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Foreword

This volume contains quotations from internationally peer-reviewed suicide research published during the semester November 2012 – April 2013; it is the ninth of a series produced biannually by our Institute with the aim of assisting the Commonwealth Department of Health and Ageing in being constantly updated on new evidences from the scientific community. Compared to previous volumes, an increased number of examined materials have to be referred. In fact, during the current semester, the number of articles scrutinised has been the highest yet, with a progression that testifies a remarkably growing interest from scholars for the field of suicide research (718 articles for the first, 757 for the second, 892 for the third, 1,121 for the fourth, 1,276 for the fifth, 1,472 for the sixth, 1,515 for the seventh, 1,743 for the eighth and 1,751 in the present volume).

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 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

This report has been produced by the Australian Institute for Suicide Research and Prevention, WHO Collaborating Centre for Research and Training in Suicide Prevention and National Centre of Excellence in Suicide Prevention. The assistance of the Commonwealth Department of Health and Ageing in the funding of this report is gratefully acknowledged.
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 2009, 2,132 deaths by suicide were registered in Australia, representing an age-standardized rate of 9.6 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 and Ageing (DoHA) 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 behavior and recommended practices in preventing and responding to these behaviors. 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 behaviors 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 2012 and April 2013; 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 2012 to April 2013. 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, suicidal, self-harm, self-injury and 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 2012 and April 2013.
- 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 8 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 scientificity (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
- 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.

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**Figure 1 Flowchart of process.**
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
Factors associated with suicidal thoughts in a large community study of older adults

Almeida OP, Draper B, Snowdon J, Lautenschlager NT, Pirkis J, Byrne G, Sim M, Stocks N, Flicker L, Pfaff JJ (Australia)

British Journal of Psychiatry 201, 466-472, 2012

Background: Thoughts about death and self-harm in old age have been commonly associated with the presence of depression, but other risk factors may also be important.

Aims: To determine the independent association between suicidal ideation in later life and demographic, lifestyle, socioeconomic, psychiatric and medical factors.

Method: A cross-sectional study was conducted of a community derived sample of 21,290 adults aged 60-101 years enrolled from Australian primary care practices. We considered that participants endorsing any of the four items of the Depressive Symptom Inventory — Suicidality Subscale were experiencing suicidal thoughts. We used standard procedures to collect demographic, lifestyle, psychosocial and clinical data. Anxiety and depressive symptoms were assessed with the Hospital Anxiety and Depression Scale.

Results: The 2-week prevalence of suicidal ideation was 4.8%. Male gender, higher education, current smoking, living alone, poor social support, no religious practice, financial strain, childhood physical abuse, history of suicide in the family, past depression, current anxiety, depression or comorbid anxiety and depression, past suicide attempt, pain, poor self perceived health and current use of antidepressants were independently associated with suicidal ideation. Poor social support was associated with a population attributable fraction of 38.0%, followed by history of depression (23.6%), concurrent anxiety and depression (19.7%), prevalent anxiety (15.1%), pain (13.7%) and no religious practice (11.4%).

Conclusions: Prevalent and past mood disorders seem to be valid targets for indicated interventions designed to reduce suicidal thoughts and behaviour. However, our data indicate that social disconnectedness and stress account for a larger proportion of cases than mood disorders. Should these associations prove to be causal, then interventions that succeeded in addressing these issues would contribute the most to reducing suicidal ideation and, possibly, suicidal behaviour in later life.

Declaration of interest: None.

Comment

Main findings: While often hidden or disguised, suicidal thoughts are shown to precede suicide in older adults and the elderly1. In an effort to address this, suicide prevention strategies for older populations have mainly focused on detecting and managing depression and anxiety. Although depression and anxiety are correlated with suicidal thoughts, collaborative care strategies aimed at reducing the severity of depression and the prevalence of suicidal ideation in older populations have reported only moderate success in decreasing suicide. In addition to psychiatric
and clinical factors, this study explored independent socio-demographic and lifestyle factors that predicted suicidal ideation in older adults in Australia. Significant predictors of suicidal ideation included living alone, poor social support, financial stress, physical abuse during childhood, suicide in the family, but also pain, use of anti-depressants, anxiety and depression and past suicide attempt. Older adults with suicidal ideation were more likely to be educated non-religious males. These results were derived from an Australian cross-sectional study where a questionnaire was sent to all participants over 60 years old in primary care practices located in New South Wales, Queensland, South Australia, Victoria, and Western Australia. A total of 21 290 questionnaires were returned out of the 35 099 that were tracked. To date this is the most in-depth study to explore the demographic, lifestyle, socioeconomic and clinical factors associated with older persons’ suicidal ideation.

**Implications:** This large community-based Australian study has important implications to suicide prevention in older populations, who have shown high suicide rates, especially males aged 75 years and over (25.2 per 100 000 compared to the total age-standardised male rate of 16.3 in 2010 preliminary data). As indicated by the authors, while many of the older adults who experienced suicidal ideation had a history of anxiety or depression and a past suicide attempt; social factors, such as poor perceived social support and living alone, were also independently associated with suicidal ideation. Consequently, focusing older population suicide prevention strategies on mood disorders may have only limited impact on the overall prevalence of suicide ideation. Providing more social support for older populations by telephone support and befriending, could contribute to the reduction of high suicide rates of older people in Australia. Also, gender-specific interventions for older populations need to be considered as men are less likely to seek help and may prefer interventions programs that emphasize problem solving, rather than expressing emotions or building new relationships.

Furthermore, this study highlights the importance of independent social factors and emphasises that future research must address the prevalence of suicidal ideation by targeting people with symptoms of risk, including mental factors as well as demographic, lifestyle and socioeconomic characteristics.

**Endnotes**

Analysis of the cost effectiveness of a suicide barrier on the Golden Gate Bridge

Atkins Whitmer D, Woods DL (USA)
Crisis 34, 98-106, 2013

Background: The Golden Gate Bridge (GGB) is a well-known “suicide magnet” and the site of approximately 30 suicides per year. Recently, a suicide barrier was approved to prevent further suicides.

Aims: To estimate the cost-effectiveness of the proposed suicide barrier, we compared the proposed costs of the barrier over a 20-year period ($51.6 million) to estimated reductions in mortality.

Method: We reviewed San Francisco and Golden Gate Bridge suicides over a 70-year period (1936-2006). We assumed that all suicides prevented by the barrier would attempt suicide with alternative methods and estimated the mortality reduction based on the difference in lethality between GGB jumps and other suicide methods. Cost/benefit analyses utilized estimates of value of statistical life (VSL) used in highway projects.

Results: GGB suicides occur at a rate of approximately 30 per year, with a lethality of 98%. Jumping from other structures has an average lethality of 47%. Assuming that unsuccessful suicides eventually committed suicide at previously reported (12-13%) rates, approximately 286 lives would be saved over a 20-year period at an average cost/life of approximately $180,419 i.e., roughly 6% of US Department of Transportation minimal VSL estimate ($3.2 million).

Conclusions: Cost-benefit analysis suggests that a suicide barrier on the GGB would result in a highly cost-effective reduction in suicide mortality in the San Francisco Bay Area.

Comment

Main findings: Within the past decade jumping has become the most lethal method of suicide in San Francisco, increasing from 4-11 cases per year in the 1940s-1960s, to 30 per year in the 2000s. In particular, the lethality of jumping from the Golden Gate Bridge is extremely high (98%) compared to other methods of suicide, making this a site more lethal than firearms (95%) in San Francisco and Marin County. Previous attempts to prevent suicides include a foot patrol on the Golden Gate Bridge which began in 1966, and the installation of a crisis telephone in 1980, had limited effect and the number of Golden Gate Bridge deaths continued to increase.

The current paper examines from an economic perspective, the cost of barriers on the Golden Gate Bridge in terms of the number of lives that would be saved and the value of these lives. The authors make a number of assumptions. Central to these is the value to be placed on the saving of a life. Most would readily agree that human life is priceless, but to provide a rational analysis of the problem the authors resort to a widely used concept in economics, that of the value of a statis-
tical life (VSL). This is an estimate of the dollar cost of a fatality and is used in economic analysis in public health and transport engineering, among other disciplines. The lower bound estimate used by the US Office of Transportation, based on wages and salaries forgone by a person’s death, is $3.2 million. A second assumption is that the rate of suicide by jumping from the bridge would continue into the future (20 years for the purposes of the analysis) at its present figure if barriers were not erected. A third assumption has to do with the likely outcome for those persons who are prevented from jumping from the bridge, if barriers were erected. Here the authors expect potential substitution of the method and they consider the lethality of other suicide attempts in the area (43.4%). Based on past research they further assume that 12-13% of people who attempted suicide would still take their own lives in a 20 year period. With these assumptions and estimates in place the authors run the analysis for a 20 year period and find that 286 lives would be saved, which in terms of the construction and maintenance costs mentioned earlier means a cost per life saved of $180,419. This represents less than 6% of the lower bound estimate of the VSL and would thus suggest a considerable benefit. Not considered, however, are alternative uses of the $51.6 million and the return on this, such as reducing fatalities through improving highways.

**Implications:** Erecting barriers where suicide by jumping poses a threat has proved to be an effective deterrent in a number of studies. A natural experiment in Auckland where barriers were erected on the Grafton Bridge, then removed because of community concern, and once again erected demonstrated a reduction of suicide by jumping to zero as a consequence of the barriers. Erecting barriers is however controversial, with objections being raised on aesthetic grounds (e.g., changing the form of an icon such as the Golden Gate Bridge) and on economic grounds (e.g., the cost of construction and ongoing maintenance, which in the case of the Golden Gate Bridge was estimated in 2009 at $50 million initially and $79,000 per year of operation).

Exercises of the sort that the authors have undertaken can be criticised and no doubt this one will as part of the process of ongoing scientific review. However, the paper does provide a thoughtful analysis of one of the primary objections to erecting barriers, a well-attested method for reducing suicide by jumping, on the Golden Gate Bridge. Generalisation of the authors’ methods and argument to other sites known for a high incidence of suicide by jumping needs to proceed cautiously. Rates and estimates depend on a careful examination of the site to which the generalisation is to be made (e.g., VSL is not a constant but varies with such factors as income, age, and country). The aesthetic argument of course remains, but economic arguments can have a persuasive effect on those who make decisions about erecting barriers on bridges.

The recent decision by the Brisbane City Council to erect suicide prevention barriers at the historical landmark Story Bridge, is a positive initiative to help prevent suicides.
Endnotes


Adolescent survivors after suicide: Australian young people’s bereavement narratives
Bartik W, Maple M, Edwards H, Kiernan M (Australia)
Crisis. Published online: 28 January 2013. doi: 10.1027/0227-5910/a000185, 2013

**Background:** While the research literature exploring suicide bereavement has expanded in recent years, this has been primarily quantitative and has focused more on the bereavement experience of parents and siblings. The bereavement experience of young people affected through the suicide death of a friend remains under-conceptualized and not well understood.

**Aims:** To develop an understanding of the experiences of young people bereaved by the suicide of a friend.

**Method:** Ten young people participated in a pilot study with in-depth interviews to explore their suicide bereavement experiences. Narrative inquiry methodology was utilized to analyze the qualitative data.

**Results:** The findings indicated multiple grief experiences caused by suicide. Four themes reported are meaning making, feeling guilt, risky coping behavior, and relating to friends following suicide loss.

**Conclusions:** Implications include the need for increased awareness that friends of young people who die by suicide may have significant health and well-being challenges associated with bereavement, and that friends in these circumstances may not readily present at services for assistance.

**Comment**

**Main findings:** Using qualitative methods, this study sought to explore how young Australians, aged 12-24 years, experienced the loss of loved one to suicide. A total of 10 participants (8 female, 2 male) with the average age of 24 took part in the in-depth, narrative format interviews. In all, the group had experienced 24 suicide deaths — 22 being friends, and 2 family members — and of the 24 deaths, five participants had experienced the same suicide death. Furthermore, of these five, they had experienced another 14 unrelated suicide deaths, including one sibling. The authors acknowledge the amount of bereavement within these five participants’ lives leaves this group highly exposed to intense trauma. Only one participant had experienced one death by suicide. There emerged four relevant themes in the young people’s bereavement experience: meaning making, feeling guilty, risky coping behaviour and relating to friends. The themes suggest that although participants made an effort to search for meaning in their suicide-bereavement experiences, they typically were unable to find this, and could not understand why their friend had not been able to confide in them prior to death. Participants also felt guilt about not having ‘done more’ for their friend, and about not having recognised that their friend was considering suicide. Many of the participants struggled to incorporate the absence of their loved one into their lives. Also, several of the participants engaged in risk taking behaviour (such as drug and
alcohol use) to seek comfort as well as avoid the emotions that arose as a result of their loved one’s suicide. Although risk taking behaviour is thought to be normal during adolescence it seemed that bereaved young persons’ behaviours were ‘more extreme’ and ‘potentially harder to control’ by their own standards. Finally, participants reported that they experienced difficulties relating to friends following bereavement, with some participants reporting longer-term impacts on future friendships and their capacity to trust those relationships. However, the findings from this study may not be typical, given the small sample size and their level of exposure to deaths by suicide.

**Implications:** Engaging with social networks is critical to a young person’s growth, and can potentially offer protection against suicide. However, the themes in this paper suggest that some bereaved young people may become more isolated, reducing their circle of friends and struggling with trust in relationships after the loss of their loved one; and some young people find it very difficult to make meaning out of suicide-bereavement experiences. Policies geared towards helping young people bereaved through the loss of their loved one to suicide should take these qualitative findings into account, and consider the possible benefits of having accessible and appropriately qualified counsellors work specifically with young bereaved people in Australia, across a range of settings (work, school, university, etc). Aside from supporting them through the process of trying to establish meaning, and feeling guilt, a key aspect of working with bereaved young people may be helping them regain trust in relationships, as many of these young participants struggled to do so after the loss of their loved one to suicide.
Qualitative interviewing with vulnerable populations: Individuals’ experiences of participating in suicide and self-harm based research


Background: Concern exists that involving vulnerable individuals as participants in research into suicide and self-harm may cause distress and increase suicidal feelings. Actual understanding of participants’ experiences is however limited, especially in relation to in-depth qualitative research.

Methods: Data were collected from four separate studies focused on self-harm or suicide. These included people with varying levels of past distress, including some who had made nearly lethal suicide attempts. Each involved semi-structured qualitative interviewing. Participants (n=63) were asked to complete a visual analogue scale measuring current emotional state before and after their interview and then comment on how they had experienced the interview, reflecting on any score change.

Results: Most participants experienced a change in well-being. Between 50% and 70% across studies reported improvement, many describing the cathartic value of talking. A much smaller group in each study (18-27%) reported lowering of mood as they were reminded of difficult times or forced to focus on current issues. However, most anticipated that their distress would be transient and it was outweighed by a desire to contribute to research. An increase in distress did not therefore necessarily indicate a negative experience.

Limitations: There was no follow-up so the long-term effects of participation are unknown. Scores and post interview reflections were collected from participants by the researcher who had conducted the interview, which may have inhibited reporting of negative effects.

Conclusions: These findings suggest individuals are more likely to derive benefit from participation than experience harm. Overprotective gate-keeping could prevent some individuals from gaining these benefits.

Comment

Main findings: Suicide research is imperative for further understanding and preventing suicidal behaviours. Although various safeguards have been suggested in order to reduce the chances of potential harm to suicide research participants¹, concerns remain over the effects of research participation on the well-being of already vulnerable individuals (for example, persons who have a history of suicidal behaviour). However, the majority of previous research has failed to demonstrate negative outcomes, with some suggestions that the participatory experience may be a positive, therapeutic one². Using data collected from four previous UK studies, all evaluating self-harm and/or suicidal behaviours through the use of
semi-structured one-on-one interviews, the current paper analysed emotional well-being of participants before and after research participation. The majority of participants (between five and seven out of every 10 people, across the four studies) reported that their emotional state improved after the experience. Approximately one fifth of participants felt worse after the interview, while 21% of participants over the four studies did not experience any change to their emotional state. While some participants experienced a degree of distress during the interview process, not all of these individuals reported negative emotional outcomes on completion, with some actually reporting an improvement in emotional wellbeing. Despite the various strengths of the current study, the authors point to a major gap in the research; the need for further studies evaluating the long-term effect of suicide research on participants.

Implications: This paper provides support for the use of qualitative methods in suicide prevention research. The majority of previous research has focused on the effect on participants completing survey questionnaires or structured interviews. This paper built on current literature by analysing semi-structured interview participants and including a qualitative reflection on the interview process, which was not presented in previous studies.

Currently, a lack of understanding and an overestimation of the negative effects of participation in suicide research may result in an overprotective stance from ethical committees, subsequently impeding suicide research. However, this study — although certainly not definitive — nonetheless suggests that participation in suicide research may be beneficial for many individuals (including those who may be considered vulnerable), and that the possibility of experiencing distress during participation should not necessarily be equated with the likelihood of experiencing a negative emotional outcome from participation.

Although the majority of participants reported positive, or no, changes to their emotional wellbeing, a small number of participants did experience negative emotions following participation. This emphasises the importance of following guidelines for safe practice, including monitoring participant well-being, using interviewers with sufficient skills and training and providing options for follow-up care when required.

Endnotes
Can repetition of deliberate self-harm be predicted? 
A prospective multicenter study validating clinical decision rules

Bilén K, Ponzer S, Ottosson C, Castrén M, Owe-Larsson B, Ekdahl K, Pettersson H (Sweden)
Journal of Affective Disorders. Published online: 28 February 2013. doi: 10.1016/j.jad.2013.01.037, 2013

Background: Clinical decision rules have been developed to help identify patients at high risk of repeating deliberate self-harm actions. The objective of this study was to prospectively validate the clinical decision rules', Södersjukhuset Self-Harm Rule and Manchester Self-Harm Rule, ability to predict repetition of deliberate self-harm (DSH).

Methods: A consecutive series of 325 patients attending two large emergency departments in Stockholm, Sweden due to DSH were included and followed for six months. Predictive factors were collected from hospital charts at the emergency department. A nationwide register-based follow-up of new DSH within six months was used. We calculated the sensitivity and specificity to evaluate the different decision rules’ ability to identify repetition of DSH. Main outcome measure repeated DSH within six months.

Results: The cumulative incidence for patients repeating within six months was 24.6% (95% CI: 19.9-29.3). Application of Södersjukhuset Self-Harm Rule yielded a sensitivity of 89% (95%CI: 79.2-94.4) and a specificity of 11% (95%CI: 7.9-16.2). Application of Manchester Self-Harm Rule to our material yielded a sensitivity of 94% (95%CI: 85.4-97.7) and a specificity of 18% (95%CI: 13.8-23.9).

Limitations: If data regarding predictive factors were missing it was not possible to investigate this further and in the statistical analysis missing data was classified as no. This would imply that the predicted risks may be underestimated.

Conclusion: Clinical decision rules could be used as a compliment providing important additional information regarding risk of repetition in an ED setting when focusing on high sensitivity.

Comment

Main findings: Deliberate self-harm (DSH) is a well known risk factor for suicide. High repetition rates among individuals who deliberately self-harm have also been documented¹, which can put a considerable strain on ED units. In an effort to improve the ability to differentiate between DSH patients at high risk of suicide and those at lower risk, and to provide appropriate care for DSH patients, this study sought to distinguish individuals most likely to engage in repetitious DSH behaviour using a clinical decision rule sheet. This included factors from two well known tools to predict DSH repetition — the Manchester Self-Harm Rule (MSHR) and Södersjukhuset Self-Harm Rule (SoS-4). Participants consisted of all patients over the age of 18 years who attended the EDs of Södersjukhuset and Karolinska University Hospitals due to DSH. The final study population consisted of 325 patients. The authors of this paper were in a unique position to link data from both hospitals with all residents included in the Swedish National Registry
using the individual’s personal identification number given at birth or upon receiving residency in Sweden. Linking was done to predict subsequent suicide after DSH and test whether or not the SoS-4 and MSHR have the ability to predict repetition of DSH. High risk patients were detected using the MSHR’s four clinical correlates: history of self harm, previous psychiatric treatment, benzodiazepine used in the attempt, current psychiatric treatment, and the SoS-4, which checked five correlates: gender, antidepressant treatment, any history of self-harm, admission to a psychiatric clinic and current psychiatric treatment. The study shows that both the SoS-4 and MSHR correctly identify patients with a high risk of repeating their DSH actions, however, the SoS-4 did not perform as well as the MSHR.

**Implications:** All individuals who display DSH behaviours should be offered psychological intervention specifically designed for people who self-harm. However, this may not always be possible, due to lack of availability, budget shortfalls, or other reasons. The current study examines a potentially useful method through which ‘higher risk’ patients may be identified and prioritised for urgent intervention. Although well validated clinical rules for predicting repetition of DSH are still in their infancy, the current results suggest that decision tools based around the correlates found in the SoS-4 and the MSHR may offer a useful complement for existing assessment practices and may assist in referring patients to the most appropriate forms of support. The use of such tools may also help clinicians establish a better understanding of patients who may potentially repeat acts of DSH in the near future.

**Endnote**

Parents bereaved by offspring suicide: A population-based longitudinal case-control study


Context: Suicide bereavement remains understudied and poorly understood.

Objectives: To examine outcomes of parents bereaved by the suicide death of their offspring and to compare these with both nonbereaved parent controls and parents who had offspring die in a motor vehicle crash (MVC).

Design: Population-based case-control study. Suicide-bereaved parents were compared with nonbereaved matched control parents in the general population (n = 1415) and with MVC-bereaved parents (n = 1132) on the rates of physician-diagnosed mental and physical disorders, social factors, and treatment use in the 2 years after death of the offspring. Adjusted relative rates (ARRs) were generated by generalized estimating equation models and adjusted for confounding factors.

Setting: Manitoba, Canada.

Participants: All identifiable parents who had an offspring die by suicide between 1996 and 2007 (n = 1415).

Main Outcome Measures: Mental and physical disorders, social factors, and treatment use.

Results: Suicide bereavement was associated with an increased rate of depression (ARR, 2.14; 95% CI, 1.88-2.43), anxiety disorders (ARR, 1.41; 95% CI, 1.24-1.60), and marital breakup (ARR, 1.18; 95% CI, 1.13-1.23) in the 2 years after the suicide of an offspring, as compared with the 2 years prior to the death. Suicide-bereaved and MVC-bereaved parents had very few differences on predeath to postdeath outcomes. Depression rate increases were greater for MVC-bereaved parents (19.9%) compared with suicide-bereaved parents (15.9%; P = .005), whereas suicide-bereaved parents had higher rate increases of hospitalization for mental illness (P = .049). Suicide-bereaved parents were more likely than their MVC-bereaved counterparts to have depression (ARR, 1.30; 95% CI, 1.06-1.61), physical disorders (ARR, 1.32; 95% CI, 1.19-1.45), and low income (ARR, 1.34; 95% CI, 1.18-1.51) before their offspring’s death.

Conclusions: Suicide bereavement is associated with adverse mental health and social outcomes. These consequences appear similar to those associated with MVC bereavement. Parents who lose offspring to suicide appear to be a vulnerable group even prior to their offspring’s death.

Comment

Main findings: The grief after the loss of a loved one has been linked to increased risk of physical and mental health problems, as well as an increased risk of mortality4. Certain factors may influence the severity of adverse reactions, with close
relatives such as a child, spouse or parent, being more likely to develop ongoing mental problems than those experiencing grief over the loss of a more distant relative or friend. Although there are similarities between different types of grief, individuals bereaved by suicide more frequently experience shame, responsibility and rejection induced by the social stigma.

Despite these suggestions, findings in this area are inconclusive, with a systematic literature review finding no significant differences between the general mental health, depression, PTSD symptoms, anxiety and suicidal behaviours of those experiencing grief over a suicide to other causes of death. The current study compared the grief reactions of parents bereaved by the suicide of an offspring to those bereaved by the death of a child in a motor vehicle crash (MVC), hypothesising that suicide bereavement outcomes would not differ significantly from outcomes related to MVC.

This Canadian population-based case-control study used Generalized Estimating Equation (GEE) models to compare the mental health, physical health, social factors and health service use of parents bereaved by suicide, to parents bereaved by MVC and to matched non-bereaved control parents. In the two year period following the suicide of a child, suicide-bereaved parents had more than double the rates of diagnosed depression than they did in the two year period before the loss. Anxiety disorders and overall mental disorders also increased by 40% and 60% respectively. The loss of an offspring to suicide appeared to be linked to marital breakdown, with single marital status increasing by 18%. The incidence of cancer, diabetes and physician visits for mental and physical illnesses also increased significantly. Outcomes for MVC-bereaved participants were generally similar to those of suicide-bereaved parents, except for experiencing greater increases in the development of depression and less hospitalisation for mental illness following the death.

When compared to non-bereaved matched control parents, suicide-bereaved parents experienced more alcohol use disorders, diagnosed depression, anxiety disorders, and overall mental disorders and were more likely to be single and have low income both before, and after the child’s death, indicating that quite often these parents were already experiencing mental health and social problems before the loss. The presence of depression before the suicide of the child in many cases may explain why the increase in depression was greater in MVC-bereaved parents.

