

Volume 3

SUICIDE RESEARCH:
SELECTED READINGS

J. Svetlicic, A. Milner, D. De Leo

November 2009–April 2010

Australian Institute for Suicide Research and Prevention

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WHO Collaborating Centre for Research and Training in Suicide Prevention

National Centre of Excellence in Suicide Prevention

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Foreword

This volume contains quotations from internationally peer-reviewed suicide research published during the semester November 2009 to April 2010; it is the third 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.

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 researches 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 that represent a remarkable advancement of suicide research knowledge; their abstracts are reported in extenso, underlining our invitation at reading those papers in full text.

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, and so on). The derived 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 has been most recently published on the topic.

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

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

Diego De Leo, DSc

Director, Australian Institute for Suicide Research and Prevention

Acknowledgments

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Introduction

Context

Suicide places a substantial burden on individuals, communities and society in terms of emotional, economic and health care costs. In Australia, about 2000 people die from suicide every year, a death rate well in excess of transport-related mortality. At the time of preparing this volume, the latest available statistics released by the Australian Bureau of Statistics¹ indicated that, in 2008, 2,190 deaths by suicide were registered in Australia, representing an age-standardized rate of 9.4 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 activities. Indeed, the ABS acknowledges 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 mid-2005. More recently (Spring 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 biannual 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, this particular review serves 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); and
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 6 months internationally. For each article identified by us (the method of choosing articles is 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 2009 and April 2010; 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 2009 to April 2010. 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 One included:

- Timeliness: the article was published (either electronically or in hard-copy) between November 2009 and April 2010.

- 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 and 2 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 minimize 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 Phase 2 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 time-frame), 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

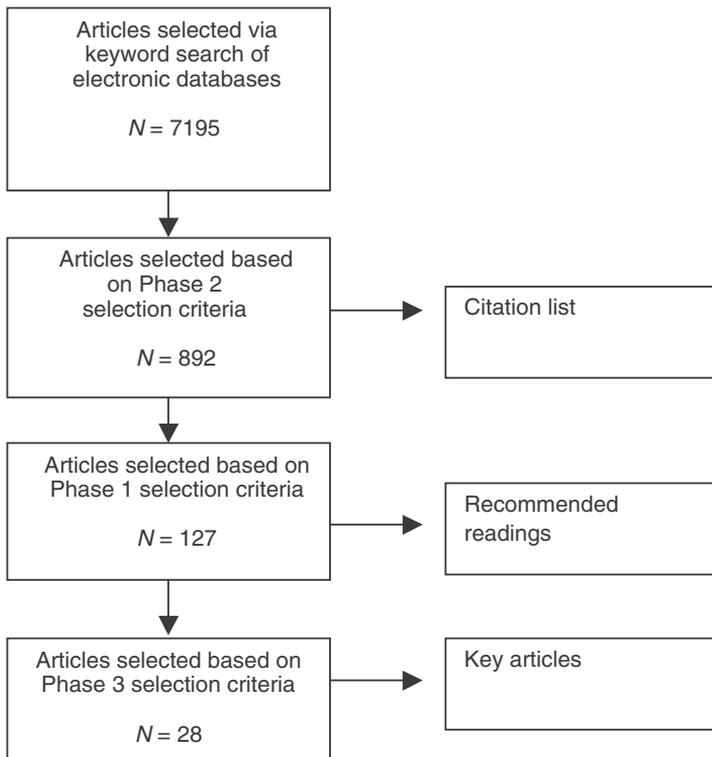


Figure 1 Flowchart of process.

- suggestions for integrating research findings within the domains of the LIFE framework suicide prevention activities.

Phase 4

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

- *Fatal suicidal behaviour* (epidemiology, risk and protective factors, prevention, post-vention 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

- 1 Australian Bureau of Statistics. (2010). *Causes of death, Australia, 2008*, suicides (Cat. No. 3303.0). Canberra, Australia.
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- 3 Begg S, Vos T, Barker B, Stevenson C, Stanley L, Lopez, A (2007). *The burden of disease and injury in Australia 2003*. Canberra, Australia: Australian Institute for Health and Welfare.
- 4 Australian Bureau of Statistics. (2009). *Causes of death, Australia, 2007*, technical note 1 (Cat. No. 3303.0). Canberra, Australia.
- 5 Australian Bureau of Statistics. (2009). *Causes of death, Australia, 2007*, explanatory notes (Cat. No. 3303.0). Canberra, Australia.

