
The Lancet 383, S82, 2014

Background: Provision of support to people bereaved by suicide has become a key priority for suicide prevention strategies in the UK and many other developed countries. Stigma, social modelling, depression, heritability, and other factors are thought to increase this group’s risk of suicidality. Few studies have described the nature or magnitude of the effects of suicide bereavement on family, friends, and other contacts, or assessed the effectiveness of post-bereavement support. We tested the hypothesis that young adults bereaved by the suicide of a close contact have an increased risk of suicidal thoughts and suicide attempts and poorer social functioning than those bereaved by other causes of sudden death.

Methods: We used a sample of 635,000 staff and students on the email distribution lists of 37 UK higher education institutions in 2010. Via mass email, we invited adults who had experienced a sudden bereavement to complete an online survey measuring outcomes relating to suicidal thoughts, suicide attempts, and social functioning. Inclusion criteria were current age 18-40 years, and sudden bereavement of a close contact since the age of 10 years. Multiple regression was used to compare those bereaved by suicide, those bereaved by accidental death, and those bereaved by sudden natural death (the baseline group), adjusting for covariates chosen a priori: age, sex, social class, family history of suicide (excluding an index suicide), past psychological problems, and kinship to the deceased (non-relative vs blood relative).

Findings: Of 3685 bereaved adults (from 4631 consenting to participate), 658 had been bereaved by suicide, 761 by sudden accidental death, and 2266 by sudden death due to natural causes. 20% were male. Because the denominator for the population of people exposed to sudden bereavement could not be estimated reliably, calculation of a response rate was not possible. Multiple logistic regression showed a non-significant excess risk of suicidal ideation (odds ratio 1.10, 95% CI 0.87-1.40) and a significant excess risk of suicide attempt (1.63, 1.06-2.50) in the group bereaved by suicide. No statistically significant interactions were found between type of bereavement and kinship to the deceased.

Interpretation: Our findings suggest that young adults who have been exposed to suicide bereavement might be at increased risk of suicide attempts and poor social functioning compared with young adults bereaved by other causes of sudden death, whether or not they were related to the deceased. Clinically, this finding suggests that inquiring about a history of suicide in unrelated close contacts should be added to family history of suicide within routine psychosocial assessments. From a public health policy perspective the findings confirm that this population of young adults is vulnerable to suicidal behaviour. Further work is needed to identify the nature and effectiveness of the support needed for this group.
Insomnia as a predictor of high-lethality suicide attempts

Summary: Introduction Research has demonstrated that patients with insomnia are at an increased risk of experiencing suicidal ideation and/or making a suicide attempt.
Objectives: To evaluate the relation between insomnia and suicidal behaviour.
Aims: To examine factors associated with a diagnosis of insomnia in patients admitted to an Emergency Department (ED) and assessed by the psychiatrist in charge.
Methods: Participants were 843 patients consecutively admitted to the ED of Sant’Andrea Hospital in Rome, between January 2010 and December 2011. All patients admitted were referred to a psychiatrist. A clinical interview based on the Mini International Neuropsychiatric Interview (MINI) and a semi-structured interview was conducted. Patients were asked about ‘ongoing’ suicidal ideation or plans for suicide.
Results: Forty-eight percent of patients received a diagnosis of bipolar disorder (BD), major depressive disorder (MDD) or an anxiety disorder; whereas, 17.1% were diagnosed with Schizophrenia or other non-affective psychosis. Patients with insomnia (compared to patients without insomnia) more frequently had a diagnosis of BD (23.9% vs. 12.4%) or MDD (13.3% vs. 9.5%; p < 0.001). Moreover, patients with insomnia less frequently had attempted suicide in the past 24 h (5.3% vs. 9.5%; p < 0.05) as compared with other patients, but those patients with insomnia who attempted suicide more frequently used a violent method (64.3% vs. 23.6%; p < 0.01) compared to other suicide attempters.
Conclusions: Our results do not support an association between insomnia and suicidal behaviour. However, suicide attempters with insomnia more frequently used violent methods, and this phenomenon should be taken into serious consideration by clinicians.
Predicting the risk of suicide by analyzing the text of clinical notes


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We developed linguistics-driven prediction models to estimate the risk of suicide. These models were generated from unstructured clinical notes taken from a national sample of U.S. Veterans Administration (VA) medical records. We created three matched cohorts: veterans who committed suicide, veterans who used mental health services and did not commit suicide, and veterans who did not use mental health services and did not commit suicide during the observation period (n = 70 in each group). From the clinical notes, we generated datasets of single keywords and multi-word phrases, and constructed prediction models using a machine-learning algorithm based on a genetic programming framework. The resulting inference accuracy was consistently 65% or more. Our data therefore suggests that computerized text analytics can be applied to unstructured medical records to estimate the risk of suicide. The resulting system could allow clinicians to potentially screen seemingly healthy patients at the primary care level, and to continuously evaluate the suicide risk among psychiatric patients.

Combined effects of physical illness and comorbid psychiatric disorder on risk of suicide in a national population study

Qin P, Hawton K, Mortensen PB, Webb R (Denmark, UK)


Background: People with physical illness often have psychiatric disorder and this comorbidity may have a specific influence on their risk of suicide.

Aims: To examine how physical illness and psychiatric comorbidity interact to influence risk of suicide, with particular focus on relative timing of onset of the two types of illness.

Method: Based on the national population of Denmark, individual-level data were retrieved from five national registers on 27 262 suicide cases and 468 007 gender-and birth-date matched living controls. Data were analysed using conditional logistic regression.

Results: Both suicides and controls with physical illness more often had comorbid psychiatric disorder than their physically healthy counterparts. Although both physical and psychiatric illnesses constituted significant risk factors for suicide, their relative timing of onset in individuals with comorbidity significantly differentiated the associated risk of suicide. While suicide risk was highly elevated when onsets of both physical and psychiatric illness occurred close in time to each other, regardless which came first, psychiatric comorbidity developed some time after onset of physical illness exacerbated the risk of suicide substantially.