**Implications:** Mixed findings in this area to date have resulted in suicide bereavement being rather poorly understood. Past studies have been plagued by small samples of participants often recruited from bereavement groups or obituary notices, raising the possibility of sampling bias. The current study was the first known population-based study evaluating the grief outcomes of parents experiencing the loss of a child to suicide. The results of the study suggest that suicide-bereaved individuals often experience a number of negative outcomes after the loss and are in need of support. In Australia, the community-based StandBy Response Service aims to reduce adverse outcomes after the loss of a loved one to suicide by providing 24-hour crisis support.
in 10 locations around the country. Additional research in this area may potentially aid in the further development of services for these individuals.

From a suicide prevention perspective, the finding of negative health and social factors in suicide-bereaved parents even before the death of the child may contribute to the understanding and prevention of youth suicide. Results suggest that further research may be warranted, which considers whether addressing these parental factors early on, may have the ability to reduce offspring suicide.

Endnotes
Postcards from the EDge: 5-year outcomes of a randomised controlled trial for hospital-treated self-poisoning

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Background: Repetition of hospital-treated self-poisoning and admission to psychiatric hospital are both common in individuals who self-poison.

Aims: To evaluate efficacy of postcard intervention after 5 years.

Method: A randomised controlled trial of individuals who have self-poisoned: postcard intervention (eight in 12 months) plus treatment as usual v. treatment as usual. Our primary outcomes were self-poisoning admissions and psychiatric admissions (proportions and event rates).

Results: There was no difference between groups for any repeat-episode self-poisoning admission (intervention group: 24.9%, 95% CI 20.6-29.5; control group: 27.2%, 95% CI 22.8-31.8) but there was a significant reduction in event rates (incidence risk ratio (IRR) = 0.54, 95% CI 0.37-0.81), saving 306 bed days. There was no difference for any psychiatric admission (intervention group: 38.1%, 95% CI 33.1-43.2; control group: 35.5%, 95% CI 30.8-40.5) but there was a significant reduction in event rates (IRR = 0.66, 95% CI 0.47-0.91), saving 2565 bed days.

Conclusions: A postcard intervention halved self-poisoning events and reduced psychiatric admissions by a third after 5 years. Substantial savings occurred in general hospital and psychiatric hospital bed days.

Comment

Main findings: Self-poisoning is one of the most common methods of self-harm to require hospital bed use in Australia1,2, and identifying ways to reduce repeated self-poisoning has the potential to reduce both completed suicides and health system resource use. This study tested whether or not sending ‘postcards’ was an effective intervention method for reducing the number of hospital-treated patients for repeat self-poisoning over five years (a four year follow-up, after a one year intervention). The sample consisted of all the individuals over the age of 16 years who had presented to the Hunter Area Toxicology service in Newcastle, New South Wales from 1998 to 2001, as well as individuals who presented elsewhere in the greater Newcastle and Hunter Valley area. All consenting individuals were randomised into two separate groups – control or intervention. This resulted in 394 control and 378 intervention participants. Individuals in the intervention group received ‘postcards’ (in a sealed envelope) in months 1, 2, 3, 4, 6, 8, 10, and 12 after hospital discharge.

After five years, there was no significant difference between groups in the proportion of participants with repeat self-poisoning (control: 27.2%; intervention: 24.9%). However, in terms of the actual number of repeat admissions to the general hospital, there were 484 repeat self-poisonings in the control group and 252 in the intervention group, a difference of 232 readmissions. This is thought to
have saved 306 days of hospital beds. Separate analysis on demographics showed
the treatment was effective for women but not men. Regarding episodes of admis-
sion to a psychiatric hospital, there were 771 admissions in the control group and
447 in the intervention, with a total of 6008 bed days in the control group and
3443 beds in the intervention group, resulting in a difference of 2565 days. The
findings suggest that the ‘postcards’ intervention was effective in reducing the
number of repeat self-poisoning episodes per individual for general hospital
treated groups (by nearly 50%), however, this mostly benefitted women. Within
psychiatric hospitals the reduction of episodes was around one third, and was not
significant for any gender.

*Implications:* Post-discharge from hospital after an episode of self-harm with sui-
cidal intent is known as an acute window of time where follow-up contact is
greatly needed to support at-risk individuals. In addition, facilitating connections
with suitable care services, over time, is an important aspect of care provision for
persons at risk of suicide. ‘Postcards’ are a low cost option for hospitals that may
not have the resources to undertake more intensive follow-up (such as telephone
calls or face-to-face visits). Although the authors did not perform a cost-benefit
analysis, they concluded that the reductions in number of admissions in both
general and psychiatric hospitals were ‘clinically significant’, as they reduced the
number of bed days utilised by self-poisoning patients. Although not a replace-
ment for ongoing engagement with appropriate care, Australian hospitals may
consider using ‘postcards’ as a means of potentially reducing the number of repe-
titions of self poisoning and as a way of staying in touch with, and making
patients feel cared for, after they leave the hospital.

**Endnotes**

2. Tovell A, McKenna K, Bradley C, Pointer S (2012). *Hospital separations due to injury and poi-
Adolescent suicide statements on MySpace
Cash SJ, Thelwall M, Peck SN, Ferrell JZ, Bridge JA (USA, UK)
Cyberpsychology, Behavior, and Social Networking 16, 166-174, 2013

The use of social networking sites (SNSs) has proliferated throughout the last several years for all populations, but especially adolescents. Media reports have also identified several instances in which adolescents broadcast their suicidal behaviors via the Internet and/or SNSs. Despite the increase in the usage of SNSs, there has been little research conducted on how adolescents use SNSs to communicate these behaviors. The objective of this study was to explore the ways in which adolescents use MySpace to comment on their suicidal thoughts and intentions. Content analysis was used to identify suicidal statements from public profiles on MySpace. The original sample consisted of 1,038 comments, made by young people ages 13-24 years old. The final sample resulted in 64 comments, where Potential Suicidality was identified. Through content analysis, the following subthemes (within the Potential Suicidality theme) were found: Relationships, Mental Health, Substance Use/Abuse, Method of Suicide, and Statements without Context. Examples and discussion for each subtheme are identified. The comments referenced a significant amount of hopelessness, despair, and desperation. This study provides support that adolescents use public Web sites to display comments about their suicidal thoughts, behaviors, and possible intentions. Future research is warranted to explore the relationship between at-risk behaviors and suicidality as expressed on SNSs.

Comment

Main findings: Social networking sites (SNSs), such as MySpace, are a place where anyone with internet access can create an online community by communicating through personalised profiles. Since MySpace was introduced in 2003 it has become particularly popular among young people, and this paper examined if MySpace could be used to detect suicidal behaviour among young (13-24 years old) users. This was done using a complex process of data selection to source suicide-related comments/phrases, posted on MySpace profiles. Initially, there were 1,038 suicide-related comments identified. Three phases of removal were then used to exclude comments that were not judged to represent ‘serious’ suicidality (for example, comments that referred to someone else’s suicidality, or comments that were obvious hyperbole), resulting in a total of 64 comments considered to represent ‘serious’ potential suicidality. The authors then attempted to link context, such as relationship break-up or mental health to these comments, and found that 51.6% of the comments had no context. The remaining comments with context mostly pertained to statements regarding relationship problems (‘break-ups’) and family relationship problems (42.2% of comments), and only 6.3% of the contextualised suicide statements discussed mental health issues. Overall, the findings in this paper add support to the theory young people may communicate suicidal thoughts and intentions online, possibly as a way of seeking help and support.
Implications: Following the tragedy of a joint suicide pact posted by two teenage girls in Melbourne (Australia), MySpace launched a partnership with the Inspire Foundation, to put up banners on the website to direct potentially suicidal visitors to national helplines\textsuperscript{1,2}. Whether or not these banners have been effective in directing at-risk individuals to appropriate help, or have had any influence on suicide completions, is unknown. There is a clear need for further investigation of ways in which social media, and new technology more generally, may be able to be used effectively to assist young people at risk of suicide.

When considering the context of the potential suicidality comments identified in the current study, a low percentage dealt directly with mental health. While this may reflect low levels of self-identification of mental health issues among young people, it may also indicate that factors such as family and inter-personal relationship problems require heightened focus within suicide prevention programs aimed at young people. Regarding young people’s online communication of suicidality, and ways in which technology may be used within a suicide prevention framework, there may be value in establishing partnerships between SNSs and youth-oriented family and personal relationship support services, rather than focusing primarily on youth mental health.

Endnotes
Effectiveness of a telephone management programme for patients discharged from an emergency department after a suicide attempt: Controlled study in a Spanish population


**Objective:** To determine the effectiveness over one year of a specific telephone management programme on patients discharged from an emergency department (ED) after a suicide attempt. We hypothesized that the programme will reduce the percentage of patients re-attempting suicide and delay the time between attempts.

**Design:** A multicentre, case-control, population-based study. The effect of the 1-year intervention on the main outcome measures was evaluated with respect to a 1-year baseline period and a control group.

**Setting:** Two hospitals with distinct catchment areas in Catalonia (Spain).

**Participants:** A total of 991 patients discharged from the ED of either hospital after a suicide attempt during the baseline year and the intervention year.

**Intervention:** The intervention was carried out on patients discharged from the ED for attempted suicide (Sabadell). It consisted of a systematic, one-year telephone follow-up programme: after 1 week, thereafter at 1, 3, 6, 9 and 12-month intervals, to assess the risk of suicide and increasing adherence to treatment. The population in the control group (Terrassa) received treatment as usual after discharge, without additional telephone management.

**Main Outcome Measures:** Time elapsed between initial suicide attempt and subsequent one, and changes in the annual rate of patients who reattempted suicide in the year of the intervention and the preceding one.

**Results:** The telephone management programme delayed suicide reattempts in the intervention group compared to the baseline year (mean time in days to first reattempt, year 2008 = 346.47, sd = 4.65; mean time in days to first reattempt, year 2007 = 316.46, sd = 7.18; P<0.0005; $\chi^2 = 12.1$, df = 1) and compared to the control population during the same period (mean time in days to first reattempt, treatment period = 346.47, sd = 4.65; mean time in days to first reattempt, pre-treatment period = 300.36, sd = 10.67; P<0.0005; $\chi^2 = 16.8$, df = 1). The intervention reduced the rate of patients who reattempted suicide in the experimental population compared to the previous year (Intervention 6% (16/296) v Baseline 14% (39/285) difference 8%, 95% confidence interval 2% to 12%) and to the control population (Intervention 6% (16/296) v Control 14% (31/218) difference 8%, -13% to -2%) 

**Limitations:** One of the main obstacles was the difficulty to contact all patients within the established deadlines. Another limitation of our study was that patients under the age of 18 underwent an intensive intervention in the day hospital, although their number was very small (13/319 in 2008) and did not significantly influence the results. But the main limitation of our study was that it was per-
formed within the EAAD project. This project includes a comprehensive multi-level intervention practically in the same experimental area and aimed at an early diagnosis and treatment of depression, which is the main psychiatric disorder associated with suicide.

**Conclusion:** A telephone management programme for patients discharged from an ED after a suicide attempted would be a useful strategy in delaying further suicide attempts and in reducing the rate of reattempts, which is known as the highest risk factor for suicide completion.

**Comment**

**Main findings:** The aim of the current study was to analyse the effectiveness of a one-year telephone management program on patients discharged from two Spanish EDs after presenting with a suicide attempt. The days between first suicide attempt and repetition of suicidal behavior, and the percentage of patients who reatattempted during the one year program was compared to a baseline period from the year before and to a control group from the same period who received treatment as usual during admission but did not participate in the telephone management program after discharge. The program began on the day after discharge, with follow up calls being made after 1 week, 1 month, 3 months, 6 months, 9 months and 12 months. Participants in the program experienced significantly longer delays between the initial attempt and reattempts when compared to the baseline year and the control group. The proportion of patients in the program who reattempted suicide was also significantly smaller than the control group and the baseline from the previous year. No significant differences were found between the control groups in the year before and during program implementation.

**Implications:** The hospital Emergency Department (ED) is the first point of contact for many individuals who have attempted suicide, with an Australian study showing that the majority (44%) of suicidal individuals who had only sought help from one source had approached a hospital over mental health professionals (26.3%) and General Practitioners (20.3%)\(^1\). In Australia between the years 2010-2011 there were 31,507 separations (episodes of care for admitted patients) from public hospitals due to self-harm and 796 from private hospitals\(^2\). Ongoing care after presentation to an ED is imperative, as a history of suicide attempts is a strong predictor of further attempts as well as subsequent death by suicide\(^3\). Currently, it is unclear which follow up services may provide the most effective care of suicidal individuals after leaving hospital, with a number of previous studies on telephone management programs retrieving negative results due to program shortfalls. The program analysed in the current study achieved more positive outcomes, possibly due to earlier commencement of follow-up calls and more frequent contact with patients. Results suggest that carefully implemented telephone-management programs may have potential to reduce further suicidal behaviours, at least in the short term.
There is a need for further studies analysing the effect of such programs over a longer period of time to give an indication of whether these interventions may aid in a long term reduction of suicide attempts or completed suicides. It may be that longer periods of follow up care are required for certain high-risk individuals.

**Endnotes**

How people bereaved by suicide perceive newspaper reporting: Qualitative study

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**Background:** People bereaved by suicide are often reported to be distressed by media reporting. Current media guidelines for reporting suicide focus especially on prevention of copycat behaviour.

**Aims:** To explore bereaved individuals’ experiences of media reporting after suicide and to examine their priorities in relation to media guidelines.

**Method:** In-depth interviews with 40 people bereaved by suicide, with qualitative analysis. Review of four guidelines.

**Results:** There is a difference of emphasis between guidance for the press that aims to prevent copycat suicides (especially avoidance of details such as method used) and the perspectives of bereaved people (who prioritise sympathetic and accurate reporting, sometimes including details of the death and images of the person who died). We found that bereaved relatives were sometimes keen to talk to the press. Those who were upset by the press focused on careless reporting, misquoting and speculation that gave an inaccurate impression of the death.

**Conclusions:** The Leveson enquiry has drawn attention to the damage that can be caused by irresponsible journalism. Guidelines written to prevent ‘copycat’ suicides are important, but so are the needs of bereaved relatives. Because accuracy matters greatly to the bereaved, families should be able to work with an intermediary such as a police press officer to prepare a statement for the press to minimise the risk of misrepresentation.

**Declaration of interest:** None.

**Comment**

**Main findings:** The majority of research into suicide and the media concerns ‘copycat’ behaviour. This study using in-depth interviews was one of the first to examine the experiences and needs of suicide survivors in relation to media involvement, their interactions with journalists, and media reporting of deaths. From a sample of 40 suicide survivors, just under half did not mention any interaction with the media, while four had been too young to remember a media reporting. Of those who did remember, accurate reporting was often cited as an important aspect of their satisfaction or dissatisfaction with the press. Those who were dissatisfied with the press, and in particular the behaviour of journalists, felt ‘hounded’ by journalists whom they described as ‘unsympathetic’. Importantly, satisfaction for the suicide survivors was related, mainly, to the accuracy of the report. Even minor inaccuracies, such as spelling the deceased’s name wrong, caused distress for relatives and friends. Although some suicide survivors had significant issues with journalists, interactions with the press were not always negative; some interviewees mentioned that it was important to communicate what
has happened, had a strong urge to do so, and felt that journalists had done a good job reporting their loved one’s death.

**Implications:** Around the world, where guidelines exist for journalists on reporting a suicide, these guidelines — while not uniform — are often written to prevent ‘copycat’ suicides and reduce sensationalism¹. Even though Australia’s media guideline, Reporting suicide and mental illness² (provided by the Mindframe National Media Initiative), is an informative document for media professionals, it primarily highlights ‘safe’ ways to report suicide such as the use of suicide statistics and minimising the specifics of method. Although this guideline goes into significant detail, it contains relatively little information about ways in which journalists can avoid causing distress to bereaved families and friends. However, results from the current study show that while media reporting of an individual’s suicide can in some instances be of help to survivors, it can also be very distressing if it is not done carefully and correctly. This suggests a need to consider incorporating into media guidelines more detailed recommendations about avoiding distress, such as attention to accuracy in even the smallest details, as well as the possible use of intermediaries between the bereaved and the media.

**Endnotes**


Age and gender differences in medical care utilization prior to suicide

Cho J, Kang DR, Moon KT, Suh M, Ha KH, Kim C, Suh I, Shin DC, Jung SH (Korea)
Journal of Affective Disorders 146, 181-188, 2013

Background: Analysis of temporal patterns of medical care utilization prior to suicide may aid in developing suicide prevention programs. The aim of this study was to investigate age and gender differences in temporal patterns of medical care utilization during 1 year prior to suicide.

Methods: Medical care utilization data of all suicide completers in the Republic of Korea whose death occurred in 2004 (7903 men and 3620 women) was used. Differences among the quarters in medical expenditures and number of medical care visits were analyzed using a repeated measures analysis. Total medical expenditures were compared to those of age- and gender-matched controls by multiple logistic regression analysis.

Results: Among suicides, 84% (81% in men, 91% in women) contacted medical care in the year prior to suicide. In 10-39 year-old women, the number of medical care visits for gastrointestinal disease increased significantly during the final 3 months prior to suicide. All suicide completers showed that the number of medical care visits for psychiatric disorders increased significantly during the final 3 months with the exception of 10-19 year age group. Total medical expenditures during the year prior to suicide were elevated significantly and associated significantly with suicide risk (OR, 1.20; 95% CI, 1.19-1.21).

Limitations: Inaccuracies in the underlying disease and death statistics data may have led to misclassification bias.

Conclusions: Medical care utilization increased as the date of suicide approached. There are age and gender differences in medical care utilization in the year prior to suicide.

Comment

Main findings: Research suggests that in some Western countries, around a third of depressed patients take their own lives within 12 months of seeking psychiatric help. Although cultural factors can influence help-seeking behaviour, little is known about the psychiatric and general medical care seeking habits of those who take their own lives, outside Western countries. Using historical medical care data of all suicides in Korea (7903 men and 3620 women), that occurred in 2004, this study found that for both sexes and all ages above 19 years, over 80 percent of individuals who died by suicide had contact with a medical service at least once in the year before death. Of medical contacts by people who took their own lives, 25 percent were for a psychiatric disorder. The number of medical care visits for psychiatric disorders significantly increased in the three months prior to death by suicide, with women more often than men sourcing psychiatric care. After adjust-
ing for age, gender, residence and socioeconomic status, statistical analysis also revealed that low socioeconomic status was associated with increased suicide risk.

**Implications:** Several approaches for suicide prevention initiatives were proposed by the authors of this paper regarding age, gender and culture-based strategies. Considering Australia's multicultural society, it is important to understand how cultural factors may relate to help-seeking behaviour. This Korean study shows some similarities with patterns of medical care contact and help-seeking behaviour that have been found in Australian studies, for example, that a number of individuals who die by suicide have contact with medical services for a physical condition prior to death, and that women are more likely than men to seek help for various physical and psychiatric disorders. However, levels of contact with medical care for psychiatric conditions prior to suicide were lower in Korea, relative to Western countries. This may indicate the influence of different cultural understandings about risk factors for suicide, as well as culturally-grounded differences in patterns of help-seeking behaviour prior to death by suicide. To ensure that Australian suicide prevention efforts are culturally appropriate and properly targeted, it is important to incorporate these considerations into the design and implementation of suicide prevention programs. It is also important to recognise the role that general practitioners can play in identifying and assisting persons at risk of suicide, even if those individuals present for physical, rather than psychiatric, conditions.

**Endnotes**


Interventions to reduce suicides at suicide hotspots: A systematic review

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BMC Public Health 13, 214, 2013

**Background:** ‘Suicide hotspots’ include tall structures (for example, bridges and cliffs), railway tracks, and isolated locations (for example, rural car parks) which offer direct means for suicide or seclusion that prevents intervention.

**Methods:** We searched Medline for studies that could inform the following question: ‘What interventions are available to reduce suicides at hotspots, and are they effective?’

**Results:** There are four main approaches: (a) restricting access to means (through installation of physical barriers); (b) encouraging help-seeking (by placement of signs and telephones); (c) increasing the likelihood of intervention by a third party (through surveillance and staff training); and (d) encouraging responsible media reporting of suicide (through guidelines for journalists). There is relatively strong evidence that reducing access to means can avert suicides at hotspots without substitution effects. The evidence is weaker for the other approaches, although they show promise.

**Conclusions:** More well-designed intervention studies are needed to strengthen this evidence base.

**Comment**

**Main findings:** Studies were included in the review if they described an intervention relating to a known suicide hotspot, evaluated it using at least a before-and-after design, and used suicide as the outcome. This extensive search identified 14 relevant studies at 13 different locations worldwide. After reviewing these papers, the authors concluded there are four main approaches to suicide hotspots interventions: restriction of access, encouraging help-seeking behaviour, increasing the chances of intervention by a third party and encouraging responsible media reporting of suicide. Of these interventions, the most effective method was restricting access to means, mostly through installation of barriers at jumping sites. The nine studies that document this indicate that once barriers were put in place, the number of suicides at those locations reduced. In one particular study, where the barriers were removed, there was an increase in the number of suicides. Eight of those studies attempted to determine whether there were increases in suicides at alternative sites; seven found that the number of suicides at other sites remained the same, or in some instances decreased. However, there were several limitations in this systematic review; for instance, the authors were concerned about the lack of randomised controlled trials, regarding evidence of intervention effectiveness. Also, there may be ‘publication biases’ whereby positive findings about particular interventions are more likely to appear in print than negative.
findings, and the terms ‘hotspot,’ ‘intervention’ and ‘effectiveness’ may be interpreted differently by research groups.

**Implications:** Of the four main approaches to suicide hotspot intervention there has been considerable debate over the cost-effectiveness of barriers at jumping sites, as well as disagreement over whether barriers at a particular site (or sites) are likely to lead to the reduction of overall suicide figures. One of the main arguments against the erection of barriers is that those who are unable to take their own lives at one site will use another site or another method of suicide. A current gap in knowledge is whether restricting access to suicide hotspots saves *individual* lives. Although it is possible to assess changes in suicide rates by particular methods for populations (such as the Australian population overall, or men, or young people), it is far more difficult to show this at the individual level, and to do so would require information about the numbers of people who were restricted from accessing a particular suicide hotspot who did, and did not, die by some other method of suicide. In addition, when thinking about the range of different available intervention methods, it is important to consider there is very limited research on the effectiveness of methods such as encouraging help-seeking methods, increasing the chance of intervention by third party and encouraging responsible media reporting of suicide at certain locations.

**Endnote**

Has the suicide rate risen with the 2011 Queensland floods?
De Leo D, Too LS, Kõlves K, Milner A, Ide N (Australia)
Journal of Loss and Trauma 18, 170-178, 2013

This study compared the prevalence and characteristics of suicides following the January 2011 Queensland floods to the 11 years prior (for the period January–June) for two severely affected locations: Ipswich and Toowoomba. Findings showed no significant increase in suicide rates during the 6 months after the floods. This may be explained by the elevated level of social support and care available in this period, which protected residents against risk factors for suicide. Nonetheless, the floods may have a delayed effect on suicide mortality. This highlights the importance of continued monitoring of suicidal behaviors and providing support to the people affected.

Comment

Main findings: In January 2011, several regions of Queensland were affected by extreme flash flooding, in what has been described as the worst natural disaster to hit the state in the last 30 years⁴. Previous research has suggested that individuals who fall victim to natural disasters may experience suicidal ideation or attempts shortly after the event⁵. However, a recent review of 42 papers examining the relationship between natural disasters and fatal and non-fatal suicidal behaviours worldwide has indicated that non-fatal suicidal behaviour may decrease in the period following the event and increase sometime after the event, due to diminishing availability of support from the community and mental health care professionals over time⁶. The review further indicates that the increase in suicidal behaviour over time may be impacted by other life factors such as mental disorders, property damage and economic problems⁶. Findings regarding fatal suicidal behaviour were much less consistent, with studies showing mixed results⁶.

The current study evaluated the impact of the 2011 floods on suicide rates in Ipswich and Toowoomba, after a coronial inquest suggested that rates may increase in the areas most affected by the floods. The study compared rates in the six months after the floods, to the same six month period (January–June) in 2000-2010. Suicide cases in these areas were identified using the Queensland Suicide Register (QSR), and crude suicide rates were calculated using estimated population data from the Australian Bureau of Statistics⁴. Results of the current paper suggested that fatal suicidal behaviour did not increase in the six months following the event. For Toowoomba in particular, suicide rates decreased following the floods. While no suicide cases in Ipswich in 2011 mentioned the floods as a significant stressor preceding the death, one suicide case from Toowoomba did mention the floods as a possible contributing factor, however, this case also involved other negative life factors such as financial problems, depression and unemployment.
**Implications:** Much of the current research analysing the impact of natural disasters on suicidal behaviours has been conducted overseas, with earthquakes being the most frequently studied disaster. While events such as earthquakes are rare in Australia, Australia is regularly affected by a number of other natural disasters, including floods, and the current study has built on existing literature by providing an analysis which is more relevant to the Australian context. Previous studies involving fatal suicidal behaviour have retrieved mixed results. The current study lends support to the idea that fatal suicidal behaviours may decrease following a natural disaster, in a similar fashion to the decline consistently witnessed in non-fatal suicidal behaviours. However, more research is required in this area before a clear pattern over a longer period can be identified.