Key Articles

Suicide in selected occupations in Queensland: evidence from the State suicide register

Andersen K, Hawgood J, Klieve H, Kolves K, De Leo D (Australia)

Australian and New Zealand Journal of Psychiatry 44, 243-249, 2010

Objective: Prior research has suggested an association between suicide and certain occupations. The aim of the present study was to report on suicide rates in selected occupations in Queensland (QLD).

Method: Suicide mortality data from the QLD Suicide Register and population data from the Australian Bureau of Statistics were obtained for the period 1990-2006. Suicide rates were calculated for each occupational group and compared to rates within the general population (15-64 year age group) and the employed population of QLD.

Results: There was significantly higher risk of suicide for male subjects in the agricultural, transport and construction sectors of QLD. High suicide rates were also found in female nurses, artists, agricultural workers and cleaners, while education professionals (of both genders) appeared at lower risk.

Conclusions: The significantly higher suicide rates for employees of the agriculture, construction, and transport industries indicate a need for further research into the occupation-specific conditions and individual or other social-environmental factors that may accentuate suicide risk within these professions. Use of higher quality occupational data is also warranted in future studies.

Comment

Main findings: This paper found that the employed population of Queensland had a significantly lower suicide rate compared to the general population, which confirms past reports that employment can act as a protective factor against suicide. It also reports significant variation in suicide between eight different occupational groups and the total working population. Compared to all employed males in Queensland, those in agricultural, construction, transport, and cleaning occupations had a significantly higher risk of suicide, while males employed in education had a lower risk of suicide. Among females, nurses and artists had significantly higher suicide rates than the rest of the employed females.

This paper used the Queensland Suicide Register (QSR) and data from the Australian Bureau of Statistics to calculate rate ratios comparing the suicide rates of selected occupation categories to the suicide rate of the total employed population. The use of employed population as a comparison group represents a methodological improvement on past approaches, which commonly presented suicide rates for general population, including persons not employed, such as the elderly and students.

Implications: In Australia, past research has identified those employed in farming professions¹ and the building industry² as having elevated risk of suicide. Aside from this, research into suicide within other occupational groups in the Australian population is lacking. To a large extent, this study confirms the idea that some professions are at higher risk of suicide than others. As the authors of this paper suggest, it is likely that access to lethal means used to suicide and social stressors may explain the link between certain occupations and suicide. One of the practical implications arising from this study is the recommendation for more stringent restrictions of access to firearms, pesticides and poisonous substances. It is also necessary to consider the wider societal and life stressors that may place persons in identified occupations at higher risk of suicide, including concerns about income and employment stability. Understanding these concerns is particularly relevant, considering the detrimental impact of the recent global economic crisis on certain sectors of society (e.g. the retail sector was thought to be more affected than other industries). However, long-term impacts of this crisis on certain occupations as well as on total population remain to be investigated.

Endnotes

- 1 Page AN, Frager LN (2007). Suicide in Australian farming, 1988-1997. *Australian and New Zealand Journal of Psychiatry* 36, 81-85.
- 2 Heller TS, Hawgood JL, De Leo D (2009). Correlates of suicide in building industry workers. *Archives of Suicide Research* 11, 105-117.

A comparative study of non-fatal self-poisoning with antidepressants relative to prescribing in three centres in England

Bergen H, Murphy E, Cooper J, Kapur N, Stalker C, Waters K, Hawton K (UK)

Journal of Affective Disorders. Published online: 28 October 2009. doi: 10.1016/j.jad.2009.10.004, 2009

Background: Antidepressants are used frequently in non-fatal self-poisoning. There are national guidelines for prescribing antidepressants. There have been few investigations of how non-fatal self-poisoning with antidepressants varies in relation to prescribing and to patient characteristics.

Methods: A comparative study of the use of specific antidepressants (amitriptyline and dosulepin (tricyclics), citalopram, fluoxetine, paroxetine and sertraline (selective serotonin reuptake inhibitors) and venlafaxine (serotonin norepinephrine reuptake inhibitor)) for non-fatal self-poisoning (episode-based), relative to prescribing, in three centres in England, 2004 to 2006.