Conclusions: Suicide risk in physically ill people varies substantially by presence of
psychiatric comorbidity, particularly the relative timing of onset of the two types of illness. Closer collaboration between general and mental health services should be an essential component of suicide prevention strategies.

**Canada-wide effect of regulatory warnings on antidepressant prescribing and suicide rates in boys and girls**

Rhodes AE, Skinner R, McFaull S, Katz LY (Canada)

*Canadian Journal of Psychiatry* 58, 640-645, 2013

**Objective:** To examine the impact of the Health Canada regulatory warnings regarding antidepressant (AD) prescribing on suicide rates in boys and girls under the age of 18 and aged 18 to 19 years in Canada between 2004 and 2009. We hypothesized that an increase in suicide rates would be specific to girls, reflecting higher AD prescribing rates in girls than boys.

**Method:** We graphed and tested the difference between Canada-wide suicide rates before and after the regulatory warning periods (either from 1995 to 2006 or from 1995 to 2009) in boys and girls under the age of 18 or aged 18 to 19 years. For comparison with prior studies, we estimated rate ratios and 95% confidence intervals using either Poisson regression or negative binomial regression.

**Results:** There was no statistically significant increase in suicide rates in girls under the age of 18, or aged 18 to 19 years in response to the AD regulatory warnings. In boys under the age of 18 or aged 18 to 19 years, suicide rates declined after 2003.

**Conclusions:** We did not find increased rates of suicide after the AD regulatory warnings in boys or girls under the age of 18 or aged 18 to 19 years in Canada-wide rates. However, this does not rule out the possibility that such an effect occurred in some jurisdictions in girls and (or) the regulatory warnings prevented the trend toward declining suicide rates. Factors influencing the downward trend in boys merit further attention.
“Talk” about male suicide? Learning from community programmes
Robinson M, Braybrook D, Robertson S (UK)
Mental Health Review Journal 18, 115-127, 2013

Purpose: The purpose of this paper is to examine the contribution of public awareness campaigning in developing community capacity toward preventing male suicide and explores emerging considerations for suicide prevention programme development.

Design/Methodology/Approach: The paper draws on campaign evaluation data, specifically qualitative discussion groups with the general public, to report results concerning campaign processes, and “interim” effectiveness in changing public awareness and attitudes, and then discusses how progress is to be lasting and transformational.

Findings: The campaign raised the awareness of a substantial proportion of those targeted, and affected attitudes and behaviour of those who were highly aware. The community settings approach was effective in reaching younger men, but there were challenges targeting the public more selectively, and engaging communities in a sustained way.

Practical Implications: The paper discusses emerging considerations for suicide prevention, focusing on gender and approaches and materials for engaging with the public as “influencers”. There are challenges to target audiences more specifically, provide a clear call to action, and engage the public in a sustained way.

Social Implications: The paper discusses emerging considerations for suicide prevention, focusing on gender and approaches and materials for engaging with the public as “influencers”. There are challenges to target audiences more specifically, provide a clear call to action, and engage the public in a sustained way.

Originality/Value: The paper adds fresh evidence of gendered communication processes, including their effects on public awareness, attitudes and engagement. Application of a theory of change model leads to systems level findings for sustaining programme gains.
Heavy episodic drinking and deliberate self-harm in young people: A longitudinal cohort study

Rossow I, Norström T (Norway)

Aim: To assess the association between heavy episodic drinking (HED) and deliberate self-harm (DSH) in young people in Norway.

Design, Setting, Participants, and Measurements: We analysed data on past year HED and DSH from the second (1994) and third (1999) waves of the Young in Norway Longitudinal Study (cumulative response rate: 68.1%, n = 2681). Associations between HED and DSH were obtained as odds ratios and population attributable fractions (PAF) applying fixed-effects modelling, which eliminates the effects of time-invariant confounders.

Findings: An increase in HED was associated with a 64% increase in risk of DSH (OR = 1.64, P = 0.013), after controlling for time-varying confounders. The estimated PAF was 28% from fixed-effects modelling and 51% from conventional modelling.

Conclusion: Data on Norwegian youths show a statistically significant association between heavy episodic drinking and deliberate self-harm.

Facing a patient who seeks help after a suicide attempt

Rothes IA, Henriques MR, Leal JB, Lemos MS (Portugal)
Crisis 35, 110-122, 2013

Background: Although intervention with suicidal patients is one of the hardest tasks in clinical practice, little is known about health professionals’ perceptions about the difficulties of working with suicidal patients.

Aims: The aims of this study were to: (1) describe the difficulties of professionals facing a suicidal patient; (2) analyze the differences in difficulties according to the sociodemographic and professional characteristics of the health professionals; and (3) identify the health professionals’ perceived skills and thoughts on the need for training in suicide.

Method: A self-report questionnaire developed for this purpose was filled out by 196 health professionals. Exploratory principal components analyses were used.

Results: Four factors were found: technical difficulties; emotional difficulties; relational and communicational difficulties; and family-approaching and logistic difficulties. Differences were found between professionals who had or did not have training in suicide, between professional groups, and between the number of patient suicide attempts. Sixty percent of the participants reported a personal need for training and 85% thought it was fundamental to implement training plans targeted at health professionals.

Conclusion: Specific training is fundamental. Experiential and active methodologies should be used and technical, relational, and emotional questions must be included in the training syllabus.
Smoking and suicidality in patients with a psychotic disorder
Sankaranarayanan A, Mancuso S, Castle D (Australia)
Psychiatry Research 215, 634-640, 2013

Background: Cigarette smoking has been associated with an increased risk of suicide. Patients with psychosis are more likely to smoke cigarettes and are also at an increased risk of suicide. The aim of this study was to compare risk for suicidal behavior among patients with psychosis who were current smokers, previous smokers and nonsmokers.