Research has suggested that suicidal behaviour may increase in the years following a natural disaster. As noted by the authors of the current study, to prevent a similar increase following the 2011 Queensland floods, it is imperative that continued mental health care and community support is made available to those individuals affected by the floods, particularly those who may be experiencing other life stressors such as mental illness or financial difficulties.

**Endnotes**

The Short-Term Assessment of Risk and Treatability: Adolescent Version (START:AV) is a new structured professional judgment guide for assessing short-term risks in adolescents. The scheme may be distinguished from other youth risk assessment and treatment planning instruments by its inclusion of 23 dynamic factors that are each rated for both vulnerability and strength. In addition, START:AV is also unique in that it focuses on multiple adverse outcomes—namely, violence, self-harm, suicide, unauthorized leave, substance abuse, self-neglect, victimization, and general offending—over the short-term (i.e., weeks to months) rather than long-term (i.e., years). This article describes a pilot implementation and preliminary evaluation of START:AV in three secure juvenile correctional facilities in the southern United States. Specifically, we examined the descriptive characteristics and psychometric properties of START:AV assessments completed by 21 case managers on 291 adolescent offenders (250 boys and 41 girls) at the time of admission. Results provide preliminary support for the feasibility of completing START:AV assessments as part of routine practice. Findings also highlight differences in the characteristics of START:AV assessments for boys and girls and differential associations between the eight START:AV risk domains. Though results are promising, further research is needed to establish the reliability and validity of START:AV assessments completed in the field.

Comment

Main findings: Youths in juvenile correctional facilities are at an increased risk for a number of adverse outcomes including substance abuse and psychiatric disorders. Substance abuse and psychiatric disorders have in turn been linked to higher risk of attempted suicide in juvenile corrections populations and the identification of risk and protective factors on intake to corrective facilities is imperative to prevent the development of suicidal behaviours. The current study presented the pilot implementation and evaluation of the Short-Term Assessment of Risk and Treatability: Adolescent Version (START: AV) guide in three juvenile correctional facilities in the United States. The START: AV aims to provide a comprehensive evaluation of the short-term risks for adverse outcomes including suicide, self-harm and substance use, as well as violence, unauthorized leave and self-neglect. START: AV consists of 23 items ranging from questions on social skills and support, mental and emotional states, attitudes and plans, to the youths parenting/home environment. Assessments were completed by the case managers of 291 adolescent offenders, and the feasibility, reliability and integrity of START: AV assessments were analysed. The authors found support for the feasibility of the guide, with the information required to complete the START: AV being readily available in United States juvenile correctional facilities. When comparing results...
between boys and girls, a number of important differences were apparent, with girls rated as being at higher risk than boys on a number of outcomes, including self-harm and suicide. It was not possible to say whether these represented true differences in risk between boys and girls, or whether they were a reflection of assessor or instrument bias.

**Implications:** As at the 30th of June 2008, there were a total of 841 juveniles between the ages 10 to 17 in detention centres in Australia. Suicide and self-harming behaviour can be a significant problem within the juvenile correctional environment, with a previous study into the suicidal and self-harming behaviour of incarcerated youth in a correctional facility in the United States reporting that 12.4% of incarcerated youths had a past suicide attempt and 30% had engaged in self-harming behaviour while incarcerated. Despite this, a number of current risk assessment measures focus predominately on risk of violence and reoffending, with less attention on other important outcomes including suicide and self-harming behaviours.

The START: AV is one of the few instruments to include the identification of protective as well as risk factors in incarcerated youths. It is also in the minority of risk assessment measures which assess risk in incarcerated youths as opposed to youths who are serving probation or other community-based sentences. Despite some limitations, such as a small number of girls in the sample, the current study suggests that the START: AV holds potential for the assessment of short-term risk in youth in juvenile detention centres. This may aid in the development of suicide prevention practices for this population.

**Endnotes**

**Objective:** To examine the occurrence of past month suicidal feelings in extreme old age. Further, to identify factors associated with such feelings.

**Design:** Cross-sectional population-based study.

**Setting:** Gothenburg, Sweden.

**Participants:** 269 adults (197 women, 72 men) without dementia born in 1901-1909 who participated in a psychiatric examination.

**Main outcome measures:** Death thoughts and suicidal feelings. The latter were rated in accordance with the Paykel questions (life not worth living, death wishes, thoughts of taking own life, seriously considered taking own life, attempted suicide) during the past month.

**Results:** One quarter of the sample (26.7%) reported that they thought about their own death at least once a month. Past month thoughts that life was not worth living were acknowledged by 7.9% of the total sample, death wishes by 10.5% and thoughts of taking life by 3.8%. Few had serious thoughts of taking own life (0.8%) and none had attempted suicide. In all, 11.5% acknowledged some level of suicidal feelings. Most (77.4%) of those who reported such feelings fulfilled criteria for neither major nor minor depression. Neither poor perceived health nor disability (hearing, vision and motor function) was associated with suicidal feelings. Problematic sleep and deficient social contacts were also related to suicidal feelings after adjustment for depression.

**Conclusions:** Suicidal feelings may occur outside the context of depression and disability in this age group. Results can inform clinicians who care for persons who reach extreme old age.

**Comment**

**Main findings:** Little is known about the phenomena of suicidal ideation and behaviour in extreme old age (ages 95 and older). The unique participants of this study were part of a wider program called the ‘Gothenburg 95+ Study’, which covers aspects of mental health in those who reached the age of 97 in between the years 1998-2007, in Gothenburg, Sweden. Participants were identified through the Swedish Population Register, with 911 people eligible for inclusion. Just over half of these (64.9%) agreed to participate, and after those who had a diagnosis of dementia were excluded, the total number of participants was 269. Participants completed a number of assessments through home visits. These covered aspects such as suicidal thoughts, sleep satisfaction, cardio-health, hearing impairment, motor skills, cognitive function, religiosity, and social factors. Findings showed that although around one quarter of the total population thought about their own
death at least monthly, a smaller proportion — just over one in 10 — had suicidal feelings. Initial data analysis associated several factors with suicidal feelings, such as dissatisfaction with sleep, trouble initiating sleep, aches and pains, having never had a spouse, not having children, and depression. Interestingly, although depression was more commonly found among those with suicidal feelings than those without suicidal feelings (22.6% vs. 6.3%), the vast majority — more than three quarters — of participants who reported suicidal feelings did not have depression. Also, participants with suicidal feelings were more likely to report spending too little time with children, friends and acquaintances, and neighbours, and experienced higher levels of loneliness. After adjusting for differences in sex and depression, only sleep difficulties, too little time spent with friends and acquaintances, and too little time spent with neighbours continued to be associated with suicidal feelings.

**Implications:** Although occurrences of suicidal feelings were relatively infrequent in this extremely elderly sample, it appears that sleep difficulties and insufficient perceived levels of certain types of social contact may have an important relationship with suicidal ideation in this group of people. While the current study was based on a small sample size and was not able to establish causal relationships, it is nonetheless reasonable to suggest that comfort, rest, and reducing perceived social isolation could in turn assist in reducing suicidal feelings among the very elderly.

Increasing social connectedness and quality time spent with others may be challenging among this age group, especially in instances where people may have outlived close friends or other peers. However, efforts to create enjoyable and accessible social activities and opportunities — coupled with practical measures such as transport assistance — may provide wellbeing benefits for the extremely elderly.

This paper is also important in evidencing the presence of suicidal ideation in absence of depression.

**Endnote**

Long term effect of reduced pack sizes of paracetamol on poisoning deaths and liver transplant activity in England and Wales: Interrupted time series analyses

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Objective: To assess the long term effect of United Kingdom legislation introduced in September 1998 to restrict pack sizes of paracetamol on deaths from paracetamol poisoning and liver unit activity.

Design: Interrupted time series analyses to assess mean quarterly changes from October 1998 to the end of 2009 relative to projected deaths without the legislation based on pre-legislation trends.


Participants: Residents of England and Wales.

Main Outcome Measures: Suicide, deaths of undetermined intent, and accidental poisoning deaths involving single drug ingestion of paracetamol and paracetamol compounds in people aged 10 years and over, and liver unit registrations and transplantations for paracetamol induced hepatotoxicity.

Results: Compared with the pre-legislation level, following the legislation there was an estimated average reduction of 17 (95% confidence interval -25 to -9) deaths per quarter in England and Wales involving paracetamol alone (with or without alcohol) that received suicide or undetermined verdicts. This decrease represented a 43% reduction or an estimated 765 fewer deaths over the 11 1/4; years after the legislation. A similar effect was found when accidental poisoning deaths were included, and when a conservative method of analysis was used. This decrease was largely unaltered after controlling for a non-significant reduction in deaths involving other methods of poisoning and also suicides by all methods. There was a 61% reduction in registrations for liver transplantation for paracetamol induced hepatotoxicity (-11 (-20 to -1) registrations per quarter). But no reduction was seen in actual transplantations (-3 (-12 to 6)), nor in registrations after a conservative method of analysis was used.

Conclusions: UK legislation to reduce pack sizes of paracetamol was followed by significant reductions in deaths due to paracetamol overdose, with some indication of fewer registrations for transplantation at liver units during the 11 years after the legislation. The continuing toll of deaths suggests, however, that further preventive measures should be sought.

Comment

Main findings: In 1998, the United Kingdom government introduced legislation limiting the pack sizes of paracetamol sold in pharmacies to 32 tablets and to 16 tablets per pack for non-pharmacy sales, in an attempt to reduce suicides, acci-
dental deaths and liver damage caused by paracetamol overdose\textsuperscript{1}. This study analysed the effectiveness of this legislation on paracetamol related overdoses, using Mortality data from England and Wales between 1993 and 2009 and hospital registrations for liver transplants between 1995 and 2009. For the purpose of this study, undetermined deaths (open cases) were included with suicides, and only those deaths involving paracetamol alone, or paracetamol mixed with alcohol in people over 10 years old were analysed. Between 1993 and 2009, 6-10\% of all poisoning deaths in individuals over 10 were due to paracetamol overdose. When compared to the expected number of deaths based on the pre legislation period, paracetamol related deaths by suicide and open verdict reduced significantly after implementation by an average of 17 per quarter, with an overall decrease of 43\% or 765 fewer deaths than expected. The reduction was still significant when considering paracetamol induced deaths by accidental poisoning. As well as a decrease in deaths, registrations for liver transplants due to paracetamol use were reduced by 61\% or 482 fewer registrations after implementation. The number of completed liver transplants after the 1998 legislation saw a reduction; however this reduction was not significant.

**Implications:** Paracetamol is one of the most frequently used drugs in intentional overdoses worldwide\textsuperscript{2} and is the main pharmaceutical agent resulting in calls to Australian poisons information centres\textsuperscript{3}. The current UK study indicates that measures such as limiting pack sizes may have the ability to reduce the number of intentional paracetamol related overdoses. Meanwhile the most recent research in Australia suggests that paracetamol related hospital presentations have been increasing, with one study finding an 85\% increase over the 4 year study period\textsuperscript{4}. Results of the current study indicate that adopting similar legislation in Australia may warrant consideration to reverse this trend. However, it is clear given the relative lack of Australian studies on this topic, that more research into the occurrence of intentional paracetamol-related overdoses in Australian adults is required.

Previous studies analysing the effect of the current legislation in England and Wales, and similar legislation in Scotland, have returned mixed results. This paper filled a gap in the research by presenting a much needed longer term analysis of the effect of the legislation in England and Wales.

**Endnotes**

Background: Following the railway suicide of Robert Enke, a famous German football goal keeper, short-term copycat effects have been found. Main aims of the present study were to analyze long-term effects of this incidence and to compare them with overall national suicide data, as well as to investigate possible “anniversary effects”.

Methods: For long-term effects, the number of railway suicidal acts in the two years before and after Robert Enke’s suicide (10th November 2009) were compared. For anniversary effects, the corresponding 2-week-periods in 2009, 2010 and 2011 were analyzed. Incidence ratios with 95% confidence intervals were computed.

Results: Compared to the two years before Enke’s suicide the incidence ratio of the number of railway suicidal acts in the 2-year-period following this event increased by 18.8% (95% confidence interval (CI)=11.0-27.1%; p<0.001). The median number of suicidal acts per day increased from 2 to 3 (p<0.001). This effect remains significant after excluding short-term 2-week effects of Enke’s suicide. An anniversary effect was not present. The increase of fatal railway suicides between 2007 and 2010 (25%) was significantly different from that for the total number of suicides in Germany (6.6%) (p<0.0001).

Limitations: Due to missing data, analyses regarding gender were limited and regarding age not feasible.

Conclusions: Long-term effects of Enke’s suicide on railway suicidal acts in Germany in the sense of copycat behavior are probable as this increase cannot be explained by corresponding changes of the total number of suicides in Germany.

Comment

Main findings: The “Werther-effect”, an increase in suicidal behaviour by the same method, has been witnessed following the extensive media reporting of suicide events such as the suicide deaths of celebrities and the portrayal of fictional suicides. The current study aimed to test the long-term effect of media reporting of the suicide death of a famous German football player on copycat events. The possibility of an anniversary effect in the days surrounding the date of the incident in the following years was also investigated. The long term-effect of the celebrity death was analysed by comparing completed suicides and non-fatal suicide attempts on the German railway system in the two-year period following the celebrity suicide with the two-year period before the celebrity suicide. The total number of suicide acts (fatal and non-fatal) in both men and women increased significantly from 1681 in the two years before the event, to 1997 in the two years following. Completed suicides increased from 1418 in the two years before the
event, to 1767 in the two years following. The increase in fatal railway suicides could not be explained by a general increase in suicide rates. The anniversary reaction was analysed by looking at the frequency of railway suicide acts two weeks before, and two weeks after the day of the celebrity suicide in the two years following the event. No anniversary reaction was identified, with no significant increase in rail-related suicidal behaviour surrounding the first or second anniversary of the event, despite another peak in media reporting around these times. The findings of the current study suggest the presence of a “Werther-effect” with an increase in suicide in the initial period following the reporting of the suicide event, as well as a sustained increase over the longer-term.

**Implications:** Suicide by collision with a train is a highly lethal means of suicide, comprising 1.96% of suicides in Queensland between 1990 and 2004, with an average of 11 suicide deaths per year\(^3\). The lethality of this method, along with the potential serious impacts on third parties such as train drivers and onlookers\(^4\) have resulted in considerable research focusing on rail related suicides and strategies for prevention. The current paper supports previous suggestions that reducing the media coverage of rail-related suicide events may have the potential to prevent copycat events\(^5\). Findings emphasise the importance of media guidelines such as the Australian Federal Government’s MindFrame National Media Initiative encouraging careful media reporting of suicides\(^6\).

The majority of past research in this area has evaluated the effect of media reporting of suicides in the initial days and weeks surrounding the incident. This paper filled a gap in the current literature by providing an analysis of the long-term effect of such events on both fatal and non-fatal suicidal acts.

**Endnotes**

Ask suicide-screening questions to everyone in medical settings: The asQ’em quality improvement project


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**Background:** Suicide in hospital settings is a frequently reported sentinel event to the Joint Commission (JC). Since 1995, over 1,000 inpatient deaths by suicide have been reported to the JC; 25% occurred in non-behavioral health settings. Lack of proper “assessment” was the leading root cause for 80% of hospital suicides. This paper describes the “Ask Suicide-Screening Questions to Everyone in Medical Settings (asQ’em)” Quality Improvement Project. We aimed to pilot a suicide screening tool and determine feasibility of screening in terms of prevalence, impact on unit workflow, impact on mental health resources, and patient/nurse acceptance.

**Methods:** We piloted the asQ’em two-item screening instrument that assesses suicidal thoughts and behaviors, designed specifically for nurses to administer to medical patients. Educational in-services were conducted. A convenience sample of adult patients, 18 years or older, from three selected inpatient units in the National Institutes of Health Clinical Center, participated.

**Results:** A total of 331 patients were screened; 13 (4%) patients screened “positive” for suicide risk and received further evaluation. No patient had acute suicidal thoughts or required an observational monitor. Screening took approximately 2 minutes; 87% of patients reported feeling comfortable with screening; 81% of patients, 75% of nurses, and 100% of social workers agreed that all patients in hospitals should be screened for suicide risk.

**Discussion:** Nurses can feasibly screen hospitalized medical/surgical patients for suicide risk with a two-item screening instrument. Patients, nurses, and social workers rated their experience of screening as positive and supported the idea of universal suicide screening in the hospital.

**Comment**

**Main findings:** Within the United States, inadequate assessment of suicide risk in hospital settings outside of behavioural health (for instance, oncology units) was a major contributor to hospital suicide deaths between 1995 and 2012. In an effort to address this, a two-item tool – asQ’em – was created for general hospital nurses to screen patients for suicide risk at inpatient medical/surgical units. The first question asks: “In the past month have you had thoughts about suicide?” The second: “Have you ever made a suicide attempt?” If the patient answered yes to either question, a follow up question was asked: “Are you having thoughts of suicide right now?” These questions were chosen as they are predictive of suicide, and markers of emotional distress that may warrant further intervention. Eligible patients were selected from a convenience sample of individuals enrolled in
medical/surgical clinical research trials at the National Institute of Health Clinical Centre, in Bethesda, Maryland. Data collection occurred over two phases (January 8-12, and April 23-June 18, 2012) in the cancer unit and infectious diseases unit, resulting in 331 patients for screening. Patients were excluded if they were cognitively impaired or unable to speak English fluently.

The feasibility of asQ’em was tested in four domains: prevalence, impact on unit workflow, patient/nurse acceptance and the impact of the tool on mental health resources. The authors concluded that nurses can feasibly screen hospitalised medical/surgical patients for suicide risk with a two-item scale. Data analysis showed that only 4% of the patients screened positive for suicide risk. For patients who screened positive, the time of screening averaged five minutes - a considerably low impact on workflow. Patients were quite accepting of the tool, with over three quarters (79%) of the patients rating their experience as positive, and 85% of the patients reporting they were glad the hospital was asking about suicide. Interestingly, nurses rated themselves as less comfortable with administering the test than did the patients. Nurses also underrated patients’ comfort with answering the screening questions (0.35 points less than the patients rated themselves). Initially, the nurses implementing the screening tool felt uncomfortable asking the questions and described feeling that “it’s too personal (to ask)”, however, their discomfort decreased over time.

**Implications:** Given increasing recognition of links between physical illness and suicide risk, there is a need to improve detection of potential suicidality within the context of physical health settings. Overall the participants in this study seemed to be “glad” that the NIH clinical centre was asking about suicidal thoughts, which suggests that brief screening tools can feasibly be applied in general medical settings, by nurses, without distressing patients. In addition, there is no evidence that asking questions about suicide is likely to present a risk to patients or to ‘put the idea into their heads’\(^2\). Although very few patients in the current study (4%) reported having suicidal thoughts, tools such asQ’em could nonetheless lead to potentially useful data about suicide risk within physical, rather than mental, healthcare settings, as well as facilitate better care. However, it is important to consider that while the findings about this tool are promising, it has not been widely validated on an adult medical population.

**Endnotes**


Social support as a protective factor in suicide: Findings from two nationally representative samples

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Background: Suicide is a problem of worldwide concern and research on possible protective factors is needed. We explored the role of social support as one such factor. Specifically, we hypothesized that increased social support would be associated with decreased likelihood of a lifetime suicide attempt in two nationally representative samples as well as a high-risk subsample.

Methods: We analyzed the relationship between social support and lifetime history of a suicide attempt, controlling for a variety of related psychopathology and demographic variables, in the National Comorbidity Study Replication (NCS-R), a United States sample and the Adult Psychiatric Morbidity Study (APMS), an English sample.

Results: Results indicate that social support is associated with decreased likelihood of a lifetime suicide attempt controlling for a variety of related predictors in both the full US sample (OR = 0.68, p<.001) and the full English sample (OR = 0.93, p<.01).

Limitations: The cross-sectional data do not allow true cause and effect analyses.

Conclusions: Our findings suggest social support is associated with decreased likelihood of a lifetime suicide attempt. Social support is a highly modifiable factor that can be used to improve existing suicide prevention programs worldwide.

Comment

Main findings: In an effort to examine social support as a protective/resiliency factor against suicide, the authors sourced two large datasets: The National Comorbidity Study Replication — a nationally representative sample from the United States from the years 2001-2003, and the 2007 Adult Psychiatric Morbidity Survey — a nationally representative English sample from October 2006 — December 2007. This was done to establish whether or not findings from the United States could be replicated in an English population sample. Both studies used interview-based surveys which collected information about variables known for their links to increased suicide risk, such as psychiatric history, parental divorce and the death of a parent. The surveys also asked whether participants had ever attempted suicide, whether they had engaged in help seeking behaviour, and captured participants’ perceived levels of support from family and friends. Logistic regression using the nationally representative US sample, and controlling for demographic, psychiatric history, family background, and help-seeking behaviour variables showed that higher likelihood of a lifetime suicide attempt was associated with lower age, lower education and female gender. Greater social support was associated with lower likelihood of a lifetime suicide attempt. Results from the UK also showed that lower age and female gender predicted greater likelihood of
a lifetime suicide attempt, while greater social support was associated with lower likelihood of a lifetime suicide attempt. Therefore, the authors provided evidence that, to a degree, there is ‘universality’ in the association between social support and suicide attempts between the US and UK, in that greater social support was associated with lower likelihood of a lifetime suicide attempt in both countries.

**Implications:** Within suicide research, risk factors are widely explored, while less is known about protective/resiliency factors such as social support. The authors of this study sought to understand if social support could predict the likelihood of a lifetime suicide attempt and whether or not any connection between social support and likelihood of a suicide attempt was culturally specific to the USA. In doing so, they also confirmed many similar risk factors between the USA and UK — such as major depression, dysthyrmias, bipolar I/II/subthreshold, generalised anxiety disorder, and other psychiatric conditions. Considering the Australian context, there has been substantial research on these risk factors, producing similar results, however there is substantially less research on protective factors, including social support. From studies that include variables related to social support within Australia, there is evidence that compromised social support, in the form of lack of supportive parental relationships, increases the likelihood of suicide in young people¹. Further research using longitudinal data is needed to understand whether or not social support is consistently able to predict the likelihood of suicidal behaviour in different groups of people (for example, those from different age groups or cultural backgrounds) within Australia, and what types of social support may be the most important in terms of protection against suicide.

**Endnote**

Adolescent self-cutting elsewhere than on the arms reveals more serious psychiatric symptoms

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Self-cutting as a form of self-harm is a common and multifaceted phenomenon among adolescents. The aim of this study was to investigate whether the location of self-cutting (arms or other areas of the body) could help to assess the severity of the underlying psychiatric problems. A sample of adolescents who reported self-cutting (n = 440) was drawn from a large sample of community adolescents (n = 4,019). The majority of self-cutting adolescents, 296 (67.2%), reported cutting only the upper arms, while 144 (32.8%) also cut other parts of the body. The data included a structured self-rating questionnaire, questions about self-cutting, the Youth Self-Report (YSR) for adolescents aged 11-18 years, the Beck Depression Inventory, the Toronto Alexithymia Scale and the Adolescent Dissociative Experience Scale (A-DES). The results indicate that self-cutting on other parts of the body than the arms was associated with female gender, a wide range of emotional and dissociative symptoms and suicidal ideation. In logistic regression analysis, the most pronounced association between self-cutting on other places than the arms was found with YSR subscales withdrawn/depressed, social problems and thought problems, and dissociation (A-DES). We conclude that self-cutting adolescents, mostly girls, with wounds elsewhere than on the arms present with the most serious psychiatric symptoms. It is important to perform a careful physical examination when an adolescent has unexplained wounds or scars on the arms or on other parts of the body. These adolescents also need a caring and conscientious psychiatric examination and possible psychiatric treatment.

Comment

Main findings: The first symptoms of more severe developmental and psychiatric problems may appear in adolescence, and some of these problems may manifest in attempts to 'manipulate the body' through self-injury (for example, cutting of the arms and/or other parts of the body). This study sought to understand if there is a difference in psychiatric symptoms and suicidal ideation, depending where on the body adolescents cut themselves. From an eligible sample of 6,421 students aged 13-18 years living in Kuopio, Finland (of which 98% inhabitants are Caucasians), 4,214 students participated (a 65.6% response). Participants completed questionnaires covering depression, social functioning, emotional awareness, interpersonal relationships, frequency of dissociative experiences, suicidal ideation, and self-cutting. Results showed that 440 students reported self-cutting, with 393 of them being girls (89.3%). Among the 440 students who reported self-cutting, 296 cut only on the arms, while 144 cut on other parts of the body. Girls were more likely than boys to cut on other parts of the body than the arms (34.9% vs. 10.7% respectively), but the small number of boys in the study rendered it not
possible to further analyse gender differences. Cutting behaviour usually started around age 15 (mean age 15.8, SD 1.4 years). Those who cut themselves on more than one part of the body were more likely to have planned in advance to do so, than those who only cut on the arms (32.6% vs. 12.5%). The group who cut on other parts of the body also more commonly ‘idealised’ death as part of their self-harming behaviour, than those who self-cut on the arms alone (31.9% vs. 16.5%). Both groups (self-cutting on the arms alone, and other parts of the body) had more mental symptoms and substance abuse than their age and sex matched ‘non-cutting’ controls. Suicidal thoughts were more common among those who cut on other parts of the body than those who cut only on the arms (65.0% vs. 42.2% respectively), as were later suicide attempts (12.9% vs. 3.5% respectively). Self-cutting on the arms was typically characterised as a ‘cry for help,’ while cutting other parts of the body was more likely to be associated with relief from mental distress and self-punishment.