Results: There was marked variation between centres in the ratio of rates of self-poisoning to prescribing for specific antidepressants. Higher rates of self-poisoning relative to prescribing for all antidepressants combined, and for venlafaxine, were found in the centre with greater proportions of patients with a history of self-harm and/or previous psychiatric treatment. Within each centre, higher rates of self-poisoning relative to prescribing were found for citalopram and fluoxetine than amitriptyline. However, rates of self-poisoning relative to prescribing for either amitriptyline or dosulepin were also similar to sertraline, which is of concern given the known toxicity of tricyclics.

Limitations: An ecological study, where prescriptions were for all indications and not specifically for the patients who self-poisoned.

Conclusions: Marked differences found in ratios of self-poisoning with antidepressants to levels of prescribing, in three centres in England, are likely to reflect differences in both prescribing practices (despite clear national guidance) and patient characteristics. Risk of overdose and toxicity should be considered when local prescribing policy and clinical practice relating to antidepressants are under review.

Comment

Main findings: This study analysed data on presentations of intentional self-harm to three emergency departments in the United Kingdom. It used a broad definition of ‘self-harm’ (intentional self-poisoning or self-injury, irrespective of motivation) rather than ‘suicide attempt’ (in which there is usually some indication or statement that the intention was suicidal). The central aim of the study was to compare the use of self-poisoning in relation to patterns of prescribing antidepressants and patient characteristics (e.g. past psychiatric treatment or self-harm presentations). Results suggest marked variations among the three sites in prevalence of self-poisoning and antidepressant prescribing patterns, showing that the locality with a higher number of persons with previous psychiatric treatment also had higher use of self-poisoning as a self-harm method. The study also found that certain anti-depressants were more frequently used as self-harm methods than others (e.g. citalopram and floxetine). Dosulepin was used for self-poisoning more often than amitriptyline in two centres, which may be because of its high level of toxicity. Further investigation is warranted into the reasons why highly toxic antidepressants continue to be prescribed. This study also draws attention to the fact that both prescribing practices (despite clear national guidance) and patient characteristics are related to self-poisoning.

Implications: The findings of this study are relevant because the rate of antidepressant prescriptions in Australia have increased by 6.6% per year since 2002.¹ Unfortunately, there has been limited research on the effects of these prescribing behaviours on hospital presentations for self-poisoning. A likely reason for this is the absence of systematic and comparable monitoring systems for self-harm and/or suicide attempts in hospital emergency departments. This is not to say that the relationship between suicide and anti-depressants has been ignored in Australia, as there is some existing literature regarding suicide deaths.² However, aside from investigating suicide deaths rather than attempts, this past research does not examine specific methods of suicide, and can therefore not provide information on whether prescribing of anti-depressants and methods used in suicide are related. Clearly, in order to examine the association between anti-depressants and suicide attempts, it is essential to establish reliable and standardised data recording systems which could allow for comparisons between different geographical districts and over time.

Endnotes

- 1 Mant A, Rendle VA, Hall WD, Mitchell PB, Montgomery WS, McManus PR, Hickie IB (2004). Making new choices about antidepressants in Australia: the long view 1975–2002. *Medical Journal of Australia* 181, s21–s24.
- 2 Hall WD, Mant A, Mitchell PB, Rendle VA, Hickie IB, McManus P (2003). Association between antidepressant prescribing and suicide in Australia, 1991–2000: trend analysis. *British Medical Journal* 326, 1008.

Moving from full-time healing work to paid employment: Challenges and celebrations

Bergmans Y, Carruthers A, Ewanchuk E, James J, Wren K, Yager C (Canada)

Work 33, 389-394, 2009

Background: The experiences and barriers associated with the return to paid employment following healing from recurrent suicide attempts related to mental illness have not been addressed in the literature to date.

Method: This paper is a collaborative case study between graduates (experts by experience) and facilitators of a psychosocial/psychoeducational group for people with recurrent suicide attempts. The journeys taken by the experts by experience are explored through thematic narrative analysis.

Findings/Results: Issues of stigma, disclosure, accommodations, maintaining wellness and coming to re-define a sense of self were consistent themes found throughout all narratives.

Conclusion: The paper identified key areas of challenge and celebration, suggesting the need for enhanced support from health care providers, workplace managers, supervisors and colleagues for successful transitions into the workplace.

Comment

Main findings: Persons surviving a suicide attempt are faced with many difficulties in its aftermath and often report feelings of discouragement, hurt, anger, social withdrawal, failure and self-blame.^{1,2} This urges the development of tailored intervention programs that would recognise the impact of the shame and stigma arising from the unsuccessful suicidal act and reduce the likelihood of subsequent suicidal behaviour. In particular, facilitation of return into the workforce represents a significant gap in the provision of rehabilitation services for suicide attempters, despite the well-known fact that the lack of employment may contribute to negative perceptions of self-worth and carry detrimental impacts on one's self-esteem.