Methods: We studied 1812 of the 1825 participants who took part in the Australian Survey of High Impact Psychosis (SHIP) for whom smoking data was available. We identified predictors for lifetime suicide attempts using univariate logistic regression analysis. These variables were retained for the multiple logistic regression models if they were a significant predictor of lifetime suicide attempts. A series of multiple logistic regressions were then conducted to predict lifetime suicide attempts using current smoking status and lifetime smoking status as independent variables, respectively, while controlling for the retained predictor variables.

Results: Current smoking and lifetime smoking were statistically significant predictors of lifetime suicide attempts. However adding the covariates to a logistic regression model reduced this association to non-significance. The strongest predictors were self-harm in the past 12 months, the presence of lifetime depressive symptoms and a diagnosis of psychotic depression.

Conclusions: Identification of suicide risk factors is essential for successful suicide prevention. While previous research highlights the importance of cigarette smoking as an important risk factor for suicidal behaviors including in patients with psychosis, these results must be interpreted within the context of methodological issues.

Suicidal ideation and physical illness: Does the link lie with depression?
Sanna L, Stuart AL, Pasco JA, Kotowicz MA, Berk M, Girardi P, Williams LJ (Australia)
Journal of Affective Disorders 152-154, 422-426, 2014

Objective: Medical illness is a risk factor for suicidality; however, disorder-specific risks are not well-known and these relationships are often explained by major depressive disorder (MDD). We aimed to investigate the relationship between suicidal ideation, MDD and medical illnesses in an age-stratified, population-based sample of men participating in the Geelong Osteoporosis Study.

Methods: Suicidal ideation and medical conditions were self-reported. Medical conditions were confirmed by medical records, medication use or clinical data where possible. MDD was determined using the Structured Clinical Interview for DSM-IV-TR Research Version, Non-patient edition.

Results: Of the 907 men, 8.5% reported suicidal ideation. Thyroid disorders (OR
3.85, 95%CI 1.2-12.1), syncope and seizures (OR 1.96, 95%CI 1.1-3.5), liver disorders (OR 3.53, 95%CI 1.1-11.8; younger men only) and alcoholism (OR 2.15, 95%CI 1.1-4.4) were associated with increased odds of suicidal ideation, independent of age and MDD. Major vascular events doubled the odds of suicidal ideation but this was explained by MDD. No association was evident with high medical burden, musculoskeletal disease, metabolic factors, gastrointestinal disorders, headaches, cardiovascular disease, COPD, cancer and psoriasis.

**Conclusion:** Health care professionals should focus on identification, assessment and management of suicidal ideation in the medically ill in patients both with and without MDD.

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**Service use in adolescents at risk of depression and self-harm: Prospective longitudinal study**

Sayal K, Yates N, Spears M, Stallard P (UK)

*Social Psychiatry and Psychiatric Epidemiology.* Published online: 26 February 2014. doi: 10.1007/s00127-014-0843-y, 2014

**Purpose:** Although depression and self-harm are common mental health problems in adolescents, there are barriers to accessing help. Using a community-based sample, this study investigates predictors of service contacts for adolescents at high risk of depression and self-harm.

**Methods:** Three thousand seven hundred and forty-nine (3,749) 12- to 16-year-olds in UK secondary (high) schools provided baseline and 6 months’ follow-up data on mood, self-harm and service contacts with a range of primary and secondary healthcare services.

**Results:** Although most adolescents at high risk of depression or self-harm had seen their general practitioner (GP) in the previous 6 months, less than one-third had used primary or secondary healthcare services for emotional problems. 5 % of adolescents who reported self-harm had seen specialist child and adolescent mental health services in the previous 6 months. In longitudinal analyses, after adjustment for confounders, both depression and self-harm predicted the use of any healthcare services [adjusted odds ratio (AOR) = 1.34 (95 % CI 1.09, 1.64); AOR = 1.38 (95 % CI 1.02, 1.86), respectively] and of specialist mental health services [AOR = 5.48 (95 % CI 2.27, 13.25); AOR = 2.58 (95 % CI 1.11, 6.00), respectively]. Amongst those with probable depression, 79 % had seen their GP and 5 % specialist mental health services in the preceding year.

**Conclusions:** Most adolescents at high risk of depression or self-harm see their GP over a 6-month period although only a minority of them access specialist mental health services. Their consultations within primary care settings provide a potential opportunity for their identification and for signposting to appropriate specialist services.
Collective levels of stigma and national suicide rates in 25 European countries

Schomerus G, Evans-Lacko S, Rusch N, Mojtabai R, Angermeyer MC, Thornicroft G (Germany, UK, USA, Italy, Austria)

Epidemiology and Psychiatric Sciences. Published online: 27 February 2014. doi:10.1017/S2045796014000109, 2014

**Aims:** There is substantial diversity in national suicide rates, which has mainly been related to socio-economic factors, as well as cultural factors. Stigma is a cultural phenomenon, determining the level of social acceptance or rejection of persons with mental illness in a society. In this study, we explore whether national suicide rates are related to the degree of mental illness stigma in that country.

**Methods:** We combine the data on country-level social acceptance (Eurobarometer) with the data on suicide rates and socio-economic indicators (Eurostat) for 25 European countries.

**Results:** In a linear regression model controlling for socio-economic indicators, the social acceptance of someone with a significant mental health problem in 2010 was negatively correlated with age standardised national suicide rates in the same year (beta -0.46, p = 0.014). This association also held true when combining national suicide rates with death rates due to events of undetermined intent.