**Implications:** It can be difficult for parents, teachers and other school staff such as counsellors or nurses to offer help to self-cutting adolescents, as knowledge about this behaviour is limited, and there are few interventions for self-cutting that have been carefully evaluated. A useful implication from this study is that self-cutting should be regarded as a request for help and/or an indicator of mental distress — not as a form of manipulative behaviour\(^1\) — as many of the self-cutting students in this study were also suffering from suicidal thoughts and other psychiatric symptoms. Therefore, regarding school-based assistance, it may be helpful to educate teachers and other staff how to respectfully approach and ask questions of a student if that student seems to have cutting scars on their arms or any other part of their body, and to have pathways to provide further assistance/referrals for that student. Young people themselves have suggested a number of strategies for the prevention of self-harm including: listening to young people’s problems (especially young women), giving them confidence, and being there for them and not letting them down\(^2\). Also, it is important to consider this is a Finnish example of students, where nearly the entire population is Caucasian; an Australian study may generate different results, due in part to cultural differences\(^3\).

**Endnotes**

Suicide ideation and attempt in a community cohort of urban Aboriginal youth: A cross-sectional study

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Background: There has been increasing attention over the last decade on the issue of indigenous youth suicide. A number of studies have documented the high prevalence of suicide behavior and mortality in Australia and internationally. However, no studies have focused on documenting the correlates of suicide behavior for indigenous youth in Australia.

Aims: To examine the prevalence of suicide ideation and attempt and the associated factors for a community cohort of Koori (Aboriginal) youth.

Method: Data were obtained from the Victorian Aboriginal Health Service (VAHS) Young People’s Project (YPP), a community initiated cross-sectional data set. In 1997/1998, self-reported data were collected for 172 Koori youth aged 12-26 years living in Melbourne, Australia. The data were analyzed to assess the prevalence of current suicide ideation and lifetime suicide attempt. Principal components analysis (PCA) was used to identify closely associated social, emotional, behavioral, and cultural variables at baseline and Cox regression modeling was then used to identify associations between PCA components and suicide ideation and attempt.

Results: Ideation and attempt were reported at 23.3% and 24.4%, respectively. PCA yielded five components: (1) emotional distress, (2) social distress A, (3) social distress B, (4) cultural connection, (5) behavioral. All were positively and independently associated with suicide ideation and attempt, while cultural connection showed a negative association.

Conclusions: Suicide ideation and attempt were common in this cross-section of indigenous youth with an unfavorable profile for the emotional, social, cultural, and behavioral factors.

Comment

Main findings: Aboriginal and Torres Strait Islander youth in Australia are at an increased risk for suicide; with a recent Queensland paper finding Aboriginal and Torres Strait Islanders aged 15-24 were four times more likely to die by suicide than other Australians in the same age group. The current paper used the Victorian Aboriginal Health Service (VAHS) Young People’s Project (YPP) data, obtained through a self-report survey administered by trained peer interviewers to 172 Aboriginal and Torres Strait Islander people between the ages of 12 and 26. Results of the survey indicated that 23.3% of youth (n = 40) had experienced suicidal ideation in the 2 weeks before participation. Further, 24.4% of youth (n = 42) had attempted suicide at least once in their lifetime. Suicidal ideation was more often reported in older youth aged 17-21 than those aged 16 years or younger, and its presence was associated with a number of negative experiences
including depression, anger, boredom, loneliness, anxiety, sexual abuse, low self-esteem, history of suicide attempts by family or friends in the last year, homosexuality/bisexuality, intravenous drug use and racial discrimination. Engaging in social activities such as spending time with family and friends appears to offer protection against suicidal ideation. Similar to ideation, suicide attempts were more common in the older age groups with only 4.7% of attempters being aged 16 years or younger. Negative experiences associated with suicide attempts were similar to those reported for suicidal ideation, however attempters were significantly more likely to experience physical abuse, parental separation, being raised by people other than parents, unemployment, time in youth training, smoking and marijuana use. Low self-esteem, having an adult to talk to, homosexuality/bisexuality and visiting and spending time with family were not associated with suicide attempts. However, spending time with friends and participating in sports appeared to act as protective factors against lifetime suicide attempts.

**Implications:** Suicide in Aboriginal and Torres Strait Islander youth is a major problem in Australia. Although the high incidence of suicide in this group has been consistently documented, there is currently a lack of clear understanding of reasons for the increased risk. Through analysing the association between a number of life experiences and the presence of recent suicidal ideation or lifetime suicide attempts in Aboriginal and Torres Strait Islander youth, the current paper identified a number of possible risk and protective factors for these behaviours. Results of the paper suggest that for this population group, there are a number of factors other than depression and mental illness which are associated with suicidal behaviour. The authors suggest that it may be useful to take a broader approach to screening for suicide risk in Aboriginal and Torres Strait Islander youth, including other social, cultural and behavioural risk factors. The finding that spending time with friends and involvement in sport may act as protective factors supports the implementation of suicide prevention programs, such as the Alive and Kicking Goals! program in Western Australia, encouraging social connectedness through participation in team sports and using linkages with sports teams as a way to reach out to young people.

**Endnotes**

Suicidal ideation, risk factors, and communication with parents: An HBSC study on school children in Estonia, Lithuania, and Luxembourg

Crisis 34, 3-12, 2013

Background: Suicide is a leading cause of death among youth. In the year 2002, Lithuania had the 2nd, Luxembourg the 5th, and Estonia the 9th highest suicide rates among 15- to 19-year-olds across 90 countries worldwide. Suicidal ideation is a significant precursor to suicide.

Aims: To report on the prevalence of and associations between suicidal ideation, smoking, alcohol consumption, physical fighting, bullying, and communication with parents among 15-year-old school children.

Methods: The survey analyzes data from the 2005/2006 HBSC study from Estonia, Lithuania, and Luxembourg (N = 4,954). The risk factors were calculated through multinomial logistic regression analyses.

Results: The overall prevalence of suicidal ideation in the preceding year was 17%. Suicidal thoughts were associated with communication difficulties with parents (OR from 2.0 to 4.6) and other risk factors, especially multiple risks (OR for 4-5 concurrent risk factors from 4.5 to 13.6). Parent-child communication had a significant mediating effect by decreasing the odds for suicidality and multiple risks.

Limitations: The prevalence estimates were obtained by self-reports. The causal relationships need further investigation.

Conclusion: The risk factors studied, particularly multiple risks, were associated with higher odds for suicidal ideation. Good parent-child communication is a significant resource for decreasing suicidal ideation among adolescents.

Comment

Main findings: A number of factors leading to increased risk of suicidal ideation and behaviour in adolescents have been identified in previous literature. These factors include stressful life events, drug and alcohol use, sexual activity, unstable family environments and low levels of parental monitoring. The current study used 2005/2006 data from The Health Behavior in School-Aged Children (HBSC) study from Estonia, Lithuania and Luxembourg; three countries with high adolescent suicide rates, to evaluate the relationship between smoking, alcohol use, fighting, bullying and parental communication on suicidal ideation. Overall, 810 of the 4,954 participants (16.7%) had experienced suicidal thoughts in the previous 12 months. Results indicated that females experienced suicidal ideation more often than males. The number of youths engaging in risky behaviour varied significantly between the three countries; however, overall, adolescents who had tried smoking or engaged in regular smoking, had participated in drinking or getting drunk, and were involved in physical fights or bullying as either victim or perpet-
Trator were more likely to report suicidal ideation than their peers. Those with multiple risk factors were at an even greater risk. Adolescents with good parental relationships with adequate communication experienced fewer risk factors and less suicidal ideation, while those experiencing difficult parental relationships with poor communication were more likely to experience suicidal thoughts.

**Implications:** Suicide is the leading cause of death in young Australian males aged between 15 and 19 years, comprising approximately one quarter of deaths in this age group. Considering suicidal ideation is a major predictor of subsequent death by suicide, it is imperative to understand the risk factors for suicidal thoughts in adolescents. The current study supports previous findings that there may be a number of clear risk factors for suicidal ideation and behaviour in young people. Perhaps most important from a preventative perspective is the finding that effective parent-child communication may act as a protective factor against suicidal ideation, which may prove useful when working with families of suicidal adolescents or with families of young people displaying behavioural problems.

Although promising, the current study was limited to Estonia, Lithuania and Luxembourg and found significant differences between these countries on a number of variables. These findings suggest that studies on adolescents in other countries may not be transferrable to the Australian context, and it is important that similar research is conducted in Australia.

**Endnotes**

Natural disasters and suicide: Evidence from Japan
Matsubayashi T, Sawada Y, Ueda M (USA, Japan)
Social Science and Medicine 82, 126-133, 2013

Previous research shows no consensus as to whether and how natural disasters affect suicide rates in their aftermath. Using prefecture-level panel data of natural disasters and suicide in Japan between 1982 and 2010, we estimate both contemporaneous and lagged effects of natural disasters on the suicide rates of various demographic groups. We find that when the damage caused by natural disasters is extremely large, as in the case of the Great Hanshin-Awaji Earthquake in 1995, suicide rates tend to increase in the immediate aftermath of the disaster and several years later. However, when the damage by natural disasters is less severe, suicide rates tend to decrease after the disasters, especially one or two years later. Thus, natural disasters affect the suicide rates of affected populations in a complicated way, depending on the severity of damages as well as on how many years have passed since the disaster. We also find that the effects of natural disasters on suicide rates vary considerably across demographic groups, which suggests that some population subgroups are more vulnerable to the impact of natural disasters than others. We then test the possibility that natural disasters enhance people’s willingness to help others in society, an effect that may work as a protective factor against disaster victims’ suicidal risks. We find that natural disasters increase the level of social ties in affected communities, which may mitigate some of the adverse consequence of natural disasters, resulting in a decline in suicide rates. Our findings also indicate that when natural disasters are highly destructive and disruptive, such protective features of social connectedness are unlikely to be enough to compensate for the severe negative impact of disasters on health outcomes.

Comment

Main findings: Worldwide, the occurrence of natural disasters has increased in recent years\(^1\). These disasters often result in negative mental and financial impacts on survivors, potentially acting as risk factors for suicidal behaviour\(^2\). This paper analysed the short and long-term effects of natural disasters on suicides in Japan from 1982-2010, as well as possible protective factors after these events. Overall, working-age men and elderly women were most at risk for suicidal behaviours; however, the results indicated that the outcomes of natural disasters might depend on the severity of the disaster (measured in this case by the number of victims and the damage caused to the affected area). Severe disasters with the most damage and loss of life were accompanied by an initial increase in suicides, then a decrease in the one or two years following the disaster, with another increase in the years after that. On the other hand, less severe disasters only witnessed a decrease, particularly in the two years following the event. The paper considered the social connectedness which often occurs after a natural disaster as a possible protective factor and explanation for this decrease in suicides. Social connectedness was measured by the number of people donating blood during different time periods.
It was found that the number of people giving blood decreased in the initial period after a natural disaster, but increased again in the two year period following the disaster. The severity of damages from natural disasters was positively associated with blood donations for five years after the event which authors suggest may be indicative of long lasting community support.

**Implications:** Existing papers analysing the effects of natural disasters on suicidal behaviours have often suffered from methodological shortcomings and have resulted in contradictory findings. Studies such as the current Japanese paper are imperative for a clearer understanding of risk in the time surrounding these events. The current findings suggest that effects of natural disasters may depend on the severity of the disaster and that certain age groups and sexes may be at increased risk around these times, possibly warranting targeted suicide prevention efforts.

Australia has experienced a number of serious natural disasters in the past including floods, bushfires and cyclones. Most recently, in Queensland, the 2011 floods had devastating effects with the most serious repercussions being felt in Ipswich and Toowoomba. A recent paper has indicated that suicide rates did not significantly increase in these areas during the six months following the floods\(^1\). The results of the current paper suggest that even in the absence of an initial increase in suicides there is a need for continuing social support and availability of mental health services for the people affected to prevent an increase in the following years.

**Endnotes**
Prevalence, correlates, and treatment of lifetime suicidal behavior among adolescents: Results from the national comorbidity survey replication adolescent supplement

Nock MK, Green JG, Hwang I, McLaughlin KA, Sampson NA, Zaslavsky AM, Kessler RC (USA)

JAMA Psychiatry 70, 300-310, 2013

Context: Although suicide is the third leading cause of death among US adolescents, little is known about the prevalence, correlates, or treatment of its immediate precursors, adolescent suicidal behaviors (ie, suicide ideation, plans, and attempts).

Objectives: To estimate the lifetime prevalence of suicidal behaviors among US adolescents and the associations of retrospectively reported, temporally primary DSM-IV disorders with the subsequent onset of suicidal behaviors.

Design: Dual-frame national sample of adolescents from the National Comorbidity Survey Replication Adolescent Supplement.

Setting: Face-to-face household interviews with adolescents and questionnaires for parents.

Participants: A total of 6483 adolescents 13 to 18 years of age and their parents.

Main Outcome Measures: Lifetime suicide ideation, plans, and attempts.

Results: The estimated lifetime prevalences of suicide ideation, plans, and attempts among the respondents are 12.1%, 4.0%, and 4.1%, respectively. The vast majority of adolescents with these behaviors meet lifetime criteria for at least one DSM-IV mental disorder assessed in the survey. Most temporally primary (based on retrospective age-of-onset reports) fear/anger, distress, disruptive behavior, and substance disorders significantly predict elevated odds of subsequent suicidal behaviors in bivariate models. The most consistently significant associations of these disorders are with suicide ideation, although a number of disorders are also predictors of plans and both planned and unplanned attempts among ideators. Most suicidal adolescents (>80%) receive some form of mental health treatment. In most cases (>55%), treatment starts prior to onset of suicidal behaviors but fails to prevent these behaviors from occurring.

Conclusions: Suicidal behaviors are common among US adolescents, with rates that approach those of adults. The vast majority of youth with suicidal behaviors have preexisting mental disorders. The disorders most powerfully predicting ideation, though, are different from those most powerfully predicting conditional transitions from ideation to plans and attempts. These differences suggest that distinct prediction and prevention strategies are needed for ideation, plans among ideators, planned attempts, and unplanned attempts.

Comment

Main findings: Suicidal ideation, plans and attempts are known precursors to recoccurring suicidal behaviour and eventual death by suicide. Another major risk factor for suicide and suicidal behaviour is mental illness. The current US paper used face-
to-face household interviews with 6483 adolescents aged between 13 and 18 and their parents to analyse the lifetime prevalence of suicidal behaviours and the relationships with mental disorders among adolescents. Overall, 12.1% of adolescent participants had experienced suicidal ideation at some time during their lives, while 4% had made suicidal plans and 4.1% had made a previous suicide attempt. Out of the 12.1% of participants who had experienced suicidal ideation, 33.4% had later developed a suicide plan and 33.9% had attempted suicide, with almost nine out of 10 (88.4%) of those attempts occurring within one year of making the plans. The development of suicidal ideation was less than 1% before the age of ten, increasing substantially between 12 and 17 years of age. The presence of suicide plans and attempts was similarly low until the age of 12 (less than 1%) but increasing between ages of 12 and 17.

Out of all adolescents reporting suicidal ideation in their lifetime, 89.3% had at least one diagnosable mental disorder in their lifetime, while 96.1% of suicide attempters met the criteria for a mental disorder, most commonly Major Depressive Disorder. The vast majority of adolescents (80.2% of ideators, 87.5% of planners and 94.2% of attempters) had received some form of treatment, most commonly from a mental health expert, followed by treatment by school-based services and General Practitioners. However, despite around half to three quarters (55.3%-73.2%) of adolescents across categories receiving mental health treatment before suicidal behaviour emerged, this treatment was unable to prevent the behaviour from occurring.

Implications: As the authors note, many papers focusing on the lifetime prevalence of suicidal behaviour in adolescents have suffered from poor generalisability due to small sample sizes. The current paper used a large nationally representative sample to provide an indication of the prevalence and course of suicidal behaviours in adolescents, information which is important when considering the identification of suicidal adolescents and effective suicide prevention practices for those at risk.

This paper gives some important insights into the treatment of suicidal adolescents with mental disorders in the US. The finding that the majority of suicidal adolescents had been seen by a mental health expert is promising. However, there is some indication that this treatment may not be as effective as it could be at preventing the onset of suicidal behaviours. This highlights the importance of better understanding what factors may contribute to the development of mental disorders and/or suicidal behaviours in adolescents. A similar large scale study in Australia may provide essential information about the background, trajectories, and treatment of suicidal adolescents in Australia.

Endnotes
Excess mortality, causes of death and life expectancy in 270,770 patients with recent onset of mental disorders in Denmark, Finland and Sweden

Nordentoft M, Wahlbeck K, Hällgren J, Westman J, Ösby U, Alinaghizadeh H, Gissler M, Laursen TM (Denmark, Sweden, Finland)

PLoS ONE 8, e55176-e55176, 2013

Background: Excess mortality among patients with severe mental disorders has not previously been investigated in detail in large complete national populations.

Objective: To investigate the excess mortality in different diagnostic categories due to suicide and other external causes of death, and due to specific causes in connection with diseases and medical conditions.

Methods: In longitudinal national psychiatric case registers from Denmark, Finland, and Sweden, a cohort of 270,770 recent-onset patients, who at least once during the period 2000 to 2006 were admitted due to a psychiatric disorder, were followed until death or the end of 2006. They were followed for 912,279 person years, and 28,088 deaths were analyzed. Life expectancy and standardized cause-specific mortality rates were estimated in each diagnostic group in all three countries.

Results: The life expectancy was generally approximately 15 years shorter for women and 20 years shorter for men, compared to the general population. Mortality due to diseases and medical conditions was increased two- to three-fold, while excess mortality from external causes ranged from three- to 77-fold. Mortality due to diseases and medical conditions was generally lowest in patients with affective disorders and highest in patients with substance abuse and personality disorders, while mortality due to suicide was highest in patients with affective disorders and personality disorders, and mortality due to other external causes was highest in patients with substance abuse.

Conclusions: These alarming figures call for action in order to prevent the high mortality.

Comment

Main findings: Individuals suffering from mental illness are at an increased risk of premature mortality, not only by suicide but also by other external causes and natural causes such as illness and disease. Previous research has found that people with mental disorders die an average of 8.2 years earlier than the general population. Nordentoft and colleagues followed 270,770 recent onset patients from national psychiatric case registers from Denmark, Finland and Sweden who were admitted at least once during 2000-2006 for treatment of a psychiatric illness. Patients with a primary diagnosis of any schizophrenia spectrum disorder, affective disorder, substance abuse or personality disorder were included in the sample, while those with an intellectual disability or dementia were excluded. Overall, participants with any mental disorder were found to have a decreased life expectancy of at least 10 years, with the shortest overall life expectancy witnessed in those
with substance abuse disorders, and the highest life expectancy in those with affective disorders. Different mental illnesses were associated with different causes of death, with substance abuse disorders, schizophrenia and personality disorders more often associated with death by natural causes and affective and personality disorders more often associated with death by suicide. Substance abuse disorders were most often related to other external causes of death, particularly accidents (traffic accidents, accidental overdoses etc.). The first year after discharge was found to present the greatest risk of mortality by either natural or external causes.

**Implications:** The current study has expanded on previous research by using a large sample obtained through population-based register data. At the time of publication, this was the first paper to provide such an analysis across several different countries. The results emphasise the importance of considering mental illness and post-hospitalisation care when developing and implementing suicide prevention strategies. The fact that the risk of death was highest in the first year after discharge suggests that follow up care for both mental and physical health is imperative during this period.

There is a need for further exploration of why mental disorders appear to substantially increase the risk of death by natural causes, including studies that control for the influence of socioeconomic factors on both mental and physical health outcomes. Some research has suggested that inequalities in healthcare systems — such as the separation of mental health services from other health services and stigma associated with mental illness — have led to individuals with mental illness not being properly diagnosed with, or receiving substandard treatment for, physical illnesses. Measures should be developed to improve diagnosis, monitoring and treatment of physical medical conditions within the context of psychiatric illness, and to aid in overall positive lifestyle changes after individuals have been released from psychiatric care.

**Endnotes**


Suicidal ideation in family carers of people with dementia: A pilot study

O’Dwyer ST, Moyle W, Zimmer-Gembeck M, De Leo D (Australia)


Objective: The objective of this pilot study was to gather preliminary evidence on suicidal ideation in family carers of people with dementia.

Methods: An online, cross-sectional survey was conducted with 120 family carers, the majority of whom were located in Australia and USA. The survey included measures of suicidality, self-efficacy, physical health, depression, hopelessness, anxiety, optimism, caregiver burden, coping strategies and social support.

Results: Twenty-six percent of carers had contemplated suicide more than once in the previous year. Only half of these had ever told someone they might commit suicide and almost 30% said they were likely to attempt suicide in the future. Carers who had contemplated suicide had poorer mental health, lower self-efficacy for community support service use and greater use of dysfunctional coping strategies than those who had not. In a logistic regression, only depression predicted the presence of suicidal thoughts.

Conclusions: A significant number of people might contemplate suicide while caring for a family member with dementia. Although more research is required to confirm this finding, there are clear implications for policy and clinical practice in terms of identifying and supporting carers who are already contemplating suicide.

Comment

Main findings: Caring for people with dementia can have negative impacts on the mental health and overall wellbeing of carers. A number of factors may influence the level of stress felt by carers including the severity of impairment of the person they are caring for, the number of tasks performed, the number of hours spent in the role each week and the relationship to the person they are caring for. The current paper had three main aims; to gather evidence of the occurrence of suicidal ideation in family dementia carers, to analyse the differences between the health and wellbeing of suicidal and non-suicidal family carers, and to identify risk factors which may precede suicidality in this group. The study included 120 participants recruited from online carer discussion boards of Australian, US and UK organisations, who each completed an online survey. Around one quarter (26%) of participants had experienced thoughts of suicide more than once in the 12 months before completing the survey. Only 16 of these participants (50%) had ever told someone that they had contemplated suicide, despite one third (n=9) considering themselves likely to attempt suicide in the future. A number of differences were present between suicidal and non-suicidal carers, with the suicidal group being more likely to report more behavioural and psychological problems in the person they were caring for, more severe reactions to these problems, and lower levels of optimism. Furthermore, the suicidal carers had less self-efficacy.
with regards to access of community support services, were less satisfied with the level of social support which they did receive and were more likely to experience feelings of hopelessness, depression, anxiety and high levels of burden. When a logistic regression was performed, depression was the only variable which significantly increased the risk of suicidal ideation.

**Implications:** Research has previously indicated that carers who spend the highest number of hours in the role each week\(^1\) and care for a family member, particularly a spouse\(^2\) are most likely to experience severe negative effects. In Australia, most dementia sufferers in the community are cared for by a member of their family, with a quarter of these carers providing at least 40 hours of care per week\(^3\).

While past research has previously looked at the effects on the mental health and general wellbeing of carers, the current paper was the first to specifically focus on suicidal ideation in family carers. Considering the levels of suicidal ideation observed in this study, it is important that mental health professionals work to develop screening tools and suicide prevention programs to identify and assist family carers who may be at risk of suicide.

**Endnotes**

Effectiveness of a nationwide aftercare program for suicide attempters


Psychological Medicine. Published online: 22 October 2012. doi:10.1017/S0033291712002425, 2012

Background: The effectiveness of large-scale interventions to prevent suicide among persons who previously attempted suicide remains to be determined. The National Suicide Surveillance System (NSSS), launched in Taiwan in 2006, is a structured nationwide intervention program for people who survived their suicide attempts. This naturalistic study examined its effectiveness using data from the first 3 years of its operation.

Methods: Effectiveness of the NSSS aftercare services was examined using a logistic/proportional odds mixture model, with eventual suicide as the outcome of interest. As well, we examined time until death for those who died and factors associated with eventual suicide.

Results: Receipt of aftercare services was associated with reduced risk for subsequent suicide; for service recipients who eventually killed themselves, there was a prolonged duration between the index and fatal attempts. Elderly attempters were particularly prone to a shorter duration between the index and fatal attempts. Male gender, the lethality potential of the index attempt, and a history of having had a mental disorder also were associated with higher risk.

Conclusions: The structured aftercare program of the NSSS appears to decrease suicides and to delay time to death for those who remained susceptible to suicide.