Bergmans and colleagues represent findings of a relevant and timely qualitative study, which was conducted by thematic analysis of written narratives of four women that had returned to paid employment following recovery from mental illness and suicide attempts. Results identified several challenges experienced by these women in their process of healing and transitions back to the workforce, in particular challenges related to redefining a sense of self. Further, this article raises the issue of stigma associated with mental illness and suicide, which is damaging to one's feeling of self-worth and also carries ramifications on the perceived work efficacy of the affected person.

Implications: The Australian 2003 Burden of Disease Study¹ showed that mental disorders (including suicidal behaviour) represented the highest non-fatal burden in terms of years lost to disability (YLD: 24.2%) and the third highest overall burden in disability adjusted life years (DALY: 13.3%). However, current health expenditure fails to match this level of burden and the rehabilitation and long term health outcomes of suicidal persons remain neglected areas in Australian research. Returning to work following recovery from mental health-related issues involves many challenges for both the affected individual and the employer, therefore (as authors of this paper argue) provision of support to ease re-entry to paid employment should be their joint responsibility. There is a need for development of programs aimed at improving mental health literacy and affirming attitudes within organisations. By doing this, employers may be able to better assist affected persons with their psycho-social adjustment in regaining a sense of identity, competency and wellbeing.

Past research has shown that supported employment services are considered to be most effective approaches in obtaining and retaining competitive employment for psychiatric patients.⁴ Factors that increase likelihood of positive outcomes include: attainability of competitive employment, individualized placements based on person's preferences and strengths, ongoing maintenance of support throughout the transition, and a close integration between employment and mental health needs. Greater appreciation of the needs of this vulnerable group would allow for better cost-effectiveness in the delivery of rehabilitation strategies for suicide attempters.

Endnotes

- 1 Crisp AH, Gelder MG, Rix S, Meltzer HI, Rowlands OJ (2000). Stigmatisation of people with mental illnesses. *British Journal of Psychiatry* 177, 4-7.
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- 4 Commonwealth of Australia (2008). *Employment assistance for people with mental illness. Literature review*. Canberra: Department of Education, Employment and Workplace Relations.

Effect of exposure to suicidal behavior on suicide attempt in a high-risk sample of offspring of depressed parents

Burke AK, Galfalvy H, Everett B, Currier D, Zelazny J, Oquendo MA, Melhem NM, Kolko D, Harkavy-Friedman JM, Birmaher B, Stanley B, Mann JJ, Brent DA (USA)

Journal of the American Academy of Child and Adolescent Psychiatry 49, 114-121, 2010

Background: Exposure to suicidal behavior in peers and relatives is thought to increase risk for suicidal behavior in vulnerable individuals, possibly as a result of imitation or modeling. This study examines exposure to suicidal behavior and likelihood of suicide attempt in a high-risk cohort of offspring of a depressed parent.

Method: Participants in the Oregon Adolescent Depression Project (OADP) were administered diagnostic interviews and completed measures of psychosocial functioning during adolescence and again during young adulthood. Diagnostic interviews were also conducted with the mothers and fathers of the target individual.

Results: After controlling for relevant demographic characteristics, parental comorbid psychopathology, and offspring psychopathology, maternal depression was associated with greater levels of physical symptoms during adolescence, and with higher levels of minor stressors and a greater risk for using mental health services in young adulthood. Paternal depression was associated with offspring experiencing more major stressors, having lower perceived social competence, and being at greater risk for suicide attempts during adolescence, as well as lower perceived social competence in young adulthood.

Conclusions: Offspring of depressed parents demonstrate impairment in a variety of domains, regardless of the presence of their own psychopathology. Further research on the mechanisms that lead to these impairments, as well as research that examines the role of these psychosocial impairments in the subsequent development of psychopathology is warranted.