**Conclusions:** Stigma towards persons with mental health problems may contribute to differences in suicide rates in a country. We hypothesise possible mechanisms explaining this link, including stigma as a stressor and social isolation as a consequence of stigma.

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Which symptoms of post-traumatic stress disorder are associated with suicide attempts?

Selaman ZMH, Chartrand HK, Bolton JM, Sareen J (Canada)

Journal of Anxiety Disorders 28, 246-251, 2014

Individuals with post-traumatic stress disorder are at increased risk for suicide attempts. The present study aimed to determine which of the specific DSM-IV symptoms of post-traumatic stress disorder (PTSD) are independently associated with suicide attempts. Data came from Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). The NESARC has a sample size of N = 34 653. The full sample size included in analyses was 2322 individuals with PTSD. Among individuals with lifetime PTSD, after adjusting for sociodemographic factors, as well as any mood, substance, personality, or anxiety disorder (excluding PTSD), increasing numbers of re-experiencing and avoidance symptoms were significantly correlated with suicide attempts. Of the specific symptoms, having physical reactions by reminders of the trauma, being unable to recall some part of it, and having the sense of a foreshortened future, were all associated with suicide attempts. These findings will help extend our understanding of the elevated risk for suicide attempts in individuals with PTSD.
Persistence and resolution of suicidal ideation during treatment of depression in patients with significant suicidality at the beginning of treatment: The crescend study
Seo HJ, Jung YE, Jeong S, Kim JB, Lee MS, Kim JM, Yim HW, Jun TY (Korea)
Journal of Affective Disorders 155, 208-215, 2013

Background: The appropriate length of time for patients who visit clinics with significant suicidal ideation to be closely monitored is a critical issue for clinicians. We evaluated the course of suicidal ideation and associated factors for persistent suicidality in patients who entered treatment for depression with significant suicidal ideation.

Methods: A total of 565 patients who had both moderate to severe depression (Hamilton Depression Rating Scale (HAMD) score \( \geq 14 \)) and significant suicidal ideation (Beck Scale for Suicide Ideation (SSI-B) score \( \geq 6 \)) were recruited from 18 hospitals in South Korea. Participants were assessed using the SSI-B, HAMD, Hamilton Anxiety Rating Scale, and Clinical Global Impression Scale-severity during a 12-week naturalistic treatment with antidepressant intervention. Participants were classified into resolved suicidality or persistent suicidality groups according to whether their suicidal ideation improved to SSI-B scores <6 and were sustained for 12 weeks.

Results: During the 12-week treatment, 206 (36.4%) patients were classified in the resolved suicidality group. Persistent suicidality was associated with intervention with SSRIs, higher SSI-B baseline score, and no HAMD or HAMA remission. The proportions of participants who had persistent suicidal ideation even with HAMD remission or response were 0.25 and 0.34, respectively.

Limitations: This study was observational, and the treatment modality was naturalistic.

Conclusions: A considerable number of patients had persistent suicidal ideation despite 12 weeks of antidepressant treatment. Close monitoring for suicidal ideation may be needed beyond the initial weeks of treatment and even after a response to antidepressants is observed.
Suicidal ideations and attempts among adolescents subjected to childhood sexual abuse and family conflict/violence: The mediating role of anger and depressed mood

Sigfusdottir ID, Asgeirsdottir BB, Gudjonsson GH, Sigurdsson JF (Iceland, USA, UK)
Journal of Adolescence 36, 1227-1236, 2013

Based on a sample of 9085 16- to 19-year-old students attending all high schools in Iceland in 2004, the current study examines depressed mood and anger as potential mediators between family conflict/violence and sexual abuse, on the one hand, and suicidal ideations and suicide attempts on the other. Agnew’s general strain theory provides the theoretical framework for the study. Structural equation modelling (SEM) was conducted allowing explicit modelling of both direct and mediating effects using observed and latent variables. The findings showed that both depressed mood and anger mediated the relationship between family conflict/violence and sexual abuse and suicidal attempts. However, when testing the mediating pathways between sexual abuse and family conflict/violence and suicidal ideations, only depressed mood but not anger turned out to be a significant mediator. The authors discuss how these finding may inform and facilitate the design and development of interventions to reduce the likelihood of suicide attempts among young people.

Characterizing suicide in Toronto: An observational study and cluster analysis

Sinyor M, Schaffer A, Streiner DL (Canada)
Canadian Journal of Psychiatry 59, 26-33, 2014

Objective: To determine whether people who have died from suicide in a large epidemiologic sample form clusters based on demographic, clinical, and psychosocial factors.

Method: We conducted a coroner’s chart review for 2886 people who died in Toronto, Ontario, from 1998 to 2010, and whose death was ruled as suicide by the Office of the Chief Coroner of Ontario. A cluster analysis using known suicide risk factors was performed to determine whether suicide deaths separate into distinct groups. Clusters were compared according to person- and suicide-specific factors.

Results: Five clusters emerged. Cluster 1 had the highest proportion of females and nonviolent methods, and all had depression and a past suicide attempt. Cluster 2 had the highest proportion of people with a recent stressor and violent suicide methods, and all were married. Cluster 3 had mostly males between the ages of 20 and 64, and all had either experienced recent stressors, suffered from mental illness, or had a history of substance abuse. Cluster 4 had the youngest people and the highest proportion of deaths by jumping from height, few were married, and nearly one-half had bipolar disorder or schizophrenia. Cluster 5 had all unmarried people with no prior suicide attempts, and were the least likely to have an identified mental illness and most likely to leave a suicide note.
Conclusions: People who die from suicide assort into different patterns of demographic, clinical, and death-specific characteristics. Identifying and studying subgroups of suicides may advance our understanding of the heterogeneous nature of suicide and help to inform development of more targeted suicide prevention strategies.