Comment

Main findings: Taiwan has linked a national-level registry with a national aftercare program that includes counselling, psycho-education and follow-up contacts for individuals who have survived a suicide attempt. From 2006-2008 Taiwan registered 50805 survivors of suicide attempts, aged 15 years and older. Each survivor was initially contacted either through phone or in person within three days of the suicide attempt, with a subsequent minimum of two contacts per month for at least three months. The frequency of contact varied over time, depending on an individual’s level of risk detected at the most recent contact. An individual at high risk would be referred to intensive psychiatric treatment. For moderate risk, contact was once or twice per week, with psychotherapy or counselling offered if needed. For low risk, contact would occur twice per month. Results indicated that aftercare decreased subsequent deaths by suicide in individuals who had made a suicide attempt. There was a 63.5% decreased risk of death by suicide for those who were willing to participate in the aftercare program. Those who did not initially want to participate in the program showed a smaller decrease in subsequent risk of death by suicide (22.5%), however this may be related to the patients’ pessimism towards the aftercare program or determination to end their own life. In cases where death by suicide occurred, aftercare was associated with a longer time period between a suicide attempt and death.
**Implications:** A past suicide attempt is one of the strongest predictors of subsequent death by suicide. This study shows that an aftercare program can help those individuals who are considered at risk of taking their own lives. Other studies have been limited in their ability to draw conclusions about the role of aftercare in terms of saving lives, partly because of a lack of linkages between data on suicide attempts, participation in aftercare, and suicide completions. Although registries for suicide attempts — whether national or state-based — are difficult to implement, a suicide attempt registry system in Australia may assist to efficiently connect individuals who are at high risk of suicide with appropriate aftercare programs, and potentially reduce the occurrence of individuals being lost to follow-up. Also, a registry program could provide a clearer picture of at risk populations in various parts of Australia.

There have been relatively few Australian studies of what types of aftercare are likely to be most effective in reducing deaths by suicide among people who have previously made a suicide attempt. However, based on the current study’s findings, a regimen of ongoing personal contact between healthcare professionals and individuals who have attempted suicide, with contact frequency based on level of risk, could reasonably be expected to help reduce the number of subsequent deaths by suicide\(^1\).\(^2\).

**Endnotes**


Emotion regulation difficulties, youth-adult relationships, and suicide attempts among high school students in underserved communities

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To develop and refine interventions to prevent youth suicide, knowledge is needed about specific processes that reduce risk at a population level. Using a cross-sectional design, the present study tested hypotheses regarding associations between self-reported suicide attempts, emotion regulation difficulties, and positive youth-adult relationships among 7,978 high-school students (48.6% male, 49.9% female) in 30 high schools from predominantly rural, low-income communities. 683 students (8.6%) reported a past-year suicide attempt. Emotion regulation difficulties and a lack of trusted adults at home and school were associated with increased risk for making a past-year suicide attempt, above and beyond the effects of depressive symptoms and demographic factors. The association between emotion regulation difficulties and suicide attempts was modestly lower among students who perceived themselves as having higher levels of trusted adults in the family, consistent with a protective effect. Having a trusted adult in the community (outside of school and family) was associated with fewer suicide attempts in models that controlled only for demographic covariates, but not when taking symptoms of depression into account. These findings point to adolescent emotion regulation and relationships with trusted adults as complementary targets for suicide prevention that merit further intervention studies. Reaching these targets in a broad population of adolescents will require new delivery systems and “option rich” (OR) intervention designs.

Comment

Main findings: Although reducing youth suicidal behaviour has been a national priority in the US for over a decade, US youth suicide rates have remained high. In an effort to target more vulnerable areas, such as rural communities, thirty high schools were selected based on being underserved (based on country mental health departments or school administrators describing barriers to mental health services among a high proportion of students), or self identified need for suicide prevention intervention. Adolescent perceptions of open, honest safe communication with adults were measured in three domains of life: parents and family, school and community.

Among young people, lack of emotional clarity and limited emotion regulation strategies were both associated with depressive symptoms and suicide attempts. However, when controlling for differences in emotion regulation and depressive symptoms, this study showed that a positive relationship with one or more family adults moderated the relationship between emotion regulation problems and suicide attempts. That is, students who reported having a trusting and safe con-
nection to parent’s or other adults in the family were less likely to have attempted suicide in the past year, even when depressive symptoms, demographic factors, and emotion regulation were taken into account. Caring and trustworthy adults at school was also associated with reduced likelihood of a suicide attempt, when other factors were controlled for. However, having trusted adults in the community more generally was not associated with lower suicide attempts once depressive symptoms were considered.

Implications: In the past, Australia has implemented several national efforts to address barriers that may prevent young people from obtaining help when they feel suicidal; however, it is unclear as to whether these programs specifically had a significant effect on the reduction of youth suicide rates observed in the early 2000s1. While emotion regulation may contribute to the development of other risk factors for suicide, such as depression2, this study emphasises that young people’s perception of trustworthy and safe adults in both their family and school environments may moderate their suicidal behaviour, once emotion regulation and depressive symptoms are taken into account. In the future, it may be helpful to focus on ways to strengthen child-parent relationships and encourage communities to facilitate trusting and safe relationships between young people and adults within school settings. Programs that aim to educate young people about emotion regulation skills may also be beneficial.

Endnotes

Altered explicit recognition of facial disgust associated with predisposition to suicidal behavior but not depression

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Background: Suicidal acts result from a complex interplay between vulnerability factors, such as reduced social and cognitive abilities, social stressors. To our knowledge nothing is known about the explicit recognition of others’ facial emotions, a major component of social interactions, in patients at long-term risk for suicide.

Methods: Thirty-five non-depressed patients with a history of a serious suicide attempt and mood disorders were compared with 31 patients with a history of mood disorders but no personal history of suicidal acts, and with 37 healthy controls with no personal history of mood disorders or suicide attempts. The explicit recognition of six facial emotions (anger, disgust, fear, sadness, happiness, and neutral) was assessed.

Results: Suicide attempters made significantly more errors in the explicit recognition of disgust, relative to the other groups, with no differences between the control groups or for the other emotions examined. Semantic verbal fluency and verbal working memory performances were also reduced in suicide attempters relative to the other two groups but could not explain the facial recognition deficits.

Limitations: Our results need replication with a larger sample size. Most patients were medicated.

Conclusions: Explicit recognition of disgust appears to be specifically altered in relation to vulnerability to suicide but not to depression. Reduced ability to recognize some social emotions may impair the patient’s capacity to adequately interact with his own social environment, potentially increasing the risk of interpersonal conflict, negative emotions and suicidal crisis. Improving cognitive and social skills may be a target for future individual suicide prevention.

Comment

Main findings: While people experience a range of negative life events, most will not engage in suicidal behaviour as a result. Research into the neuropsychological risks for suicide has suggested that particular neurocognitive dysfunctions such as higher attention to negative emotional stimuli, impaired decision-making and problem-solving skills and a lack of verbal fluency may make some individuals more vulnerable to experiencing a suicidal crisis when faced with negative circumstances. The current study, conducted at the Montpellier University Hospital in France, hypothesised that patients with a history of a serious suicide attempt and mood disorders would be less able to identify angry facial expressions on a computer screen compared to patients with a history of mood disorders but without a history of a suicidal act and healthy controls who were neither depressed nor suicidal. Furthermore, it was expected that all patients (suicidal and non-suicidal) would have more difficulty than healthy controls in identifying
happy or neutral facial expressions. Participants also took part in a number of neuropsychological assessments including tests of verbal IQ, attention, verbal working memory and phonemic and semantic verbal fluency. Compared to the other two groups, suicidal participants scored significantly worse on the tests of working memory and semantic verbal fluency and made significantly more mistakes in recognising the portrayal of disgust in facial expressions. The suicidal group was also less accurate than healthy controls in identifying expressions of fear. No other significant differences were found between groups in identification of the remaining emotions. There were no significant differences in emotion recognition between the healthy control group and the non-suicidal depressed patients, suggesting the differences observed for suicidal patients were associated with suicidal behaviour rather than the presence/absence of depression.

**Implications:** The ability to recognise different emotions through facial expressions has been used in the past as a measure of social skill competency\(^2\). The current study built on this previous research, by exploring differences in social skills between suicide attempters and non-suicidal individuals. The finding that suicide attempters were less competent at recognising certain negative facial expressions may be indicative of difficulty responding appropriately in adverse social situations, which may in turn be associated with increased vulnerability to suicidal behaviours.

Findings such as these are important to further increasing the ability to identify individuals who may be more vulnerable to suicidal behaviour when faced with particular negative life experiences.

**Endnotes**

A test of faith in God and treatment: The relationship of belief in God to psychiatric treatment outcomes

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Journal of Affective Disorders 146, 441-446.

Background: Belief in God is very common and tied to mental health/illness in the general population, yet its relevance to psychiatric patients has not been adequately studied. We examined relationships between belief in God and treatment outcomes, and identified mediating mechanisms.

Methods: We conducted a prospective study with n = 159 patients in a day-treatment program at an academic psychiatric hospital. Belief in God, treatment credibility/expectancy, emotion regulation and congregational support were assessed prior to treatment. Primary outcomes were treatment response as well as degree of reduction in depression over treatment. Secondary outcomes were improvements in psychological well-being and reduction in self-harm.

Results: Belief in God was significantly higher among treatment responders than non-responders F(1,114) = 4.81, p<.05. Higher levels of belief were also associated with greater reductions in depression (r = .21, p<.05) and self-harm (r = .24, p<.01), and greater improvements in psychological well-being (r = .19, p<.05) over course of treatment. Belief remained correlated with changes in depression and self-harm after controlling for age and gender. Perceived treatment credibility/expectancy, but not emotional regulation or community support, mediated relationships between belief in God and reductions in depression. No variables mediated relationships to other outcomes. Religious affiliation was also associated with treatment credibility/expectancy but not treatment outcomes.

Conclusions: Belief in God, but not religious affiliation, was associated with better treatment outcomes. With respect to depression, this relationship was mediated by belief in the credibility of treatment and expectations for treatment gains.

Comment

Main findings: Very few studies have examined the relationship between belief in God and the effectiveness of psychiatric treatment with patient samples. This is one of the first studies to do so, using a population sample of 159 patients from an academic psychiatric hospital in Belmont, Massachusetts (USA). Before being treated patients were assessed on their belief in God, congregational support, emotional regulation, perceived treatment credibility and expectations about the outcomes of their treatment. Results showed that belief in God was associated with greater perceived treatment credibility and reduction in depression. Belief is God was also associated with increases in psychological well-being and a reduction in self harm. In terms of identifying with a church, religious affiliation was not associated with greater likelihood of treatment response. Although this study was limited to just one location, it nonetheless suggests a potential interaction between spirituality and psychiatric treatment outcomes.
Implications: In this study, belief in God was highlighted as an important positive mediator for the patient’s belief in the credibility of their psychiatric treatment and expected treatment outcomes. Although spirituality may not play a central role in modern Australian life (compared to the United States, where 93% of the population have belief in God or a higher power), census findings show that 69% of Australians believe in a higher power (Australian Bureau of Statistics, 2010). Several Australian studies have explored the relationship between depression and spirituality; however, there is a lack of research on the mediating effects of spirituality, the patient’s belief in the credibility of treatment and treatment outcomes. In the future, Australian mental health care programs may benefit from greater understanding of Australian spirituality, as this American study’s findings indicate that spirituality can be associated with improved outcomes in psychiatric treatment. Australian psychiatric care may also consider incorporating secular programs that nurture hope and optimism (as these attributes may represent alternative mediators to spirituality). It may be helpful for policy-makers to examine ways of strengthening social and cultural factors that can assist in developing and promoting these attributes.

Endnotes
Neuroticism and extroversion in suicide attempters aged 75 and above and a general population comparison group

Wiktorsson S, Berg AI, Billstedt E, Duberstein PR, Marlow T, Skoog I, Waern M (Sweden, USA)
Aging and Mental Health 17, 479-488, 2013

Personality traits have been shown to influence suicidal behaviour but the literature on ‘older’ elderly is sparse. The aim was to compare neuroticism and extroversion in hospitalized suicide attempters aged 75 and above and a general population comparison group. Seventy-two hospitalized suicide attempters (mean age 81 years) were interviewed. Comparison subjects were drawn from participants in population studies on health and ageing. Participants completed the Eysenck Personality Inventory (EPI) and symptoms of depression were rated with the Montgomery-Asberg Depression Rating Scale (MADRS). Depression diagnoses were made in accordance with Diagnostic and Statistical Manual of Mental Disorders, fourth edition. Attempters scored higher on the neuroticism scale than comparison subjects (mean = 9.9 vs. 7.6, t = 3.74, df = 358, p < 0.001) and lower on the extroversion scale (mean = 10.8 vs. 12.0; t = -2.76, df = 358, p = 0.006). While these differences did not remain after adjustment for major depression, attempters with minor depression were less neurotic than comparison subjects with this diagnosis (mean = 6.6 vs. 11.1, t = -3.35, df = 63, p = 0.001) and a negative association with neuroticism remained in a multivariate model. In conclusion cases scored higher on neuroticism and lower on extroversion compared to comparison subjects. The finding that attempters with minor depression were less neurotic than comparison subjects with this diagnosis was unexpected and needs to be examined in larger samples.

Comment

Main findings: Findings of past studies have suggested that high levels of neuroticism may be associated with increased risk of depression and suicidal behaviour1. The current paper focused specifically on neuroticism in older suicide attempters aged 75 years and above, predicting that suicidal individuals would show higher levels of neuroticism and lower levels of extraversion than the non-suicidal population comparison group. Seventy-two suicidal participants with a mean age of 81.4 years were recruited from emergency departments of five Swedish hospitals over a three-year recruitment period. The comparison group comprised of 288 non-suicidal individuals who were currently participating in other ongoing studies. As hypothesised, both men and women suicide attempters showed higher levels of neuroticism, with women also showing lower levels of extraversion. When major depression was included in the analysis, neither neuroticism nor extraversion remained associated with suicide attempts, with major depression instead being the main predictor. Surprisingly, suicidal individuals with minor depression had lower levels of neuroticism when compared to non-suicidal participants with minor depression. When looking only at the group with previous suicide attempts, a history of psychiatric treatment was associated with lower...
levels of extraversion, loneliness was associated with increased neuroticism and lower extraversion, and major depression and feelings of hopelessness were related to higher levels of neuroticism.

**Implications:** From 2005-2007 in Queensland, males aged 75 years and older died by suicide at a rate of 29.16 deaths per 100,000² men. Previous research has evaluated the association between different personality traits and suicidal behaviours; however, few papers have included a specific focus on older individuals. Given many countries, including Australia, have an ageing population, this is a notable limitation in knowledge and impedes the ability to develop effective, evidence-based interventions. This paper filled a gap in the research, being the first to focus on personality traits of suicidal attempters aged 75 years and older. Results indicate that older suicidal individuals appear to have similar personality traits to the younger individuals included in previous studies, suggesting that suicide in elderly populations should not be attributed solely to functional decline or other negative aspects of old age.

The finding that neuroticism was lower in suicidal participants with minor depression than non-suicidal attempters was unforeseen and could not be explained in the current study. Future research with larger sample sizes may be required to explore this further.

**Endnotes**


Recommended Readings
Correlates of proximal premeditation among recently hospitalized suicide attempters

Bagge CL, Littlefield AK, Lee H-J (USA)

Background: Different conceptualizations of an impulsive suicide attempt (ISA) have not been studied systematically and there is no standard assessment of an ISA. This lack of clarity hinders the advancement of suicidological research and knowledge. The aim of the current study was to examine clinical correlates of different facets of an ISA (reduced proximal contemplation, planning, and decision to act) across divergent methodologies.

Methods: Participants included 212 recent suicide attempters presenting to a Level 1 trauma hospital. The Suicide Intent Scale and the Timeline Follow-Back Interview for suicide attempts were used to assess different facets of an ISA and their associations with other attempt characteristics, and proximal and distal clinical correlates.

Results: A large percentage of patients had an ISA using facets of varying severity (ranging from 42% [contemplation] to 85% [decision]). Multivariate analyses revealed unique associations between a particular ISA facet and the following: hopelessness and depressive symptoms (contemplation), subjective expectation of fatality (planning), and acute negative life events (decision).

Limitations: Validated self-report screening measures were used to assess current psychopathology and future studies should include structured interviews to assess diagnostic features.

Conclusions: Our results suggest that a fine-grained approach is needed for furthering our understanding of the ISA construct. In light of the current findings, ISA should be seriously considered given clinicians’ task of determining whether a particular patient is at imminent risk for suicide.

Peer response to messages of distress: Do sex and content matter?

Barton AL, Hirsch JK, Lovejoy MC (USA)

Background: Suicidal young adults often confide their distress to peers. It is unclear, however, what types of assistance a friend may offer in response to various symptoms of distress as well as whether the sex of either individual affects responses.

Aims: We examined open-ended responses to e-mail vignettes from a fictitious friend exhibiting depressed, irritable, or overtly suicidal communications.

Method: College student participants (n = 106) read e-mail messages from a fictitious friend, to which they composed a reply. Replies were coded to reflect the presence/absence of mention of professional help, problem-oriented (personal) help, and social support.
Results: Problem-oriented help was offered the most across conditions; professional help was offered least in response to depressed or irritable vignettes. Women were more likely to offer any type of help than men. Patterns of help-giving and sex differences in help-giving varied by condition.

Conclusions: Results indicate students’ preferences for solving peer problems personally rather than professionally. Campus prevention and intervention efforts should focus on enhancing students’ peer support and referral skills.

Suicidal behavior among delinquent former child welfare clients

Björkenstam C, Björkenstam E, Ljung R, Vinnerljung B, Tuvblad C (Sweden, USA)
European Child and Adolescent Psychiatry. Published online: 8 January 2013. doi: 10.1007/s00787-012-0372-8, 2013

Child welfare clients represent a high-risk group for delinquency and adult criminality, but also for future suicidal behavior. We examine associations between delinquency and suicidal behavior in a national child welfare population. This register-based cohort study is based on data for all Swedish former child welfare clients born between 1972 and 1981 that experienced interventions before their adolescent years. We followed 27,228 individuals from age 20 years until 31 December 2006. Juvenile delinquency was defined as being convicted of at least one crime between age 15 and 19. The risk of suicidal behavior was calculated as incidence rate ratios (IRRs). Fifteen percent of the women and 40 % of the men had at least one conviction between the age 15 and 19. The adjusted risk of suicidal behavior among women with five or more convictions was 3.5 (95 % CI 2.0-6.2); corresponding IRR for men was 3.9 (95 % CI 3.1-4.9). Child welfare experience-specifically of out-of-home care-in combination with delinquency is a potent risk factor for suicidal behavior among young adults. However, we cannot exclude that some of this association is an epiphenomenon of uncontrolled confounders, such as impulsivity or severity of psychiatric disease. Despite this caveat, results should be disseminated to practitioners in the health and correction services.
Predicting impulsive self-injurious behavior in a sample of adult women

Black EB, Mildred H (Australia)

*Journal of Nervous and Mental Disease* 201, 72-75, 2013

The current research used a prospective design to evaluate whether there is a progression between these different types of self-injurious behaviors (SIB) over time. Support was found for a progression from compulsive SIB (including hair pulling, nail-biting, skin picking, scratching, and preventing wounds from healing) to impulsive SIB (including cutting, burning, carving, pin sticking, and punching) in a group of adult women (N = 106). Other factors hypothesized to be linked to this outcome were disordered eating, age, and personality facets of impulsivity (specifically, urgency and lack of perseverance). Of these variables, only urgency positively predicted impulsive SIB at the study’s conclusion. These findings are discussed, limitations of the study are noted, and directions for future research are outlined.

Lithium in the public water supply and suicide mortality in Texas

Blüml V, Regier MD, Hlavin G, Rockett IRH, König F, Vyssoki B, Bschor T, Kapusta ND (Austria, USA, Germany)


There is increasing evidence from ecological studies that lithium levels in drinking water are inversely associated with suicide mortality. Previous studies of this association were criticized for using inadequate statistical methods and neglecting socioeconomic confounders. This study evaluated the association between lithium levels in the public water supply and county-based suicide rates in Texas. A state-wide sample of 3123 lithium measurements in the public water supply was examined relative to suicide rates in 226 Texas counties. Linear and Poisson regression models were adjusted for socioeconomic factors in estimating the association. Lithium levels in the public water supply were negatively associated with suicide rates in most statistical analyses. The findings provide confirmatory evidence that higher lithium levels in the public drinking water are associated with lower suicide rates. This association needs clarification through examination of possible neurobiological effects of low natural lithium doses.
Misclassification of suicide deaths: Examining the psychiatric history of overdose decedents

Bohnert ASB, McCarthy JF, Ignacio RV, Ilgen MA, Eisenberg A, Blow FC (USA)

Injury Prevention. Published online: 15 January 2013. doi: 10.1136/injuryprev-2012-040631, 2013

Objective: The intent of a death from overdose can be difficult to determine. The goal of this study was to examine the association of psychiatric diagnoses among overdose deaths ruled by a medical examiner as intentional, unintentional and indeterminate intent.

Methods: All Veterans Health Administration patients in Fiscal Year 1999 (n=3 291 891) were followed through Fiscal Year 2006. We tested the relative strength of association between psychiatric disorders among types of overdoses (categorised by intent) using multinomial models, adjusted for age, sex, Veterans Affairs priority status and Charlson comorbidity scores. Data were from National Death Index records and patient medical records.

Results: Substance use disorders (SUD) had a stronger association with indeterminate intent overdoses than intentional overdoses (adjusted OR (AOR)=1.80, 95% CI 1.47 to 2.22). SUDs also had a stronger association with unintentional overdoses than intentional (AOR=1.48, 95% CI 1.27 to 1.72), but the reverse was true for all other psychiatric disorders (except post-traumatic stress disorder).

Conclusions: Overdoses ruled indeterminate may be misclassified suicide deaths and are important to suicide surveillance and prevention efforts. Additionally, overdose deaths not classified as suicides may include some cases due to suicidal-like thinking without overt suicidal intent.

An organisational response to an increase in suicides: A case study

Burke W, Colmer D, Johnson N, Leigh J, Key B, Parker C (UK)


Purpose: This paper seeks to describe the development of a real time suicide alert system and to identify how, as a result, organisations were able to respond in a timely way to an increasing trend in suicides within the County Durham and Darlington area.

Design/Methodology/Approach: Between October 2008 and August 2009 an unprecedented concentration of suicides occurred in County Durham, North East England. As a result, an independent review of these deaths was conducted in 2009/2010. Recommendations from the review were implemented and included the development of a real time suicide alert system.

Findings: Following implementation of the real time suicide alert system in autumn 2010 a further significant concentration of cases was immediately identified. A total of 24 deaths were identified between September and December 2010. There was a wide geographical spread across County Durham and Darlington.
The case profiles revealed a number of risk factors including recent bereavement, relationship difficulties and financial problems. In addition sleeplessness, low mood and problems associated with housing were also identified. Men under the age of 50 years accounted for over 63 per cent of the cases. An organisational response in County Durham and Darlington was triggered by the information provided via the real time alert. The response was framed by the case profiles, evidence from the literature and lessons learned from other areas in the UK that had also experienced an escalation of suicide cases. In January 2011 there were no further potential suicides in County Durham and Darlington and the three-month rolling average number of suicides returned to below expected limits, and this remains the case as of December 2011. No direct correlation between the work of the response team across County Durham and Darlington and rate of suicides resuming within normal limits can be claimed, indeed many of the initiatives are still being evaluated but the organisation now has much better control over the ability to respond, characterised by timely evidence based interventions and improved partnership working.

**Practical Implications:** The development of a local real time suicide alert system can reduce the delay in the reporting of potential suicides and can identify trends; it can also provide the basis for a timely organisational response.

**Originality/Value:** This paper describes an innovative multiagency approach to the problem of delay in the notification of suicides. This will be of interest to commissioners and providers who may want to develop similar systems so that they can immediately identify an escalation of deaths due to suicide and respond in timely manner.

**Sexual minority-related victimization as a mediator of mental health disparities in sexual minority youth: A longitudinal analysis**

Burton CM, Marshal MP, Chisolm DJ, Sucato GS, Friedman MS (USA)

*Journal of Youth and Adolescence* 42, 394-402, 2013

Sexual minority youth (youth who are attracted to the same sex or endorse a gay/lesbian/bisexual identity) report significantly higher rates of depression and suicidality than heterosexual youth. The minority stress hypothesis contends that the stigma and discrimination experienced by sexual minority youth create a hostile social environment that can lead to chronic stress and mental health problems. The present study used longitudinal mediation models to directly test sexual minority-specific victimization as a potential explanatory mechanism of the mental health disparities of sexual minority youth. One hundred ninety-seven adolescents (14-19 years old; 70 % female; 29 % sexual minority) completed measures of sexual minority-specific victimization, depressive symptoms, and suicidality at two time points 6 months apart. Compared to heterosexual youth, sexual minority youth reported higher levels of sexual minority-specific victimization, depressive symptoms, and suicidality. Sexual minority-specific victimiza-
tion significantly mediated the effect of sexual minority status on depressive symptoms and suicidality. The results support the minority stress hypothesis that targeted harassment and victimization are partly responsible for the higher levels of depressive symptoms and suicidality found in sexual minority youth. This research lends support to public policy initiatives that reduce bullying and hate crimes because reducing victimization can have a significant impact on the health and well-being of sexual minority youth.

Police suicide: Prevalence, risk, and protective factors

Chae MH, Boyle DJ (USA)

Policing 36, 91-118, 2013

**Purpose:** The purpose of this paper is to explore risk and protective factors associated with suicidal ideation among law enforcement personnel.