Suicide bereavement and the media: A qualitative study
Skehan J, Maple M, Fisher J, Sharrock G (Australia)
Advances in Mental Health 11, 223-237, 2013

While there has been international interest in the reporting of suicide and the potential impact on community behaviour, research has yet to consider the specific impact of media reporting on those bereaved by suicide. Nor has the research considered the potential impact that reports focussed on suicide bereavement may have on community behaviour. The suicide bereavement literature has generally focussed on describing the unique experiences and needs of people bereaved by suicide, but specific considerations, such as interaction with the media, are generally absent from the discussion. In the present study a series of focus groups with people bereaved by suicide and key informant interviews with media professionals, postvention workers, police, coroners and people bereaved by suicide were conducted. Results show that there can be considerable variation in how people bereaved by suicide view media coverage and the reported impacts that exposure to, or involvement in, stories about suicide can have. It highlights a need to consider resources and service models to brief and support those bereaved by suicide when interacting with the media and expansion of current resources and training for journalists that considers the challenges of interacting with people who are bereaved.

Mental health follow-up among adolescents with suicidal behaviors after emergency department discharge
Sobolewski B, Richey L, Kowatch RA, Grupp-Phelan J (USA)
Archives of Suicide Research 17, 323-334, 2013

The objective of this study was to examine mental health follow-up patterns and need for additional urgent ED evaluation in adolescents discharged home from a pediatric ED after an evaluation for suicidal ideation or attempt. In the study, the parent or guardian of suicidal youth ages 11 to 18 years who were discharged from the pediatric ED were interviewed by telephone between 1 and 2 months following the initial visit and asked about their child’s suicide risk, mental health follow-up, return ED visits, and previous mental health experiences. ED records were also examined for return visits. A parent or guardian of 100 suicidal adolescents was interviewed by telephone. Most (66%) successfully followed up with a mental health provider. Mental health follow-up was more likely in those with an existing psychiatric diagnosis (OR: 3.03 [95% CI: 1.02-9.05]). The majority of those that
returned to the ED within 2 months of their initial evaluation for mental health reasons were admitted [92% (19/21)]. The odds of an ED return visit were increased by a prior inpatient psychiatric admission (OR: 5.23 [95% CI: 1.80-15.16]), and a suicide attempt immediately prior to the initial ED visit (OR: 4.87 [95% CI: 1.04-22.69]). Many suicidal youth who are discharged from the ED successfully follow up with an outpatient mental health provider. However, a significant number do return to the ED within 2 months and require inpatient psychiatric admission. Future ED based interventions should focus on adolescents who attempt suicide and those with a history of prior inpatient admission.

**Suicide attempts in chronic pain patients. A register-based study**

Stenager E, Christiansen E, Handberg G, Jensen B (Denmark)  
*Scandinavian Journal of Pain* 5, 4-7, 2013

**Background:** There are several studies about the relationship between depression and chronic non-malignant pain. These studies have shown that up to 50% of chronic pain patients are suffering from depression. It is, therefore, reasonable to expect that pain patients would also have an increased risk of suicidal behaviour. This problem is not well studied. Since 1990 the Centre for Suicide Research, Odense, Denmark has registered all suicide attempts in patients residing in the Region of Funen, Denmark. The Pain Clinic, Odense University Hospital receives patients with chronic pain from the entire Region of Southern Denmark.

**Purpose:** The purpose of the study has been: To investigate, whether patients treated in the Pain Clinic during the period from 1 January 2004 to 31 December 2009 had an increased risk of suicide attempts compared with the background population.

**Materials and Methods:** The Register for Suicide Attempts (RSA) is a product of the WHO research programme WHO/EURO Multicentre Study on Para suicide. The RSA is a longitudinal person-based register. It contains information about people who have been in contact with the health care system in the County of Funen as a result of a suicide attempt. The Pain Clinic, Odense University Hospital receives patients with non-malignant chronic pain from the Region of Southern Denmark with 1,194,659 inhabitants. Data about age, sex, and time of treatment for patients treated in the Pain Clinic during the period were registered. Time and method of the suicide attempts were registered in the RSA. By registry linkages between the patient registers it was possible to calculate any excess risk of suicide attempts in chronic pain patients in the study period. We used a cohort design and calculated incidence rates (IR) and incidence rate ratios (IRRs) for suicide attempts, based on data from RSA. Poisson Regression analyses were used for calculation of IR and IRR for suicide attempts.

**Results:** In the study period from 1 January 2004 to 31 December 2009 1871 patients residing in the Region of Funen in Denmark were referred to The Pain Clinic. In the patient group 258 suicide attempts in 110 persons were registered. In all 6% of the patient group had attempted suicide. An increased risk of suicide
attempts was found in the pain population as the incidence rate ratio (IRR) was 3.76 95% CI (3.22; 4.40). No statistical significant differences between men and women were found.

Conclusion: In a chronic non-malignant pain population, referred to a pain clinic, the risk of suicide attempts was increased.

Implications: It is important to be aware of risk factors for suicidal behaviour, i.e. pain history, depression, anxiety, abuse problems, and social problems when caring for patients with chronic pain. More knowledge and training of the staff caring for chronic pain patients are needed to decrease the risk of suicidal behaviour.

Sexual orientation and suicide ideation, plans, attempts, and medically serious attempts: Evidence from local youth risk behavior surveys, 2001-2009

Objectives: We examined the associations between 2 measures of sexual orientation and 4 suicide risk outcomes (SROs) from pooled local Youth Risk Behavior Surveys.

Methods: We aggregated data from 5 local Youth Risk Behavior Surveys from 2001 to 2009. We defined sexual minority youths (SMYs) by sexual identity (lesbian, gay, bisexual) and sex of sexual contacts (same- or both-sex contacts). Survey logistic regression analyses controlled for a wide range of suicide risk factors and sample design effects.

Results: Compared with non-SMYs, all SMYs had increased odds of suicide ideation; bisexual youths, gay males, and both-sex contact females had greater odds of suicide planning; all SMYs, except same-sex contact males, had increased odds of suicide attempts; and lesbians, bisexuals, and both-sex contact youths had increased odds of medically serious attempts. Unsure males had increased odds of suicide ideation compared with heterosexual males. Not having sexual contact was protective of most SROs among females and of medically serious attempts among males.

Conclusions: Regardless of sexual orientation measure used, most SMY subgroups had increased odds of all SROs. However, many factors are associated with SROs.
Suicide attempts and mortality in eating disorders: A follow-up study of eating disorder patients
Suokas JT, Suvisaari JM, Grainger M, Raevuori A, Gissler M, Haukka J (Finland)
General Hospital Psychiatry 36, 355-357, 2014

Objective: The aim of this study is to explore the prevalence of hospital-treated suicide attempts in a large clinical population of eating disorder patients.

Method: Follow-up study of adults (N = 2462, 95% women, age 18-62 years) admitted to the Eating Disorder Clinic of Helsinki University Central Hospital in the period 1995-2010. For each patient, four controls were selected and matched for age, sex and place of residence. The end point events were modeled using Cox’s proportional hazard model, taking matching into account.

Results: We identified 156 patients with eating disorder (6.3%) and 139 controls (1.4%) who had required hospital treatment for attempted suicide. Of them, 66 (42.3%) and 37 (26.6%) had more than one attempt. The rate ratio (RR) for suicide attempt in patients with eating disorder was 4.70 [95% confidence interval (CI) 1.41-15.74]. In anorexia nervosa, RR was 8.01 (95% CI 5.40-11.87), and in bulimia nervosa, it was 5.08 (95% CI 3.46-7.42). In eating disorder patients with a history of suicide attempt, the risk of death from any cause was 12.8%, suicide being the main cause in 45% of the deaths.

Conclusion: Suicide attempts and repeated attempts are common among patients with eating disorders. Suicidal ideation should be routinely assessed from patients with eating disorders.

How to decrease suicide rates in both genders? An effectiveness study of a community-based intervention (EAAD)
Székely A, Thege BK, Mergl R, Birkás E, Rózsa S, Purebl G, Hegerl U (Hungary, Canada, Germany)
PLoS ONE. Published online: 23 September 2013. doi: 10.1371/journal.pone.0075081, 2013

Background: The suicide rate in Hungary is high in international comparison. The two-year community-based four-level intervention programme of the European Alliance Against Depression (EAAD) is designed to improve the care of depression and to prevent suicidal behaviour. Our aim was to evaluate the effectiveness of a regional community-based four-level suicide prevention programme on suicide rates.

Method: The EAAD programme was implemented in Szolnok (population 76,311), a town in a region of Hungary with an exceptionally high suicide rate. Effectiveness was assessed by comparing changes in suicide rates in the intervention region after the intervention started with changes in national suicide rates and those in a control region (Szeged) in the corresponding period.

Results: For the duration of the programme and the follow-up year, suicide rates in Szolnok were significantly lower than the average of the previous three years (p = .0076). The suicide rate thus went down from 30.1 per 100,000 in 2004 to 13.2
in 2005 (-56.1 %), 14.6 in 2006 (-51.4 %) and 12.0 in 2007 (-60.1 %). This decrease of annual suicide rates in Szolnok after the onset of the intervention was significantly stronger than that observed in the whole country (p = .017) and in the control region (p = .0015). Men had the same decrease in suicide rates as women. As secondary outcome, an increase of emergency calls to the hotline service (200%) and outpatient visits at the local psychiatry clinic (76%) was found.

**Conclusions:** These results seem to provide further support for the effectiveness of the EAAD concept. Whilst the majority of suicide prevention programs mainly affect female suicidal behaviour, this programme seems to be beneficial for both sexes. The sustainability and the role of the mediating factors (social service and health care utilization, community attitudes about suicide) should be key points in future research.

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**Smoking cessation treatment and risk of depression, suicide, and self harm in the clinical practice research datalink: Prospective cohort study**

Thomas KH, Martin RM, Davies NM, Metcalfe C, Windmeijer F, Gunnell D (UK)

*British Medical Journal* 347, f5704, 2013

**Objective:** To compare the risk of suicide, self harm, and depression in patients prescribed varenicline or bupropion with those prescribed nicotine replacement therapy.

**Design:** Prospective cohort study within the Clinical Practice Research Datalink.

**Setting:** 349 general practices in England.

**Participants:** 119546 men and women aged 18 years and over who used a smoking cessation product between 1 September 2006 and 31 October 2011. There were 81545 users of nicotine replacement products (68.2% of all users of smoking cessation medicines), 6741 bupropion (5.6%), and 31260 varenicline (26.2%) users.

**Main Outcome Measures:** Outcomes were treated depression and fatal and non-fatal self harm within three months of the first smoking cessation prescription, determined from linkage with mortality data from the Office for National Statistics (for suicide) and Hospital Episode Statistics data (for hospital admissions relating to non-fatal self harm). Hazard ratios or risk differences were estimated using Cox multivariable regression models, propensity score matching, and instrumental variable analysis using physicians’ prescribing preferences as an instrument. Sensitivity analyses were performed for outcomes at six and nine months.

**Results:** We detected 92 cases of fatal and non-fatal self harm (326.5 events per 100000 person years) and 1094 primary care records of treated depression (6963.3 per 100000 person years). Cox regression analyses showed no evidence that patients prescribed varenicline had higher risks of fatal or non-fatal self harm (hazard ratio 0.88, 95% confidence interval 0.52 to 1.49) or treated depression (0.75, 0.65 to 0.87) compared with those prescribed nicotine replacement therapy.
There was no evidence that patients prescribed bupropion had a higher risk of fatal or non-fatal self harm (0.83, 0.30 to 2.31) or of treated depression (0.63, 0.46 to 0.87) compared with patients prescribed nicotine replacement therapy. Similar findings were obtained using propensity score methods and instrumental variable analyses.