**Design/Methodology/Approach:** The methodology employed is based on the “Best Evidence Synthesis” approach, whereby researchers systematically examine and integrate the most empirically sound available research on the topic under investigation.

**Findings:** Results of studies showed that the interaction of multiple risk factors had a cumulative effect in increasing the risk for suicidal ideation. In total, five prominent aspects of policing were associated with risk for suicidal ideation: organizational stress; critical incident trauma; shift work; relationship problems; and alcohol use and abuse. Studies also indicated that protective factors and preventative measures had stress-buffering effects which decreased the impact of police stressors.

**Research limitations/Implications:** The model is limited because few studies have employed methodologically-sound research designs to test risk and protective factors related to police suicide. This conceptual overview may facilitate theory development and provide directions for future research.

**Practical implications:** Law enforcement agencies which implement programs that assist police personnel in developing active coping styles, identify and access available social support systems, as well as utilize community-based services may decrease risk for suicidal ideation. This review provides practical applications for law enforcement training, education, and program development.

**Originality/Value:** The paper represents the most recent review of risk and protective factors related to suicidal ideation among police personnel. This integration of research provides police practitioners with an evidence-based ecological framework that can be applied universally in police management settings.
Objective: At tempted suicide and deliberate self-injury can occur before or after presentation with a first-episode of psychosis. The aim of the study is to identify the factors associated with suicide attempts or deliberate self-injury before and after treatment for first-episode psychosis.

Method: A systematic review and meta-analysis of controlled studies of factors associated with either suicide attempts or deliberate self-injury, referred to here as deliberate self-harm (DSH).

Results: The pooled proportion of patients who reported DSH prior to treatment for first-episode psychosis was 18.4% (95% Confidence Interval (CI) 14.4-23.3, N = 18 studies, I(2) = 93.8). The pooled proportion of patients with DSH during the period of untreated psychosis was 9.8%, (95% CI 6.7-14.2, N = 5 studies, I(2) = 58.9). The pooled proportion of patients committing DSH during periods of follow up of between 1 and 7 years was 11.4%, (95% CI, 8.3-15.5, N = 13 studies, I(2) = 89.2). Categorical factors associated with an increased risk of DSH were a prior history of DSH (OR = 3.94), expressed suicide ideation (OR = 2.34), greater insight (OR = 1.64), alcohol abuse (OR = 1.68) and substance use (OR = 1.46). Continuous variables associated with an increased risk of DSH were younger age of onset (Standardized Mean Difference (SMD) = -0.28), younger age at first treatment (SMD = -0.18), depressed mood (SMD = 0.49) and the duration of untreated psychosis (SMD = 0.20). Depressed mood and substance use were associated with DSH both before and after treatment, negative symptoms were associated with DSH after treatment but not before treatment. Positive symptoms and social and global functioning were not associated with DSH. Younger age and the duration of untreated psychosis were associated with DSH before treatment but not after treatment.

Conclusion: Earlier treatment of first-episode psychosis and successful treatment of depression and substance use could prevent some episodes of DSH and might reduce suicide mortality in early psychosis.

Suicide by burning barbecue charcoal in England

Chen Y-Y, Bennewith O, Hawton K, Simkin S, Cooper J, Kapur N, Gunnell D (Taiwan, UK)


Background: Suicide by carbon monoxide poisoning from burning barbecue charcoal has become a common method of suicide in several Asian countries over the last 15 years. The characteristics of people using this method in Western countries have received little attention.

Method: We reviewed the inquest reports of 12 English Coroners (11% of all Coroners) to identify charcoal-burning suicides. We compared socio-demographic and clinical characteristics of suicide by charcoal burning occurring

**Results:** Eleven charcoal-burning suicides were identified; people using this method were younger (mean age 33.4 versus 44.8 years, \( P = 0.02 \)), and more likely to be unemployed (70.0 versus 30.1%, \( P = 0.01 \)) and unmarried (100 versus 70%, \( P = 0.04 \)) than those using other methods. Charcoal-burning suicides had higher levels of contact with psychiatric services (80.0 versus 59.1%) and previous self-harm (63.6 versus 53.0%) compared with suicides using other methods, but these differences did not reach conventional levels of statistical significance. Over one-third of people dying by charcoal burning obtained information on this method from the Internet.

**Conclusions:** Working with media, including Internet Service Providers, and close monitoring of changes in the incidence of suicide using this method might help prevent an epidemic of charcoal-burning suicides such as that seen in some Asian countries.

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**The impact of media reporting on the emergence of charcoal burning suicide in Taiwan**

Chen Y-Y, Chen F, Gunnell D, Yip PSF (Taiwan, Australia, UK, Hong Kong)

*PLoS ONE.* Published online: 30 January 2013. doi: 10.1371/journal.pone.0055000, 2013

We investigated the association of the intensity of newspaper reporting of charcoal burning suicide with the incidence of such deaths in Taiwan during 1998-2002. A counting process approach was used to estimate the incidence of suicides and intensity of news reporting. Conditional Poisson generalized linear autoregressive models were performed to assess the association of the intensity of newspaper reporting of charcoal burning and non-charcoal burning suicides with the actual number of charcoal burning and non-charcoal burning suicides the following day. We found that increases in the reporting of charcoal burning suicide were associated with increases in the incidence of charcoal burning suicide on the following day, with each reported charcoal burning news item being associated with a 16% increase in next day charcoal burning suicide (\( p < .0001 \)). However, the reporting of other methods of suicide was not related to their incidence. We conclude that extensive media reporting of charcoal burning suicides appears to have contributed to the rapid rise in the incidence of the novel method in Taiwan during the initial stage of the suicide epidemic. Regulating media reporting of novel suicide methods may prevent an epidemic spread of such new methods.
Application of scan statistics to detect suicide clusters in Australia
Cheung YTD, Spittal MJ, Williamson MK, Tung SJ, Pirkis J (Australia, China)
PloS ONE 8, e54168, 2013

Background: Suicide clustering occurs when multiple suicide incidents take place in a small area or/and within a short period of time. In spite of the multi-national research attention and particular efforts in preparing guidelines for tackling suicide clusters, the broader picture of epidemiology of suicide clustering remains unclear. This study aimed to develop techniques in using scan statistics to detect clusters, with the detection of suicide clusters in Australia as example.

Methods and Findings: Scan statistics was applied to detect clusters among suicides occurring between 2004 and 2008. Manipulation of parameter settings and change of area for scan statistics were performed to remedy shortcomings in existing methods. In total, 243 suicides out of 10,176 (2.4%) were identified as belonging to 15 suicide clusters. These clusters were mainly located in the Northern Territory, the northern part of Western Australia, and the northern part of Queensland. Among the 15 clusters, 4 (26.7%) were detected by both national and state cluster detections, 8 (53.3%) were only detected by the state cluster detection, and 3 (20%) were only detected by the national cluster detection.

Conclusions: These findings illustrate that the majority of spatial-temporal clusters of suicide were located in the inland northern areas, with socio-economic deprivation and higher proportions of indigenous people. Discrepancies between national and state/territory cluster detection by scan statistics were due to the contrast of the underlying suicide rates across states/territories. Performing both small-area and large-area analyses, and applying multiple parameter settings may yield the maximum benefits for exploring clusters.

Non-suicidal self-injury and suicidal behavior:
Prevalence, co-occurrence, and correlates of suicide among adolescents in Hong Kong
Cheung YTD, Wong PWC, Lee AM, Lam TH, Fan YSS, Yip PSF (Hong Kong)

Background: Despite increasing concern over the prevalence of non-suicidal self-injury (NSSI) among adolescents, there is debate about its classification as a stand-alone psychiatric diagnosis. This study investigated the patterns, co-occurrence, and correlates of NSSI and other suicidal behaviors among a representative community sample of in-school adolescents.

Methods: A cross-sectional survey of 2,317 adolescents was conducted. Participants were asked to self-report NSSI, suicidal ideation, suicide attempt, and psychosocial conditions over the past 12 months. Logistic regression and cumulative logit modeling analyses were conducted to investigate the different and similar correlates among these self-harm behaviors.
Results: The age-standardized prevalence rates of NSSI among male and female adolescents were estimated to be 13.4 and 19.7 %, respectively, compared with 11.1 and 10.1 % for male and female suicide attempt. Only a small proportion engaged in NSSI exclusively in the past year. NSSI by burning or reckless and risky behaviors, frequent drinking, and sexual experience were associated with increasing severity level of suicidal behaviors among individuals with NSSI.

Conclusions: NSSI is prevalent among in-school adolescents in Hong Kong. However, it co-occurs with suicidal ideation and suicide attempt. High lethality of NSSI, frequent drinking habit, and lifetime sexual experience are suggested to be indicators for screening potential suicide attempters among those having NSSI.

The great recession, jobs and social crises: Policies matter
Chowdhury A, Islam I, Lee D (Thailand, Switzerland, USA)

Purpose: The purpose of the paper is to review the social consequences of the Great Recession of 2008-2009. In particular, it looks at impacts on the world of work - unemployment, informal and vulnerable employment, working poor and youth unemployment, and on public health - hunger and malnutrition, suicides, domestic violence and child abuse. In all fronts, the Great Recession had serious adverse impacts and morphed into a global social crisis. The situation is made worse due to obsessions with fiscal consolidation in the midst of tepid and uncertain recovery. The paper argues that policies matter and advocates for strengthening social protection and continued stimulus in order to ensure robust recovery.

Design/Methodology/Approach: The paper is a general review and it draws on the findings of the United Nations flagship publication, Report of the World Social Situation 2011. It is an analytical narrative of impacts of on-going economic crisis.

Findings: The paper finds a worsening employment situation - rise in unemployment, informal and vulnerable employment, youth unemployment, and working poverty. It also finds adverse public health impacts in terms of rise in malnutrition and hunger, suicide rates, domestic violence and child abuse. Finally the paper finds that policies matters in mitigating worst impacts as well as sustaining recovery.

Research limitations/Implications: The findings are tentative as the social impacts of economic crisis become obvious after a long time lag.

Originality/Value: The paper argues that policies matter and advocates for strengthening social protection and continued stimulus in order to ensure robust recovery.
Clinical risk factors have a low predictive value on suicide. This may explain the increasing interest in potential neurobiological correlates and specific heritable markers of suicide vulnerability. This review aims to present the current neurobiological findings that have been shown to be implicated in suicide completers and to discuss how postmortem studies may be useful in characterizing these individuals. Data on the role of the main neurobiological systems in suicidality, such as the neurotransmitter families, hypothalamic-pituitary-adrenal axis, neurotrophic factors, and polyamines, are exposed at the different biochemical, genetic, and epigenetic levels. Some neuroanatomic and neuropathological aspects as well as their in vivo morphological and functional neuroimaging correlates are also described. Except for the serotonergic system, particularly with respect to the polymorphism of the gene coding for the serotonin transporter (5-HTTLPR) and brain-derived neurotrophic factor, data did not converge to produce a univocal consensus. The possible limitations of currently published studies are discussed, as well as the scope for long-term prospective studies.

**Mapping the evidence of prevention and intervention studies for suicidal and self-harming behaviors in young people**

De Silva S, Parker A, Purcell R, Callahan P, Liu P, Hetrick S (Australia)
*Crisis.* Published online: 15 March 2013. doi: 10.1027/0227-5910/a000190, 2013

**Background:** Suicide and self-harm (SSH) in young people is a major cause of disability-adjusted life years. Effective interventions are of critical importance to reducing the mortality and morbidity associated with SSH.

**Aims:** To investigate the extent and nature of research on interventions to prevent and treat SSH in young people using evidence mapping.

**Method:** A systematic search for SSH intervention studies was conducted (participant mean age between 6-25 years). The studies were restricted to high-quality evidence in the form of systematic reviews, meta-analyses, and controlled trials.

**Results:** Thirty-eight controlled studies and six systematic reviews met the study inclusion criteria. The majority (n = 32) involved psychological interventions. Few studies (n = 9) involved treating young people with recognized mental disorders or substance abuse (n = 1) which also addressed SSH.

**Conclusion:** The map was restricted to RCTs, CCTs, systematic reviews, and meta-analyses, and thus might have neglected important information from other study designs. The effectiveness of interventions within the trials was not evaluated. The evidence base for SSH interventions in young people is not well established, which hampers best-practice efforts in this area. Promising interventions that need further research include school-based prevention programs with a skills training
component, individual CBT interventions, interpersonal psychotherapy, and attachment-based family therapy. Gaps in the research exist in evaluations of interventions for SSH in young people with identifiable psychopathology, particularly substance use disorder, and research that classifies participants on the basis of their suicidal intent.

**Age-related response to redeemed antidepressants measured by completed suicide in older adults: A nationwide cohort study**

Erlangsen A, Conwell Y (USA)


**Objective:** To examine if the suicide rate of older adults prescribed antidepressants varies with age and to assess the proportion of older adults who died by suicide that had recently been prescribed antidepressants.

**Methods:** A population-based cohort study using a nationwide linkage of individual-level records was conducted on all persons aged 50+ living in Denmark during 1996-2006 (1,215,524 men and 1,343,568 women). Suicide rates by treatment status were calculated using data on all antidepressant prescriptions redeemed at pharmacies.

**Results:** Individual-level data covered 9,354,620 and 10,720,639 person-years for men and women, respectively. Men aged 50-59 who received antidepressants had a mean suicide rate of 185 (95% confidence interval [CI]: 160-211) per 100,000, whereas for those aged 80+ the rate was 119 (95% CI: 91-146). For women, the corresponding values were 82 (95% CI: 70-94) and 28 (95% CI: 20-35). Logistic regression showed a 2% and 3% decline in the rate for men and women, respectively, considered in treatment with antidepressants, with each additional year of age. An opposite trend was found for persons not in treatment. Fewer persons aged 80+ dying by suicide had received antidepressant prescriptions during the last months of life than younger persons.

**Conclusion:** An age-dependent decline in suicide rate for antidepressant recipients was identified. One reason could be that older adults respond better to antidepressants than younger age groups. Still, the increasing gap with age between estimated prevalence of depression and antidepressant prescription rate in persons dying by suicide underscores the need for assessment of depression in the oldest old.
Suicide and unintentional injury mortality among homeless people: A Danish nationwide register-based cohort study

Feodor Nilsson S, Hjorthøj CR, Erlangsen A, Nordentoft M (Denmark)

**Background:** Homeless people have elevated mortality, especially due to external causes. We aimed to examine suicide and unintentional injury mortality levels and identify predictors in the homeless population.

**Methods:** A nationwide, register-based cohort study of homeless people aged 16 years and older was carried out using the Danish Homeless Register, 1999-2008.

**Results:** In all, 32,010 homeless people (70.5% men) were observed. For men, the mortality rate was 174.4 [95% confidence interval (CI) = 150.6-198.1] per 100,000 person-years for suicide and 463.3 (95% CI = 424.6-502.0) for unintentional injury. For women, the corresponding rates were 111.4 (95% CI = 81.7-141.1) for suicide and 241.4 (95% CI = 197.6-285.1) for unintentional injury. Schizophrenia spectrum, affective, personality and substance use disorders were strongly associated with increased risk of suicide; the highest risk estimates were found for schizophrenia spectrum disorders among both men [hazard ratio (HR) = 3.1, 95% CI = 2.0-4.9] and women (HR = 15.5, 95% CI = 4.5-54.0). Alcohol and drug use disorders were predictors of death by unintentional injury for both men and women, whereas schizophrenia spectrum disorders and personality disorders were only significant predictors among men; the highest risk estimates were found for drug use disorders among men (HR = 2.2, 95% CI = 1.8-2.8) and women (HR = 3.1, 95% CI = 1.8-5.4). A history of psychiatric admission and emergency room contact were predictors for dying by suicide and unintentional injury.

**Conclusion:** People in the homeless shelter population with a history of a psychiatric disorder constitute a high-risk group regarding the elevated suicide and unintentional injury mortality.

Firearm legislation and firearm-related fatalities in the United States

Fleegler EW, Lee LK, Monuteaux MC, Hemenway D, Mannix R (USA)

**Importance:** Over 30,000 people die annually in the United States from injuries caused by firearms. Although most firearm laws are enacted by states, whether the laws are associated with rates of firearm deaths is uncertain.

**Objective:** To evaluate whether more firearm laws in a state are associated with fewer firearm fatalities.

**Design:** Using an ecological and cross-sectional method, we retrospectively analyzed all firearm-related deaths reported to the Centers for Disease Control and Prevention Web-based Injury Statistics Query and Reporting System from 2007 through 2010. We used state-level firearm legislation across 5 categories of laws to
create a “legislative strength score,” and measured the association of the score with state mortality rates using a clustered Poisson regression. States were divided into quartiles based on their score.

**Setting:** Fifty US states.

**Participants:** Populations of all US states.

**Main Outcome Measures:** The outcome measures were state-level firearm-related fatalities per 100 000 individuals per year overall, for suicide, and for homicide. In various models, we controlled for age, sex, race/ethnicity, poverty, unemployment, college education, population density, nonfirearm violence-related deaths, and household firearm ownership.

**Results:** Over the 4-year study period, there were 121 084 firearm fatalities. The average state-based firearm fatality rates varied from a high of 17.9 (Louisiana) to a low of 2.9 (Hawaii) per 100 000 individuals per year. Annual firearm legislative strength scores ranged from 0 (Utah) to 24 (Massachusetts) of 28 possible points. States in the highest quartile of legislative strength (scores of >/ = 9) had a lower overall firearm fatality rate than those in the lowest quartile (scores of </ = 2) (absolute rate difference, 6.64 deaths/100 000/y; age-adjusted incident rate ratio [IRR], 0.58; 95% CI, 0.37-0.92). Compared with the quartile of states with the fewest laws, the quartile with the most laws had a lower firearm suicide rate (absolute rate difference, 6.25 deaths/100 000/y; IRR, 0.63; 95% CI, 0.48-0.83) and a lower firearm homicide rate (absolute rate difference, 0.40 deaths/100 000/y; IRR, 0.60; 95% CI, 0.38-0.95).

**Conclusions and Relevance:** A higher number of firearm laws in a state are associated with a lower rate of firearm fatalities in the state, overall and for suicides and homicides individually. As our study could not determine cause-and-effect relationships, further studies are necessary to define the nature of this association.
Self-mutilation induced by psychotropic substances: A systematic review
Gahr M, Plener PL, Kölle MA, Freudenmann RW, Schönfeldt-Lecuona C (Germany)
Psychiatry Research 200, 977-983, 2012

Self-mutilation (SM) not only occurs among patients with schizophrenia, personality disorders or transsexuality but also as a phenomenon induced by psychotropic substances (PS). We intended to find characteristics of patients at risk to perform SM induced by PS (SMIPS), frequent PS within this phenomenon and typical presentations of SMIPS. A systematic review of the literature (including Medline, the Cochrane Database of Systematic Reviews, the Cochrane Central Register of Controlled Trials and Scopus) was conducted. On October 2011 we identified 26 cases (23 publications) of SM related to PS. Majority of patients (85%) was male, mean age was 30 years (median 41 years). Seventy-three percent of patients developed SM subsequent to the use of one PS, 27% presented SM after the use of more than one PS. Alcohol (25%), hallucinogens (25%) and amphetamines (22%) were found most frequently among the reported substances. Major impairment was present in 80%. Our findings suggest male sex, young age, a previous history of abuse of PS and the current use of alcohol, hallucinogens or amphetamines to favour SMIPS.

Iowa gambling task performance in currently depressed suicide attempters
Gorlyn M, Keilp JG, Oquendo MA, Burke AK, John Mann J (USA)

Deficits in decision-making using the Iowa Gambling Task (IGT) have been found in past suicide attempters, but primarily euthymic and/or medicated patients. This study compared IGT performance among medication-free, currently depressed patients (unipolar and bipolar) with (n=26) and without (n=46) a past history of suicide attempt, and healthy volunteers (n=42). Attempter status, in a sample whose attempts were predominantly non-violent, was not associated with impaired IGT performance even when accounting for sex, mood disorder type, and comorbid Borderline Personality Disorder. A non-significant trend towards poorer performance was found in a small subgroup of past attempters who had used a violent method, consistent with prior studies. Suicide intent and ideation were unrelated to IGT scores. There were no consistent associations between IGT performance and ratings of impulsiveness (Barratt Impulsiveness Scale (BIS)), hostility (Buss-Durkee Hostility Inventory (BDHI)) or aggression (Brown-Goodwin Aggression Inventory (BGAI)). Results suggest that decision-making impairment is related to specific subtypes of suicidal behavior, but may not be universally sensitive to suicide risk in all types of attempters, especially those using non-violent means. Psychometric and conceptual issues surrounding the IGT also appear to affect its utility as a general marker of suicidal behavior risk.
**Self-injury in teenagers who lost a parent to cancer: A nationwide, population-based, long-term follow-up**

Grenklo TB, Kreicbergs U, Hauksdóttir A, Valdimarsdóttir UA, Nyberg T, Steineck G, Fürst CJ (Sweden)

*JAMA Pediatrics* 167, 133-140, 2013

**Objective:** To investigate the risk of self-injury in parentally cancer-bereaved youth compared with their nonbereaved peers.

**Design:** Population-based study of cancer-bereaved youth and a random sample of matched population controls.

**Setting:** Sweden in 2009 and 2010.

**Participants:** A total of 952 youth (74.8%) confirmed to be eligible for the study returned the questionnaire: 622 (73.1%) of 851 eligible young adults who lost a parent to cancer between the ages of 13 and 16 years, in 2000 to 2003, and 330 (78.4%) of 451 nonbereaved peers.

**Main Exposure:** Cancer bereavement or nonbereavement during the teenage years.

**Main Outcome Measures:** Unadjusted and adjusted odds ratios (ORs) of self-injury after January 1, 2000.

**Results:** Among cancer-bereaved youth, 120 (19.5%) reported self-injury compared with 35 (10.6%) of their nonbereaved peers, yielding an OR of 2.0 (95% CI, 1.4-3.0). After controlling for potential confounding factors in childhood (eg, having engaged in self-destructive behavior, having been bullied, having been sexually or physically abused, having no one to share joys and sorrows with, and sex), the adjusted OR was 2.3 (95% CI, 1.4-3.7). The OR for suicide attempts was 1.6 (95% CI, 0.8-3.0).

**Conclusions:** One-fifth of cancer-bereaved youth reported self-injury, representing twice the odds for self-injury in their nonbereaved peers, regardless of any of the adjustments we made. Raised awareness on a broad basis in health care and allied disciplines would enable identification and support provision to this vulnerable group.
Time trends in coroners’ use of different verdicts for possible suicides and their impact on officially reported incidence of suicide in England: 1990-2005


Psychological Medicine. Published online: 1 November 2012. doi: 10.1017/S0033291712002401, 2012

Background: Official suicide statistics for England are based on deaths given suicide verdicts and most cases given an open verdict following a coroner’s inquest. Previous research indicates that some deaths given accidental verdicts are considered to be suicides by clinicians. Changes in coroners’ use of different verdicts may bias suicide trend estimates. We investigated whether suicide trends may be over- or underestimated when they are based on deaths given suicide and open verdicts.

Method: Possible suicides assessed by 12 English coroners in 1990/91, 1998 and 2005 and assigned open, accident/misadventure or narrative verdicts were rated by three experienced suicide researchers according to the likelihood that they were suicides. Details of all suicide verdicts given by these coroners were also recorded.

Results: In 1990/91, 72.0% of researcher-defined suicides received a suicide verdict from the coroner, this decreased to 65.4% in 2005 (p trend < 0.01); equivalent figures for combined suicide and open verdicts were 95.4% (1990/91) and 86.7% (2005). Researcher-defined suicides with a verdict of accident/misadventure doubled over that period, from 4.6% to 9.1% (p < 0.01). Narrative verdict cases rose from zero in 1990/91 to 25 in 2005 (4.2% of researcher-defined suicides that year). In 1998 and 2005, 50.0% of the medicine poisoning deaths given accidental/misadventure verdicts were rated as suicide by the researchers.

Conclusions: Between 1990/91 and 2005, the proportion of researcher-defined suicides given a suicide verdict by coroners decreased, largely due to an increased use of accident/misadventure verdicts, particularly for deaths involving poisoning. Consideration should be given to the inclusion of ‘accidental’ deaths by poisoning with medicines in the statistics available for monitoring suicides rates..
Developing social capital in implementing a complex intervention: A process evaluation of the early implementation of a suicide prevention intervention in four European countries


BMC Public Health 13, 158, 2013

Background: Variation in the implementation of complex multilevel interventions can impact on their delivery and outcomes. Few suicide prevention interventions, especially multilevel interventions, have included evaluation of both the process of implementation as well as outcomes. Such evaluation is essential for the replication of interventions, for interpreting and understanding outcomes, and for improving implementation science. This paper reports on a process evaluation of the early implementation stage of an optimised suicide prevention programme (OSPI-Europe) implemented in four European countries.

Methods: The process analysis was conducted within the framework of a realist evaluation methodology, and involved case studies of the process of implementation in four European countries. Datasets include: repeated questionnaires to track progress of implementation including delivery of individual activities and their intensity; serial interviews and focus groups with stakeholder groups; and detailed observations at OSPI implementation team meetings.