**Conclusions:** There is no evidence of an increased risk of suicidal behaviour in patients prescribed varenicline or bupropion compared with those prescribed nicotine replacement therapy. These findings should be reassuring for users and prescribers of smoking cessation medicines.

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**The effects of media reports of suicides by well-known figures between 1989 and 2010 in Japan**

Ueda M, Mori K, Matsubayashi T (Japan)


**Background:** Many studies have shown that media reporting of suicide incidents can trigger suicidal behaviours in viewers and readers. Yet little is known about the exact timing and duration of the imitative effects.

**Methods:** We estimated the Poisson regression model using original data on 109 celebrity suicides and daily suicide counts (n = 8035) in Japan from 1989 through 2010. Various fixed effects were included in the model to control for the effects of seasonal variations and time-specific shocks.

**Results:** The media reports on celebrity suicides were associated with an immediate increase in total suicides. The total number of suicides increased by 4.6% (95% confidence interval (CI): 2.4-6.7) on the day that media reports on celebrity suicides were published. The increase during the post-report period lasted for about 10 days after the publication of news reports. The average effect of celebrity suicides on total suicides over the 10-day post-reporting period was estimated to be highest when the suicide by nationally recognized politicians was reported (14.8%; CI: 10.9-18.7), whereas reports on the deaths of entertainment celebrities were followed by a 4.7% increase (CI: 2.9-6.5) in suicide counts.

**Conclusions:** This study presents evidence that media reports on celebrity suicides have an immediate impact on the number of suicides in the general population. Our findings also highlight the importance of responsible and cautious media reporting on suicide.
What factors determine disclosure of suicide ideation in adults 60 and older to a treatment provider?

Unützer J, Lin EH, Vannoy SD, Duberstein PR, Cukrowicz KC (USA)

*Suicide and Life-Threatening Behavior.* Published online: 3 February 2014. doi: 10.1111/sltb.12075, 2014

Correlates of patient disclosure of suicide ideation to a primary care or mental health provider were identified. Secondary analyses of IMPACT trial data were conducted. Of the 107 patients 60 years of age or older who endorsed thoughts of ending their life at least “a little bit” during the past month, 53 indicated they had disclosed these thoughts to a mental health or primary care provider during this period. Multiple logistic regression was used to identify predictors of disclosure to a provider. Significant predictors included poorer quality of life and prior mental health specialty treatment. Among participants endorsing thoughts of suicide, the likelihood of disclosing these thoughts to a provider was 2.96 times higher if they had a prior history of mental health specialty treatment and 1.56 times higher for every one-unit decrease in quality of life. Variation in disclosure of thoughts of suicide to a mental health or primary care provider depends, in part, on patient characteristics. Although the provision of evidence-based suicide risk assessment and guidelines could minimize unwanted variation and enhance disclosure, efforts to routinize the process of suicide risk assessment should also consider effective ways to lessen potential unintended consequences.

The effect of shame-proneness, guilt-proneness, and internalizing tendencies on nonsuicidal self-injury

Vanderhei S, Rojahn J, Stuewig J, McKnight PE (USA)

*Suicide and Life-Threatening Behavior.* Published online: 7 December 2013. doi: 10.1111/sltb.12069, 2013

Nonsuicidal self-injury is especially common in adolescents and young adults. Self-injury may be related to shame or guilt-two moral emotions—as these differentially predict other maladaptive behaviors. Using a college sample, we examined not only how shame-proneness, guilt-proneness, and internalizing emotional tendencies related to self-injury, but also whether these moral emotions moderate the relation between internalizing tendencies and self-injury. High shame-proneness was associated with higher frequencies of self-injury. High guilt-proneness was associated with less self-injury, although this effect was mitigated at higher levels of internalizing tendencies. These results suggest shame-proneness is a risk factor for self-injury, while guilt-proneness is protective.
“Rebuilding our community”: Hearing silenced voices on Aboriginal youth suicide

Walls ML, Hautala D, Hurley J (USA)
*Transcultural Psychiatry* 51, 47-72, 2013

This paper brings forth the voices of adult Aboriginal First Nations community members who gathered in focus groups to discuss the problem of youth suicide on their reserves. Our approach emphasizes multilevel (e.g., individual, family, and broader ecological systems) factors viewed by participants as relevant to youth suicide. Wheaton’s conceptualization of stressors and Evans-Campbell’s multilevel classification of the impacts of historical trauma are used as theoretical and analytic guides. Thematic analysis of qualitative data transcripts revealed a highly complex intersection of stressors, traumas, and social problems seen by community members as underlying mechanisms influencing heightened levels of Aboriginal youth suicidality. Our multilevel coding approach revealed that suicidal behaviors were described by community members largely as a problem with deep historical and contemporary structural roots, as opposed to being viewed as individualized pathology.

Suicidality in primary care patients with somatoform disorders

Wiborg JF, Gieseler D, Fabisch AB, Voigt K, Lautenbach A, Lowe B (Germany)
*Psychosomatic Medicine* 75, 800-806, 2013

**Objective:** To examine rates of suicidality in primary care patients with somatoform disorders and to identify factors that might help to understand and manage active suicidal ideation in these patients.

**Methods:** We conducted a cross-sectional study screening 1645 primary care patients. In total, 142 patients fulfilled the criteria for a somatoform disorder. Suicidality and illness perceptions were assessed in these patients.