Results: Analysis of local contexts in each of the four countries revealed that the advisory group was a key mechanism that had a substantial impact on the ease of implementation of OSPI interventions, particularly on their ability to recruit to training interventions. However, simply recruiting representatives of key organisations into an advisory group is not sufficient to achieve impact on the delivery of interventions. In order to maximise the potential of high level ‘gatekeepers’, it is necessary to first transform them into OSPI stakeholders. Motivations for OSPI participation as a stakeholder included: personal affinity with the shared goals and target groups within OSPI; the complementary and participatory nature of OSPI that adds value to pre-existing suicide prevention initiatives; and reciprocal reward for participants through access to the extended network capacity that organisations could accrue for themselves and their organisations from participation in OSPI.

Conclusions: Exploring the role of advisory groups and the meaning of participation for these participants revealed some key areas for best practice in implementation: careful planning of the composition of the advisory group to access target groups; the importance of establishing common goals; the importance of acknowledging and complementing existing experience and activity; and facilitating an equivalence of benefit from network participation.
The role of exposure to self-injury among peers in predicting later self-injury

Hasking P, Andrews T, Martin G (Australia)

While researchers are beginning to reach consensus around key psychological correlates of non-suicidal self-injury (NSSI), comparatively less work has been done investigating the role and influence of peers. Given evidence that engagement in this behavior may be susceptible to peer influence, especially during the early stages of its course, the current study prospectively explored whether knowing a friend who self-injures is associated with the onset, severity, and subsequent engagement in NSSI. The moderating roles of adverse life events, substance use and previous suicidal behavior in this relationship also were explored. Self-report data were collected from 1,973 school-based adolescents (aged 12-18 years; 72 % female) at two time points, 1 year apart. Knowing a friend who self-injured, negative life events, psychological distress and thoughts of NSSI differentiated those who self-injured from those who did not, and also predicted the onset of NSSI within the study period. Further, adverse life events and previous thoughts of NSSI moderated the relationship between exposure to NSSI in peers and engaging in NSSI at Time 2. However, the effect of having a friend who self-injures was not related to the severity of NSSI. Having a friend who self-injures appears to be a risk factor for self-injury among youth who are experiencing high levels of distress. Implications of these findings are discussed.

Risk factors for suicide in individuals with depression: A systematic review

Hawton K, Casanas ICC, Haw C, Saunders K (UK)
*Journal of Affective Disorders* 147, 17-28, 2013

**Background:** Depression is the most common psychiatric disorder in people who die by suicide. Awareness of risk factors for suicide in depression is important for clinicians.

**Methods:** In a systematic review of the international literature we identified cohort and case-control studies of people with depression in which suicide was an outcome, and conducted meta-analyses of potential risk factors.

**Results:** Nineteen studies (28 publications) were included. Factors significantly associated with suicide were: male gender (OR=1.76, 95% CI=1.08-2.86), family history of psychiatric disorder (OR=1.41, 95% CI=1.00-1.97), previous attempted suicide (OR=4.84, 95% CI=3.26-7.20), more severe depression (OR=2.20, 95% CI=1.05-4.60), hopelessness (OR=2.20, 95% CI=1.49-3.23) and comorbid disorders, including anxiety (OR=1.59, 95% CI=1.03-2.45) and misuse of alcohol and drugs (OR=2.17, 95% CI=1.77-2.66).
Limitations: There were fewer studies than suspected. Interdependence between risk factors could not be examined.

Conclusions: The factors identified should be included in clinical assessment of risk in depressed patients. Further large-scale studies are required to identify other relevant factors.

Ask suicide-screening questions (ASQ) a brief instrument for the pediatric emergency department


Archives of Pediatrics & Adolescent Medicine 166, 1170-1176, 2012

Objective: To develop a brief screening instrument to assess the risk for suicide in pediatric emergency department patients.

Design: A prospective, cross-sectional instrument-development study evaluated 17 candidate screening questions assessing suicide risk in young patients. The Suicidal Ideation Questionnaire served as the criterion standard.

Setting: Three urban, pediatric emergency departments associated with tertiary care teaching hospitals. Participants: A convenience sample of 524 patients aged 10 to 21 years who presented with either medical/surgical or psychiatric chief concerns to the emergency department between September 10, 2008, and January 5, 2011. Main Exposures: Participants answered 17 candidate questions followed by the Suicidal Ideation Questionnaire.

Main Outcome Measures: Sensitivity, specificity, predictive values, likelihood ratios, and area under the receiver operating characteristic curves of the best-fitting combinations of screening questions for detecting elevated risk for suicide.

Results: A total of 524 patients were screened (344 medical/surgical and 180 psychiatric). Fourteen of the medical/surgical patients (4%) and 84 of the psychiatric patients (47%) were at elevated suicide risk on the Suicidal Ideation Questionnaire. Of the 17 candidate questions, the best-fitting model comprised 4 questions assessing current thoughts of being better off dead, current wish to die, current suicidal ideation, and past suicide attempt. This model had a sensitivity of 96.9% (95% CI, 91.3-99.4), specificity of 87.6% (95% CI, 84.0-90.5), and negative predictive values of 99.7% (95% CI, 98.2-99.9) for medical/surgical patients and 96.9% (95% CI, 89.3-99.6) for psychiatric patients.

Conclusions: A 4-question screening instrument, the Ask Suicide-Screening Questions (ASQ), with high sensitivity and negative predictive value, can identify the risk for suicide in patients presenting to pediatric emergency departments.
**The impact of social contagion on non-suicidal self-injury: A review of the literature**

Jarvi S, Jackson B, Swenson L, Crawford H (USA)

*Archives of Suicide Research* 17, 1-19, 2013

In this review, we explore social contagion as an understudied risk factor for non-suicidal self-injury (NSSI) among adolescents and young adults, populations with a high prevalence of NSSI. We review empirical studies reporting data on prevalence and risk factors that, through social contagion, may influence the transmission of NSSI. Findings in this literature are consistent with social modeling/learning of NSSI increasing risk of initial engagement in NSSI among individuals with certain individual and/or psychiatric characteristics. Preliminary research suggests iatrogenic effects of social contagion of NSSI through primary prevention are not likely. Thus, social contagion factors may warrant considerable empirical attention. Intervention efforts may be enhanced, and social contagion reduced, by implementation of psychoeducation and awareness about NSSI in schools, colleges, and treatment programs.

**Melancholic features and hostility are associated with suicidality risk in Asian patients with major depressive disorder**

Jeon HJ, Peng D, Chua HC, Srisurapanont M, Fava M, Bae JN, Man Chang S, Hong JP (South Korea, China, Singapore, Thailand)

*Journal of Affective Disorders.* Published online: 13 February 2013. doi:10.1016/j.jad.2013.01.001, 2013

**Background:** Suicide rates are higher in East-Asians than other populations, and especially high in Koreans. However, little is known about suicidality risk and melancholic features in Asian patients with major depressive disorder (MDD).

**Method:** Drug-free MDD outpatients were included from 13 centers across five ethnicities consisting of Chinese (n = 290), Korean (n = 101), Thai (n = 102), Indian (n = 27), and Malay (n = 27). All were interviewed using the Mini-International Neuropsychiatric Interview (M.I.N.I.), the Montgomery-Åsberg Depression Rating Scale (MADRS), and the Symptoms Checklist 90-Revised (SCL-90-R).

**Results:** Of 547 subjects, 177 MDD patients showed melancholic features (32.4%). These melancholic MDD patients revealed significantly higher suicidality risk (p<0.0001), hostility (p = 0.037), and severity of depression (p<0.0001) than those MDD patients without melancholic features. Suicidality risk was significantly higher in MDD with melancholic features than those without in subjects with lower hostility, whereas it showed no difference in higher hostility. Adjusted odds ratios of melancholic features and hostility for moderate to high suicidality risk were 1.79 (95% CI = 1.15-2.79) and 2.45 (95% CI = 1.37-4.38), after adjusting for age, sex, education years, and depression severity. Post-hoc analyses showed that suicidality risk was higher in Korean and Chinese than that of Thai, Indian and Malay in MDD subjects with melancholic features, although depression severity showed no significant differences among the ethnicities.
**Conclusions:** Suicidality risk is associated with both melancholic features and hostility and it shows cross-ethnic differences in Asian MDD patients, independent of depression severity.

**The association between anxiety disorders and suicidal behaviors: A systematic review and meta-analysis**


*Depression and Anxiety.* Published online: 13 February 2013. doi: 10.1002/da.22074, 2013

**Background:** Although anxiety has been proposed to be a potentially modifiable risk factor for suicide, research examining the relationship between anxiety and suicidal behaviors has demonstrated mixed results. Therefore, we aimed at testing the hypothesis that anxiety disorders are associated with suicidal behaviors and evaluate the magnitude and quality of supporting evidence.

**Methods:** A systematic literature search of multiple databases was conducted from database inception through August 2011. Two investigators independently reviewed and determined the eligibility and quality of the studies based upon a priori established inclusion criteria. The outcomes of interest were suicidal ideations, suicide attempts, completed suicides, and a composite outcome of any suicidal behaviors. We pooled odds ratios from the included studies using random effects models.

**Results:** Forty-two observational studies were included. The studies had variable methodological quality due to inconsistent adjustment of confounders. Compared to those without anxiety, patients with anxiety were more likely to have suicidal ideations (OR = 2.89, 95% CI: 2.09, 4.00), attempted suicides (OR = 2.47, 95% CI: 1.96, 3.10), completed suicides (OR = 3.34, 95% CI: 2.13, 5.25), or have any suicidal behaviors (OR = 2.85, 95% CI: 2.35, 3.46). The increase in the risk of suicide was demonstrated for each subtype of anxiety except obsessive-compulsive disorder (OCD). The quality of this evidence is considered low to moderate due to heterogeneity and methodological limitations.

**Conclusions:** This systematic review and meta-analysis provides evidence that the rates of suicides are higher in patients with any type of anxiety disorders excluding OCD.
Utilized social support and self-esteem mediate the relationship between perceived social support and suicide ideation: a test of a multiple mediator model

Kleiman EM, Riskind JH (USA)
Crisis 34, 42-49, 2013

Background: While perceived social support has received considerable research as a protective factor for suicide ideation, little attention has been given to the mechanisms that mediate its effects.

Aims: We integrated two theoretical models, Joiner’s (2005) interpersonal theory of suicide and Leary’s (Leary, Tambor, Terdal, & Downs, 1995) sociometer theory of self-esteem to investigate two hypothesized mechanisms, utilization of social support and self-esteem. Specifically, we hypothesized that individuals must utilize the social support they perceive that would result in increased self-esteem, which in turn buffers them from suicide ideation.

Method: Participants were 172 college students who completed measures of social support, self-esteem, and suicide ideation.

Results: Tests of simple mediation indicate that utilization of social support and self-esteem may each individually help to mediate the perceived social support/suicide ideation relationship. Additionally, a test of multiple mediators using bootstrapping supported the hypothesized multiple-mediator model.

Limitations: The use of a cross-sectional design limited our ability to find true cause-and-effect relationships.

Conclusion: Results suggested that utilized social support and self-esteem both operate as individual moderators in the social support/self-esteem relationship. Results further suggested, in a comprehensive model, that perceived social support buffers suicide ideation through utilization of social support and increases in self-esteem.

Association of suicide rates, gun ownership, conservatism and individual suicide risk

Kposowa AJ (USA)

Objectives: The purpose of the study was to examine the association of suicide rates, firearm ownership, political conservatism, religious integration at the state level, and individual suicide risk. Social structural and social learning and social integration theories were theoretical frameworks employed. It was hypothesized that higher suicide rates, higher state firearm availability, and state conservatism elevate individual suicide risk.

Method: Data were pooled from the Multiple Cause of Death Files. Multilevel logistic regression models were fitted to all deaths occurring in 2000 through 2004 by suicide.
Results: The state suicide rate significantly elevated individual suicide risk (AOR = 1.042, CI = 1.037, 1.046). Firearm availability at the state level was associated with significantly higher odds of individual suicide (AOR = 1.004, CI = 1.003, 1.006). State political conservatism elevated the odds of individual suicides (AOR = 1.005, CI = 1.003, 1.007), while church membership at the state level reduced individual odds of suicide (AOR = 0.995, CI = 0.993, 0.996). The results held even after controlling for socioeconomic and demographic variables at the individual level.

Conclusion: It was concluded that the observed association between individual suicide odds and national suicide rates, and firearm ownership cannot be discounted. Future research ought to focus on integrating individual level data and contextual variables when testing for the impact of firearm ownership. Support was found for social learning and social integration theories.

Back so soon: Rapid re-presentations to the emergency department following intentional self-harm

Kuehl S, Nelson K, Collings S (New Zealand)
New Zealand Medical Journal 125, 70-79, 2012

Aim: To describe the number, characteristics and management of patients who presented to an emergency department (ED) with intentional self-harm and then re-presented for any reason within 1 week, over a 1-year period.

Method: A retrospective records review from one New Zealand ED over 12 months.

Results: Of the 120 patients who attended the ED more than once with intentional self-harm, 48 re-presented on 73 occasions within 7 days of the index presentation. Of the re-presentations, 55% occurred within 1 day. Mental health assessments by emergency department staff were minimal; challenging incidents occurred in 40% of presentations; and there was an increase in the inpatient admission rate for second presentations.

Conclusion: We identified a small group of patients who rapidly re-present to the ED following intentional self-harm. The reasons behind those re-presentations could include limited mental health assessments in ED and inadequate follow-up on discharge. System improvements in the ED including better collaboration with mental health services could improve how services address the needs of patients who present with intentional self-harm and reduce costs.
Time to hospitalization for suicide attempt by the timing of parental suicide during offspring early development

Kuramoto SJ, Runeson B, Stuart EA, Lichtenstein P, Wilcox HC (Sweden)
Archives of General Psychiatry 70, 149-157, 2013

Context: Previous studies have suggested that children who experience parental suicide at earlier ages are at higher risk of future hospitalization for suicide attempt. However, how the trajectories of risk differ by offspring age at the time of parental suicide is currently unknown.

Objective: To study time at risk to suicide attempt hospitalization among offspring of suicide decedents as compared with offspring of unintentional injury decedents by their developmental period at the time of parental death.

Design: Population-based retrospective cohort study.

Setting: Sweden.

Participants: Twenty-six thousand ninety-six offspring who experienced parental suicide and 32 395 offspring of unintentional injury decedents prior to age 25 years between the years 1973 and 2003.

Main Outcome Measure: Parametric survival analysis was used to model the time to hospitalization for suicide attempt among offspring who lost a parent during early childhood (0-5 years old), later childhood (6-12 years old), adolescence (13-17 years old), and young adulthood (18-24 years old).

Results: The risk in offspring who lost a parent to suicide or an unintentional injury during childhood surpassed the other age groups’ risk approximately 5 years after the origin and, for the youngest group, continued to rise over decades. Offspring who lost a parent during adolescence or young adulthood were at greatest risk within 1 to 2 years after parental death, and risk declined over time. Offspring who lost a parent to suicide in childhood and young adulthood had earlier onset of hospitalization for suicide attempt compared with offspring who lost a parent to an unintentional injury.

Conclusions: The hospitalization risk for suicide attempt in offspring who lost a parent during their childhood is different from those who lost a parent later in development. The results suggest critical windows for careful monitoring and intervention for suicide attempt risk, especially 1 to 2 years after parental death for the older age groups and over decades for childhood survivors of parental death.
Cyber bullying and physical bullying in adolescent suicide: The role of violent behavior and substance use

Litwiller BJ, Brausch AM (USA)
Journal of Youth and Adolescence 42, 675-684, 2013

The impact of bullying in all forms on the mental health and safety of adolescents is of particular interest, especially in the wake of new methods of bullying that victimize youths through technology. The current study examined the relationship between victimization from both physical and cyber bullying and adolescent suicidal behavior. Violent behavior, substance use, and unsafe sexual behavior were tested as mediators between two forms of bullying, cyber and physical, and suicidal behavior. Data were taken from a large risk-behavior screening study with a sample of 4,693 public high school students (mean age = 16.11, 47% female). The study’s findings showed that both physical bullying and cyber bullying associated with substance use, violent behavior, unsafe sexual behavior, and suicidal behavior. Substance use, violent behavior, and unsafe sexual behavior also all associated with suicidal behavior. Substance use and violent behavior partially mediated the relationship between both forms of bullying and suicidal behavior. The comparable amount of variance in suicidal behavior accounted for by both cyber bullying and physical bullying underscores the importance of further cyber bullying research. The direct association of each risk behavior with suicidal behavior also underscores the importance of reducing risk behaviors. Moreover, the role of violence and substance use as mediating behaviors offers an explanation of how risk behaviors can increase an adolescent’s likelihood of suicidal behavior through habituation to physical pain and psychological anxiety.

A one-year observational study of all hospitalized and fatal acute poisonings in Oslo: Epidemiology, intention and follow-up

BMC Public Health 20, 49, 2012

Background: Up to date information on poisoning trends is important. This study reports the epidemiology of all hospitalized acute poisonings in Oslo, including mortality, follow-up referrals, and whether the introduction of over-the-counter sales of paracetamol outside pharmacies had an impact on the frequency of poisonings.

Methods: All acute poisonings of adults (≥ 16 years) treated at the five hospitals in Oslo from April 2008 to April 2009 were included consecutively in an observational cross-sectional multicentre study. A standardized form was completed by the treating physician, which covered the study aims. All deaths by poisoning in and outside hospitals were registered at the Institute of Forensic Medicine.

Results: There were 1065 hospital admissions of 912 individuals; 460 (50%) were male, and the median age was 36 years. The annual incidence was 2.0 per 1000. The most frequent toxic agents were ethanol (18%), benzodiazepines (15%), paracetamol (11%), and opioids (11%). Physicians classified 46% as possible or
definite suicide attempts, 37% as accidental overdoses with substances of abuse (AOSA), and 16% as other accidents. Twenty-four per cent were discharged without any follow-up and the no follow-up odds were highest for AOSA. There were 117 deaths (eight in hospital), of which 75% were males, and the median age was 41 years. Thus, the annual mortality rate was 25 per 100 000 and the in-hospital mortality was 0.8%. Opioids were the most frequent cause of death.

Conclusions: The incidence of hospitalized acute poisonings in Oslo was similar to that in 2003 and there was an equal sex distribution. Compared with a study performed in Oslo in 2003, there has been an increase in poisonings with a suicidal intention. The in-hospital mortality was low and nine out of ten deaths occurred outside hospitals. Opioids were the leading cause of death, so preventive measures should be encouraged among substance abusers. The number of poisonings caused by paracetamol remained unchanged after the introduction of over-the-counter sales outside pharmacies and there were no deaths, so over-the-counter sales may be considered safe.

Applying the Anderson-Darling test to suicide clusters

Mackenzie DW (USA)

Crisis. Published online: 15 March 2013. doi: 10.1027/0227-5910/a000197, 2013

Background: Suicide clusters at Cornell University and the Massachusetts Institute of Technology (MIT) prompted popular and expert speculation of suicide contagion. However, some clustering is to be expected in any random process.

Aim: This work tested whether suicide clusters at these two universities differed significantly from those expected under a homogeneous Poisson process, in which suicides occur randomly and independently of one another.

Method: Suicide dates were collected for MIT and Cornell for 1990-2012. The Anderson-Darling statistic was used to test the goodness-of-fit of the intervals between suicides to distribution expected under the Poisson process.

Results: Suicides at MIT were consistent with the homogeneous Poisson process, while those at Cornell showed clustering inconsistent with such a process (p = .05).

Conclusions: The Anderson-Darling test provides a statistically powerful means to identify suicide clustering in small samples. Practitioners can use this method to test for clustering in relevant communities. The difference in clustering behavior between the two institutions suggests that more institutions should be studied to determine the prevalence of suicide clustering in universities and its causes.
Gender and racial differences for suicide attempters and ideators in a high-risk community corrections population
McCullumsmith CB, Clark CB, Perkins A, Fife J, Cropsey KL (USA)
*Crisis* 34, 50-62, 2013

**Background:** Community corrections populations are a high-risk group who carry multiple suicide risk factors.

**Aims:** To identify factors correlated with historical suicide attempts and ideation among African-American men, African-American women, White men, and White women in a community corrections population.

**Method:** Self-report data from 18,753 enrollees in community corrections were analyzed. Multinominal logistic regression analyses were conducted to determine associations between historical suicidal ideation and attempts among the four demographic groups.

**Results:** Participants with historical suicide attempts tended to be younger, White, female, be taking psychotropic medication, have a history of physical or sexual abuse, and meet criteria for dependence on alcohol, amphetamines, cocaine, opioids, or sedatives. Five variables were commonly associated with suicide attempts for all four race/gender groups: younger age, being on disability or retirement, taking psychotropic medication, history of sexual or physical abuse, and cocaine dependence. Other demographic variables had race or gender specificities as risk factors for suicide attempts.

**Conclusions:** Participants had high rates of historical suicide attempts with unique correlates differentiating attempters from ideators among different racial and gender groups. Cocaine dependence was universal predictor of suicide attempts, while other substance dependencies show specific racial and gender profiles associated with suicide attempts.

Decisions to initiate involuntary commitment: The role of intensive community services and other factors
McGarvey EL, Leon-Verdin M, Wanchek TN, Bonnie RJ (USA)
*Psychiatric Services* 64, 120-126, 2013

**Objective:** This study examined the predictors of actions to initiate involuntary commitment of individuals experiencing a mental health crisis.

**Methods:** Emergency services clinicians throughout Virginia completed a questionnaire following each face-to-face evaluation of individuals experiencing a mental health crisis. Over a one-month period in 2007, a total of 2,624 adults were evaluated. Logistic hierarchical multiple regression was used to analyze the relationship between demographic, clinical, and service-related variables and outcomes of the emergency evaluations.

**Results:** Several factors predicted 84% of the actions taken to initiate involuntary commitment. These included unavailability of alternatives to hospitalization, such as temporary housing or residential crisis stabilization; evaluation of the
client in a hospital emergency room or police station or while in police custody; current enrollment in treatment; and clinical factors related to the commitment criteria, including risk of self-harm or harm to others, acuity and severity of the crisis, and current drug abuse or dependence.

Conclusions: A lack of intensive community-based treatment and support in lieu of hospitalization accounted for a significant portion of variance in actions to initiate involuntary commitment. Comprehensive community services and supports for individuals experiencing mental health crises may reduce the rate of involuntary hospitalization. There is a need to enrich intensive community mental health services and supports and to evaluate the impact of these enhancements on the frequency of involuntary mental health interventions.

Depression and suicide ideation in late adolescence and early adulthood are an outcome of child hunger

McIntyre L, Williams JVA, Lavorato DH, Patten S (Canada)

Background: Child hunger represents an adverse experience that could contribute to mental health problems in later life. The objectives of this study were to: (1) examine the long-term effects of the reported experience of child hunger on late adolescence and young adult mental health outcomes; and (2) model the independent contribution of the child hunger experience to these long-term mental health outcomes in consideration of other experiences of child disadvantage.


Results: The prevalence of child hunger was 5.7% (95% CI 5.0-6.4). Child hunger was a robust predictor of depression and suicidal ideation [crude OR = 2.9 (95% CI 1.4-5.8)] even after adjustment for potential confounding variables, OR = 2.3 (95% CI 1.2-4.3).

Limitations: A single question was used to assess child hunger, which itself is a rare extreme manifestation of food insecurity; thus, the spectrum of child food insecurity was not examined, and the rarity of hunger constrained statistical power.

Conclusions: Child hunger appears to be a modifiable risk factor for depression and related suicide ideation in late adolescence and early adulthood, therefore prevention through the detection of such children and remedy of their circumstances may be an avenue to improve adult mental health.
Intimate partner abuse and suicidality: A systematic review
McLaughlin J, O’Carroll RE, O’Connor RC (UK)
Clinical Psychology Review 32, 677-689, 2012

Research has demonstrated an association between intimate partner abuse and suicidality, presenting a serious mental health issue. However, studies have differed widely in the samples and methods employed, and in the depth of the investigation. Given the level of heterogeneity in the literature, this systematic review examines, for the first time, the nature of the relationship between intimate partner abuse and suicidality. The three main psychological and medical databases (PsychInfo 1887-March 2011; Medline, 1966-March 2011; Web of Knowledge 1981-March 2011) were searched. Thirty-seven papers on the topic of intimate partner abuse and suicidality were found. With only one exception, all of the studies found a strong and consistent association between intimate partner abuse and suicidality. Significantly, this relationship held irrespective of study design, sample and measurement of abuse and suicidality, thus demonstrating a consistently strong relationship between intimate partner abuse and suicidality. This review highlights that intimate partner abuse is a significant risk factor for suicidal thoughts and behaviours, which has important clinical implications.