**Results:** Of the 142 patients, 23.9% had active suicidal ideation during the previous 6 months; 17.6% had attempted to commit suicide in the past, the majority after onset of the somatoform symptoms. We tested two models with suicidal ideation as a dependent variable. In the first model, comorbid symptoms of depression (odds ratio [OR] = 1.17, 95% confidence interval [CI] = 1.03-1.33) and previous suicide attempts (OR= 3.02, 95% CI = 1.06-8.62) were significantly associated with suicidal ideation. Comorbid symptoms of anxiety did not yield significance. Illness perceptions and age of onset of the symptoms were then added to this model to test the role of somatoform-specific factors in addition to previous factors. In the complete model, comorbid symptoms of depression (OR = 1.15, 95% CI = 1.00-1.32) and dysfunctional illness perceptions (OR = 1.06, 95% CI = 1.01-1.11) were independently associated with active suicidal ideation, whereas the other factors did not yield significance.

**Conclusions:** According to our data, suicidality seems to be a substantial problem in primary care patients with somatoform disorders. Dysfunctional illness perceptions may play a vital role in the understanding and management of active suicidal ideation in these patients, in addition to more established factors.
The relationship between suicide and violence in schizophrenia: Analysis of the clinical antipsychotic trials of intervention effectiveness (CATIE) dataset

Witt K, Hawton K, Fazel S (UK)
*Schizophrenia Research* 154, 61-67, 2014

**Background:** Suicide and violence often co-occur in the general population as well as in mentally ill individuals. Few studies, however, have assessed whether these suicidal behaviors are predictive of violence risk in mental illness.

**Aims:** The aim of this study is to investigate whether suicidal behaviors, including suicidal ideation, threats, and attempts, are significantly associated with increased violence risk in individuals with schizophrenia.

**Method:** Data for these analyses were obtained from the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) trial, a randomized controlled trial of antipsychotic medication in 1460 adults with schizophrenia. Univariate Cox regression analyses were used to calculate hazard ratios (HRs) for suicidal ideation, threats, and attempts. Multivariate analyses were conducted to adjust for common confounding factors, including: age, alcohol or drug misuse, major depression, antisocial personality disorder, depression, hostility, positive symptom, and poor impulse control scores. Tests of discrimination, calibration, and reclassification assessed the incremental predictive validity of suicidal behaviors for the prediction of violence risk.

**Results:** Suicidal threats and attempts were significantly associated with violence in both males and females with schizophrenia with little change following adjustment for common confounders. Only suicidal threats, however, were associated with a significant increase in incremental validity beyond age, diagnosis with a comorbid substance use disorder, and recent violent behavior.

**Conclusions:** Suicidal threats are independently associated with violence risk in both males and females with schizophrenia, and may improve violence risk prediction.

Detection of suicide among the elderly in a long term care facility

Wongpakaran T, Wongpakaran N (Thailand)
*Clinical Interventions in Aging* 8, 1553-1559, 2013

**Purpose:** The aim of this study was to establish the level of correlation between the suicide item contained within the Core Symptom Index (CSI), and the presence of suicidal thoughts as assessed by the Mini-International Neuropsychiatric Interview (MINI) and the Cornell Scale of Depression in Dementia (CSDD).

**Patients and Methods:** Seventy elderly residents in a long term care facility were included in this study. All of these patients completed a CSI and a geriatric depression scale (GDS), plus were interviewed using CSDD, MINI (suicide module), and MMSE. Test characteristics of item two of the CSI (suicidal thoughts) and MINI were compared. Gwet’s AC1 and Cohen’s Kappa were also used to test the level of
agreement between raters, and univariate analysis was used to determine predictors for the severity of any suicidal thoughts present.

**Results:** There was found to be a significant correlation between suicidal ideation, as assessed by item two of the CSI, and the suicidal ideation score as assessed by MINI and CSDD \((r=0.773 \text{ and } r=0.626, P<0.001, \text{ respectively})\). The level of agreement across all three instruments was good \((\text{Gwet’s AC1 } =0.907)\). The CSI yielded a high level of sensitivity \((100\%)\) and specificity \((90.32\%)\) for suicidal thoughts as measured by MINI, with an area under the curve of 97\%. When assessing predictors of the severity of suicidal thoughts, only item two of the CSI predicted severity, while the depression, GDS, and total scores obtained from the CSI did not.

**Conclusion:** CSI item two has the ability to detect suicidal ideation, regardless of whether the patient has cognitive impairment and/or depression or not, and is currently the best predictor of its presence. Therefore, it shows promise as a measure for screening the presence of suicidal thoughts among the elderly in long term care facilities.

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**Suicide among older people in relation to their subjective and objective well-being in different European regions**


The aim of this study was to establish how different types of welfare states shape the context of the everyday life of older people by influencing their subjective well-being, which in turn might manifest itself in suicide rates. Twenty-two European countries studied were divided into Continental, Nordic, Island, Southern, and post-socialist countries, which were subdivided into Baltic, Slavic, and Central-Eastern groups based on their socio-political and welfare organization. Suicide rates, subjective well-being data, and objective well-being data were used as parameters of different welfare states and obtained from the World Health Organization European Mortality Database, European Social Survey, and Eurostat Database. This study revealed that the suicide rates of older people were the highest in the Baltic countries, while in the Island group, the suicide rate was the lowest. The suicide rate ratios between the age groups 65+ and 0-64 were above 1 \((\text{from 1.2 to 2.5})\), except for the group of the Island countries with a suicide rate ratio of 0.8. Among subjective well-being indicators, relatively high levels of life satisfaction and happiness were revealed in Continental, Nordic, and Island countries. Objective well-being indicators like old age pension, expenditure on old age, and social protection benefits in GDP were the highest in the Continental countries. The expected inverse relationship between subjective well-being indicators and suicide rates among older people was found across the 22 countries. We conclude that welfare states shape the context and exert influence on subjective well-being, and thus may lead to variations in risk of suicide at the individual level.
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