Positron emission tomography quantification of serotonin transporter in suicide attempters with major depressive disorder
Miller JM, Hesselgrave N, Ogden RT, Sullivan GM, Oquendo MA, Mann JJ, Parsey RV (USA)
Biological Psychiatry. Published online: 1 March 2013. doi: 10.1016/j.biopsych.2013.01.024, 2013

Background: Several lines of evidence implicate abnormal serotonergic function in suicidal behavior and completed suicide, including low serotonin transporter binding in postmortem studies of completed suicide. We have also reported low in vivo serotonin transporter binding in major depressive disorder (MDD) during a major depressive episode using positron emission tomography (PET) with [11C]McN5652. We quantified regional brain serotonin transporter binding in vivo in depressed suicide attempters, depressed nonattempters, and healthy controls using PET and a superior radiotracer, [11C]DASB.

Methods: Fifty-one subjects with DSM-IV current MDD, 15 of whom were past suicide attempters, and 32 healthy control subjects underwent PET scanning with [11C]DASB to quantify in vivo regional brain serotonin transporter binding. Metabolite-corrected arterial input functions and plasma free-fraction were acquired to improve quantification.

Results: Depressed suicide attempters had lower serotonin transporter binding in midbrain compared with depressed nonattempters (p = .031) and control subjects (p = .0093). There was no difference in serotonin transporter binding comparing all depressed subjects with healthy control subjects considering six a priori regions of interest simultaneously (p = .41).
**Conclusions:** Low midbrain serotonin transporter binding appears to be related to the pathophysiology of suicidal behavior rather than of major depressive disorder. This is consistent with postmortem work showing low midbrain serotonin transporter binding capacity in depressed suicides and may partially explain discrepant in vivo findings quantifying serotonin transporter in depression. Future studies should investigate midbrain serotonin transporter binding as a predictor of suicidal behavior in MDD and determine the cause of low binding.

**Helping elderly patients to avoid suicide: A review of case reports from a national veteran’s affairs database**

Mills PD, Watts BV, Huh TJW, Boar S, Kemp J (USA)

*Journal of Nervous and Mental Disease* 201, 12-16, 2013

This study examines the health system factors associated with completed suicide among veterans older than 65 years. All root cause analysis reports of suicides that occurred between 2008 and 2010 in the Veterans Health Administration were reviewed; of those, 46 reports were for those 65 years or older. The average age in the sample was 76.96 years; all were men. Method of suicide, stressors, previous attempts, root causes, and action plans designed to address the root causes are reported. Based on these results, recommendations are made for the assessment and treatment of suicide in elderly men.

**The impact of media reports on the 2008 outbreak of hydrogen sulfide suicides in Japan**

Nakamura M, Yasunaga H, Toda A, Sugihara T, Imamura T (Japan)


**Objective:** Japan experienced a nationwide outbreak of hydrogen sulfide suicides (HSS) between April and May 2008. The annual number of HSS skyrocketed from 19 in 2007 to 1,056 in 2008. However, the factors affecting this enormous increase remain unknown. The present study aimed to examine the effect of media coverage of the incidents on the subsequent epidemic of HSS.

**Method:** We collected time series data from the 1st week of February to the last week of September 2008 (34 weeks), including the number of HSS (St), the number of articles on HSS published in the five major newspapers (N t), and the number of Internet searches with the keyword “hydrogen sulfide suicide” (G t). The generalized method of moments was applied to model the concurrent effects of N t and G t on St.

**Results:** The increase in the number of newspaper articles significantly induced the increase in HSS (coefficient, 0.84; 95% confidence interval (CI), 0.28-5.3), while the number of Internet searches did not significantly affect the number of HSS (coefficient, -0.75; 95%CI, -19.3-0.45).

**Conclusions:** Exposure to information on HSS from newspaper articles could have directly affected the subsequent increase in the number of suicides. On the other hand, the number of the Internet searches did not have a direct influence on HSS.
Attitudes towards suicidal behaviour in outpatient clinics among mental health professionals in Oslo
Norheim AB, Grimholt TK, Ekeberg O (Norway)
BMC Psychiatry 13, 90, 2013

**Background:** To investigate attitudes of professionals working in mental health care outpatient clinics in Child and Adolescent Psychiatry (CAP) (for children and adolescents aged 0—18 years) and District Psychiatric Centres (DPC) (for adults aged 18—67 years).

**Methods:** Professionals in four outpatient units in Oslo were enrolled (n = 229: 77%). The Understanding of Suicidal Patient scale (USP) (11 = positive to 55 = negative) and Attitudes Towards Suicide questionnaire (ATTS) (1 = totally disagree to 5 = totally agree) were used to assess professionals’ attitudes. Questions explored competence, religion, experiences of and views on suicidal behaviour and its treatment.

**Results:** All the professionals indicated positive attitudes (USP 18.7) and endorsed the view that suicide was preventable (ATTS 4.3). Professionals who had received supervision or were specialists had attitudes that were more positive. Professionals in CAP were less satisfied with available treatment. Psychiatric disorders were considered the most common cause of suicidal behaviour, and psychotherapy the most appropriate form of treatment. The professionals confirmed that patients with other disorders of comparable severity are followed up more systematically.

**Conclusions:** The professionals showed positive attitudes with minor differences between CAP and DPC.

Factors that distinguish college students with depressive symptoms with and without suicidal thoughts

**Background:** Suicide among college students is a significant public health concern. Although suicidality is linked to depression, not all depressed college students experience suicidal ideation (SI). The primary aim of this study was to determine potential factors that may distinguish college students with depressive symptoms with and without SI.

**Methods:** A total of 287 undergraduate college students with substantial depressive symptoms (Beck Depression Inventory [BDI] total score >13) with and without SI were compared across psychiatric and functional outcome variables. Independent sample t tests were conducted for each outcome variable using the suicide item of the BDI as a dichotomous (ie, zero vs nonzero score) grouping variable.

**Results:** Relative to students with substantial depressive symptoms without SI, those with SI were more symptomatic overall, having significantly higher levels of depressive symptoms, hopelessness, and anxiety. However, contrary to our expec-
tions, nonsuicidal and suicidal students did not differ on measures of everyday functioning (ie, cognitive and physical functioning and grade point average).

Conclusions: Our findings suggest that SI among college students is associated with increased subjective distress but may not adversely impact physical or cognitive functioning or academic performance.

Differential patterns of activity and functional connectivity in emotion processing neural circuitry to angry and happy faces in adolescents with and without suicide attempt

Pan La, Hassel S, Segreti Am, Nau Sa, Brent Da, Phillips MI (Canada, USA, UK)

Psychological Medicine. Published online: 9 January 2013. doi: 10.1017/S0033291712002966, 2013

Background: Neural substrates of emotion dysregulation in adolescent suicide attempters remain unexamined.

Method: We used functional magnetic resonance imaging to measure neural activity to neutral, mild or intense (i.e. 0%, 50% or 100% intensity) emotion face morphs in two separate emotion-processing runs (angry and happy) in three adolescent groups: (1) history of suicide attempt and depression (ATT, n = 14); (2) history of depression alone (NAT, n = 15); and (3) healthy controls (HC, n = 15). Post-hoc analyses were conducted on interactions from 3 group × 3 condition (intensities) whole-brain analyses (p < 0.05, corrected) for each emotion run.

Results: To 50% intensity angry faces, ATT showed significantly greater activity than NAT in anterior cingulate gyrus-dorsolateral prefrontal cortical attentional control circuitry, primary sensory and temporal cortices; and significantly greater activity than HC in the primary sensory cortex, while NAT had significantly lower activity than HC in the anterior cingulate gyrus and ventromedial prefrontal cortex. To neutral faces during the angry emotion-processing run, ATT had significantly lower activity than NAT in the fusiform gyrus. ATT also showed significantly lower activity than HC to 100% intensity happy faces in the primary sensory cortex, and to neutral faces in the happy run in the anterior cingulate and left medial frontal gyri (all p < 0.006, corrected). Psychophysiological interaction analyses revealed significantly reduced anterior cingulate gyrus-insula functional connectivity to 50% intensity angry faces in ATT v. NAT or HC.

Conclusions: Elevated activity in attention control circuitry, and reduced anterior cingulate gyrus-insula functional connectivity, to 50% intensity angry faces in ATT than other groups suggest that ATT may show inefficient recruitment of attentional control neural circuitry when regulating attention to mild intensity angry faces, which may represent a potential biological marker for suicide risk.
Does the level of education influence completed suicide? A nationwide register study

Pompili M, Vichi M, Qin P, Innamorati M, De Leo D, Girardi P (Italy)
Journal of Affective Disorders. Published online: 26 September 2012. doi: 10.1016/j.jad.2012.08.046, 2012

Objective: To evaluate whether education attainment was associated with completed suicide, a topic only marginally investigated in the literature.

Methods: Data for the years between 2006 and 2008 were extracted from the Italian Mortality Database to include all deaths by suicide and natural causes and to obtain information on their education attainment.

Results: We found significant differences in education attainment between suicide victims and individuals deceased by natural causes, stratified by sex and broken down by age bands. Of both males and females from 15 to 64 years old, suicide victims were significantly more often to have a higher education attainment compared with the same sex and age counterparts died from natural causes. Persons with higher school attainment, compared with those with a maximum primary school degree, had significantly increased odds ratios of dying from a suicide rather than a natural cause. For persons aged 65-74 years or above, however, the differences were not so much obvious. These observations remained almost the same after adjustment for marital status, region of residence and age.

Conclusions: Individual with higher educational achievement may be more prone to suicide risk when facing failures, public shame, and high premorbid functioning.

Family history of suicide and exposure to interpersonal violence in childhood predict suicide in male suicide attempters

Rajalin M, Hirvikoski T, Jokinen J (Sweden)

Background: Family studies, including twin and adoption designs, have shown familial transmission of suicidal behaviors. Early environmental risk factors have an important role in the etiology of suicidal behavior. The aim of the present study was to assess the impact of family history of suicide and childhood trauma on suicide risk and on severity of suicide attempt in suicide attempters.

Methods: A total of 181 suicide attempters were included. Family history of suicide was assessed with the Karolinska Suicide History Interview or through patient records. Childhood trauma was assessed with the Karolinska Interpersonal Violence Scale (KIVS) measuring exposure to violence and expressed violent behavior in childhood (between 6 and 14 years of age) and during adult life (15 years or older). Suicide intent was measured with the Freeman scale.

Results: Male suicide attempters with a positive family history of suicide made more serious and well planned suicide attempts and had a significantly higher suicide risk. In logistic regression, family history of suicide and exposure to interpersonal violence as a child were independent predictors of suicide in male suicide attempters.
**Limitations:** The information about family history of suicide and exposure to interpersonal violence as a child derives from the patients only. In the first part of the inclusion period the information was collected from patient records.

**Conclusions:** The results of this study imply that suicides among those at biological risk might be prevented with the early recognition of environmental risks.

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**A systematic review of school-based interventions aimed at preventing, treating, and responding to suicide-related behavior in young people**


*Crisis.* Published online: 28 November 2012. doi: 10.1027/0227-5910/a000168, 2012

**Background:** Suicide, in particular among young people, is a major public health problem, although little is known regarding effective interventions for managing and preventing suicide-related behavior.

**Aims:** To review the empirical literature pertaining to suicide postvention, prevention, and early intervention, specifically in school settings.

**Method:** MEDLINE, PsycINFO, and the Cochrane Central Register of Controlled Trials (CCRCT) as well as citation lists of relevant articles using terms related to suicide and schools were searched in July 2011. School-based programs targeting suicide, attempted suicide, suicidal ideation, and self-harm where intent is not specified were included. No exclusion was placed on trial design. All studies had to include a suicide-related outcome.

**Results:** A total of 412 potentially relevant studies were identified, 43 of which met the inclusion criteria, as well as three secondary publications: 15 universal awareness programs, 23 selective interventions, 3 targeted interventions, and 2 postvention trials.

**Limitations:** Overall, the evidence was limited and hampered by methodological concerns, particularly a lack of RCTs.

**Conclusions:** The most promising interventions for schools appear to be gatekeeper training and screening programs. However, more research is needed.

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**The role of impulsivity in the relationship between anxiety and suicidal ideation**

Schaefer KE, Esposito-Smythers C, Riskind JH (USA)

*Journal of Affective Disorders* 143, 95-101, 2012

**Background:** The purpose of the present study was to examine the degree to which trait and cognitive (looming cognitive style) measures of anxiety are associated with suicidal ideation (SI), as well as whether trait and cognitive (time misperception) measures of impulsivity moderate the association between these variables.

**Methods:** The sample included 100 undergraduate students (72% female) who completed the Spielberger State-Trait Anxiety Inventory, Looming Maladaptive Style Questionnaire, Barratt Impulsiveness Scale, Time Paradigm Version 1.0 Task,
Beck Scale for Suicidal Ideation, and the Brief Symptom Inventory.  

**Results:** Trait anxiety and looming cognitive style were found to be positively associated with SI. Further, both trait impulsivity and time misperception moderated the association between these variables and SI, but in a different manner. Consistent with study hypotheses, among those high in trait anxiety, greater overestimation of time was associated with a higher likelihood of SI. Contrary to study hypotheses, among those low in trait anxiety, high trait impulsivity was associated with a greater likelihood of SI. The same pattern of results was found when looming cognitive style served as the independent variable.  

**Limitations:** The use of a cross-sectional design limits the ability to determine the temporal relationship of the study variables. Further, the sample included predominantly Caucasian undergraduates and thus study results may not generalize to other populations.  

**Conclusions:** Clinically, results suggest that high trait anxiety, looming cognitive style, time misperception, and trait impulsivity may be important risk factors for SI among college students and thus should be assessed when students present for treatment. Treatments that focus on problem solving, cognitive restructuring, and affect regulation strategies may help decrease anxiety and impulsivity, which in turn may help reduce the likelihood of suicidal thoughts.  

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**Persistent mental health disturbances during the 10 years after a disaster: Four-wave longitudinal comparative study**  

van der Velden PG, Wong A, Boshuizen HC, Grievink L (Netherlands)  

*Psychiatry and the Clinical Neurosciences* 67, 110-118, 2013  

**Aim:** Although some studies have examined the long-term effects of disasters, very little is known about severe persistent symptoms following disasters. The aim of the present study was to examine persistent mental health problems and to what extent disaster exposure predicts long-term persistent disturbances.  

**Methods:** Following a major disaster, a four-wave study was conducted (surveys 2-3 weeks, 18 months, 4 years and 10 years after the event) that examined severe post-traumatic stress disorder (PTSD) symptomatology (Impact of Event Scale), anxiety and depression symptoms and sleeping problems (Symptom Check List-90-R), and use of physician-prescribed tranquilizers. Participants were affected adult Dutch native residents (n = 1083). At wave 2 and 3, a control group participated (n = 694). At wave 1, severity of disaster exposure was examined. Multiple imputation was used to target the problem of missing data across surveys due to non-response such as in the fourth wave (61%).  

**Results:** In total, 6.7% (95% confidence interval [CI]: 5.1-8.2) developed persistent PTSD symptoms during the 10 years after the event. For anxiety, depression, sleeping problems these prevalences were 3.8% (95%CI: 2.7-5.0), 6.2% (95%CI: 4.7-7.6) and 4.8% (95%CI: 3.5-6.1) respectively. In total 1.3% (95%CI: 0.6-2.0) used tranquilizers at all waves. Approximately one out of 10 with severe symptoms
2-3 weeks after the event, developed persistent symptoms. Even in the long term, affected residents compared to controls had more often chronic anxiety symptoms and sleeping problems. High disaster exposure independently predicted persistent PTSD symptoms (adjusted odds ratio [adj. OR], 4.20; 95%CI: 2.02-8.74, P<0.001), anxiety (adj. OR, 3.43; 95%CI: 1.28-9.20, P<0.01), depression symptoms (adj. OR, 2.95; 95%CI: 1.26-6.93, P<0.01), and sleeping problems (adj. OR, 3.74; 95%CI: 1.56-8.95, P<0.001).

**Conclusion:** Post-disaster mental health care should (also) target persistent mental health disturbances in the long term, especially PTSD, anxiety, depression symptoms, and sleeping problems. High disaster exposure may be an early marker for risk of persistent symptoms.

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**Reducing suicidal ideation: Cost-effectiveness analysis of a randomized controlled trial of unguided web-based self-help**

van Spijker BAJ, Majo MC, Smit F, van Straten A, Kerkhof AJFM (Netherlands)

*Journal of Medical Internet Research* 14, e141, 2012

**Background:** Suicidal ideation is highly prevalent, but often remains untreated. The Internet can be used to provide accessible interventions.

**Objective:** To evaluate the cost-effectiveness of an online, unguided, self-help intervention for reducing suicidal ideation.

**Methods:** A total of 236 adults with mild to moderate suicidal thoughts, defined as scores between 1-26 on the Beck Scale for Suicide Ideation (BSS), were recruited in the general population and randomized to the intervention (n = 116) or to a waitlist, information-only, control group (n = 120). The intervention aimed to decrease the frequency and intensity of suicidal ideation and consisted of 6 modules based on cognitive behavioral techniques. Participants in both groups had unrestricted access to care as usual. Assessments took place at baseline and 6 weeks later (post-test). All questionnaires were self-report and administered via the Internet. Treatment response was defined as a clinically significant decrease in suicidal ideation on the BSS. Total per-participant costs encompassed costs of health service uptake, participants’ out-of-pocket expenses, costs stemming from production losses, and intervention costs. These were expressed in Euros (€) for the reference year 2009.

**Results:** At post-test, treatment response was 35.3% and 20.8% in the experimental and control conditions, respectively. The incremental effectiveness was 0.35 - 0.21 = 0.15 (SE 0.06, P = .01). The annualized incremental costs were -€5039 per participant. Therefore, the mean incremental cost-effectiveness ratio (ICER) was estimated to be -€5039/0.15 = -€34,727 after rounding (US -$41,325) for an additional treatment response, indicating annual cost savings per treatment responder.

**Conclusions:** This is the first trial to indicate that online self-help to reduce suicidal ideation is feasible, effective, and cost saving. Limitations included reliance on self-report and a short timeframe (6 weeks). Therefore, replication with a longer follow-up period is recommended.
When does depression become a disorder? Using recurrence rates to evaluate the validity of proposed changes in major depression diagnostic thresholds

Wakefield JC, Schmitz MF (USA)

*World Psychiatry* 12, 44-52, 2013

High community prevalence estimates of DSM-defined major depressive disorder (MDD) have led to proposals to raise MDD’s diagnostic threshold to more validly distinguish pathology from normal-range distress. However, such proposals lack empirical validation. We used MDD recurrence rates in the longitudinal 2-wave Epidemiologic Catchment Area Study to test the predictive validity of three proposals to narrow MDD diagnosis: a) excluding “uncomplicated” episodes (i.e., episodes that last no longer than 2 months and do not include suicidal ideation, psychotic ideation, psychomotor retardation, or feelings of worthlessness); b) excluding mild episodes (i.e., episodes with only five to six symptoms); and c) excluding nonmelancholic episodes. For each proposal, we used lifetime MDD diagnoses at wave 1 to distinguish the group proposed for exclusion, other MDD, and those with no MDD history. We then compared these groups’ 1-year MDD rates at wave 2. A proposal was considered strongly supported if at wave 2 the excluded group’s MDD rate was not only significantly lower than the rate for other MDD but also not significantly greater than the no-MDD-history group. Results indicated that all three excluded groups had significantly lower recurrence rates than other MDD (uncomplicated vs. complicated, 3.4% vs. 14.6%; mild vs. severe, 9.6% vs. 20.7%; nonmelancholic vs. melancholic, 10.6% vs. 19.2%, respectively). However, only uncomplicated MDD’s recurrence rate was also not significantly greater than the MDD occurrence rate for the no-MDD-history group (3.4% vs. 1.7%, respectively). This low recurrence rate resulted from an interaction between uncomplicated duration and symptom criteria. Multiple-episode uncomplicated MDD did not entail significantly elevated recurrence over single-episode cases (3.7% vs. 3.0%, respectively). Uncomplicated MDD’s general-distress symptoms, transient duration, and lack of elevated recurrence suggest it may generally represent nonpathologic intense sadness that should be addressed in treatment guidelines and considered for exclusion from MDD diagnosis to increase the validity of the MDD/normal sadness boundary.
A systematic review process to evaluate suicide prevention programs: A sample case of community-based programs

York J, Lamis DA, Friedman L, Berman AL, Joiner TE, McIntosh JL, Silverman MM, Konick L, Gutierrez PM, Pearson J (USA)
Journal of Community Psychology 41, 35-51, 2013

The Guide to Community Preventive Services (Guide), one of the most rigorous methods of systematic reviews, was adopted to evaluate the effectiveness of 16 community, primarily youth, suicide prevention interventions, through a multi-sectoral collaboration. The Guide steps for obtaining and evaluating evidence on effectiveness include: forming a multidisciplinary team; developing a conceptual approach to organizing, grouping, selecting, and evaluating the interventions; selecting the interventions; searching for and retrieving evidence; assessing the quality of and summarizing the body of evidence; translating the evidence of effectiveness into recommendations; considering additional evidence; and identifying and summarizing research gaps. The intervention effects were calculated using Hedge’s g-type (standardized mean differences) effect sizes. The strength of the body of evidence was characterized on the basis of suitability of the study design for assessing effectiveness and quality of study execution. Results indicated that student curriculum, combined curriculum and gatekeeper training, and competence programs have a positive effect on adolescent’s knowledge and attitudes about suicide, but only a negligible effect on suicidal behaviors. Five of 7 studies with moderate to large effect sizes on outcomes were also those with both good quality of execution and the greatest suitability of the design. Policy recommendations are offered for the improved evaluation of the effectiveness of suicide prevention programs in youth.

Orphaned and abused youth are vulnerable to pregnancy and suicide risk

Zapata LB, Kissin DM, Bogoliubova O, Yorick RV, Kraft JM, Jamieson DJ, Marchbanks PA, Hillis SD (USA, Russia)

Objective: Little is known about the magnitude and consequences of violence against children for those living outside family care. We sought to estimate the frequency of childhood abuse and examine its association with lifetime pregnancy involvement (LPI) and past year suicide ideation among orphaned youth. Methods: We analyzed data collected via cross-sectional interviewer-administered surveys completed by 293 orphaned youth aged 16-23 years living outside of family care in St. Petersburg, Russia. We used multivariable logistic regression to estimate adjusted odds ratios (AORs) of LPI and past year suicide ideation associated with childhood physical and sexual abuse. Other risk factors were also examined (e.g., social vulnerability, sexual and substance use behaviors), and characteristics of orphaned youth with LPI and past year suicide ideation were described.
**Results:** The prevalence of childhood abuse was higher among females than among males (23.3% versus 15.6% for physical abuse, and 20.3% versus 5.6% for sexual abuse), as was the prevalence of LPI and past year suicide ideation among those with histories of abuse. Experiences of childhood abuse were strong risk factors for both LPI and past year suicide ideation, with significant variation by gender. While both types of abuse were significantly associated with LPI and past year suicide ideation among females, physical abuse was significantly associated with LPI and sexual abuse was associated with suicide ideation for males. Of the other characteristics examined, strong modifiable risk factors included having no one to turn to for help and no involvement in activities outside of class. Among those with LPI (n = 36), nearly 20% had been pregnant or gotten someone pregnant ≥ 2 times, most (61.8%) reported at least one induced abortion, and current use of effective contraception was nearly non-existent. Among those with past year suicide ideation (n = 30), nearly half (44.8%) reported attempting suicide.

**Conclusions:** There is an urgent need for interventions to prevent and mitigate the negative influence of childhood abuse experiences. Programs providing services to orphaned youth should increase access to sexual education, effective contraceptives, and mental health counseling.

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**Body mass index and suicidal behaviors: A critical review of epidemiological evidence**

Zhang J, Yan F, Li Y, McKeown RE (USA)

*Journal of Affective Disorders*. Published online: 20 September 2012. doi: 10.1016/j.jad.2012.05.048, 2012

**Introduction:** Obesity has been associated with an elevated risk of depression and other mental health symptoms. An increasing number of robust prospective studies, however, counter-intuitively and consistently suggested that body mass index (BMI) was inversely associated with the risk of completed suicide in a dose-response fashion. The current contribution appraised the epidemiological evidence and examined the nature of the purported relationship.

**Method:** We conducted a systematic review of English publications of original studies using the terms “obesity”, “overweight”, “body mass index”, “BMI”, “attempted suicide”, “completed suicide”, “suicide ideation”, “suicidal behaviors” and “suicide”. Data were extracted primarily through MEDLINE and PUBMED databases.

**Results:** Almost all cohort studies reported an inverse relationship between BMI and the risk of completed suicide irrespective of region of origin and the gender of study participants. Overall, among men, a high BMI was associated with a low risk of attempted or completed suicide. There was a paradox among women, namely, a high BMI was associated with an elevated risk of attempted suicide but a low risk of completed suicide.

**Limitations:** As a narrative review, the current report was interpretive and qualitative in nature.
**Conclusion:** Consideration of observational data, methodological issues stemmed from the rarity of deaths by suicide, homogeneity of study populations, heterogeneity of suicide methods, and the corresponding neurobiological changes made interpretation difficult. Intercultural cohort observations across countries may help to weigh the contributions from biological and socio-cultural factors. The purported association not only represents a scientific challenge, it’s also an opportunity potentially leading to important insights into prevention of suicide death.
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FATAL SUICIDAL BEHAVIOR

Epidemiology


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