Comment

Main findings: This article investigated whether individuals exposed to suicidal behaviours in their social networks had a greater likelihood of attempting suicide. The sample consisted of 'high risk' children who had a depressed parent. Approximately 47% of participants were exposed to some sort of suicidal behaviour. Of those, a third was exposed to parental suicide, 51% were exposed to non-parental suicide (e.g. friends, other family or acquaintances), and 14% of the sample were exposed to both. Results showed that youth exposed to suicidal behaviour in their social network were four times more likely to report a history of suicide attempt, when compared to non-exposed participants. However, findings indicate that suicide risk in offspring was not significantly related to the age at the time of first exposure, degree of exposure (attempt or completion versus ideation or threat), first or second hand relationship (suicide in parent, nonparent or both), or the number of exposures. Therefore, although participants who had a suicidal parent had an increased risk of suicide, this was not found to be directly related to type and characteristic of suicide exposure. This suggests that the theory of suicidal imitation or modelling is insufficient in explaining the results of this study. The authors suggest that it is necessary to consider other pathways, such as environmental, genetic factors and heritable mental illnesses.

Implications: In the Australian context, past research has reported the influence of exposure to suicidal behaviours on suicide in both non-Indigenous¹ and Indigenous populations.² Other studies have indicated that media attention to specific stories of suicide can increase the likelihood of vulnerable individuals engaging in 'copycat' behaviours.³ However, thus far, research has not provided definitive answers on the possible direct and indirect pathways linking exposure to suicidal behaviours and one's own suicidality. This study finds that imitation of suicide may not be the reason for this, and suggests further research into other internal and environmental explanations. In terms of clinical implications, Burke and colleagues highlight the importance of examining the wider social and family context of suicidal adolescents. Although not directly linked, the fact that these adolescents surround themselves with others who are themselves at-risk of suicide may reinforce the behaviour, which suggests the need for appropriate management strategies to combat potentially adverse effects of social group influences.

Endnotes

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- 3 Pirkis JE, Burgess PM, Francis C, Blood RW, Jolley DJ (2006). The relationship between media reporting of suicide and actual suicide in Australia. *Social Science & Medicine* 62, 2874–2886.

Use of analgesics in intentional drug overdose presentations to hospital before and after the withdrawal of distalgesic from the Irish market

Corcoran P, Reulbach U, Keeley HS, Perry IJ, Hawton K, Arensman E (Ireland)

BMC Clinical Pharmacology 10, 6-6, 2010

Background: Distalgesic, the prescription-only analgesic compound of paracetamol (325mg) and dextropropoxyphene (32.5mg) known as co-proxamol in the UK, was withdrawn from the Irish market as of January 2006. This study aimed to evaluate the impact of the withdrawal of distalgesic in terms of intentional drug overdose (IDO) presentations to hospital emergency departments (EDs) nationally.

Methods: A total of 42,849 IDO presentations to 37 of the 40 hospitals EDs operating in Ireland in 2003-2008 were recorded according to standardised procedures. Data on sales of paracetamol-containing drugs to retail pharmacies for the period 1998-2008 were obtained from IMS Health.

Results: The withdrawal of distalgesic from the Irish market resulted in an immediate reduction in sales to retail pharmacies from 40 million tablets in 2005 to 500,000 tablets in 2006 while there was a 48% increase in sales of other prescription compound analgesics. The rate of IDO presentations to hospital involving distalgesic in 2006-2008 was 84% lower than in the three years before it was withdrawn (10.0 per 100,000). There was a 44% increase in the rate of IDO presentations involving other prescription compound analgesics but the magnitude of this rate increase was five times smaller than the magnitude of the decrease in distalgesic-related IDO presentations. There was a decreasing trend in the rate of presentations involving any paracetamol-containing drug that began in the years before the distalgesic withdrawal.

Discussion: The withdrawal of distalgesic has had positive benefits in terms of IDO presentations to hospital in Ireland and provides evidence supporting the restriction of availability of means as a prevention strategy for suicidal behaviour.

Comment

Main findings: The focus of this study was to assess trends of intentional drug overdoses using the analgesic Distalgesic before (2003-2005) and after (2006 to 2008) the drug was withdrawn from the market. Examination of data from 37 hospital emergency departments showed that, following the ban, there was a steady decrease in the use of Distalgesic as a form of intentional drug overdose by 72%, 84% and 94% in the years 2006, 2007 and 2008, respectively. Although there was some evidence of substitution occurring with other analgesics in the years following the withdrawal, the overall number of presentations involving a paracetamol-related drug overdose was 16.4% lower in the period 2006-2008 than in the period 2003-2005.

The generalizability of results of the study is confined by inclusion of only cases presented to hospital emergency departments, therefore excluding untreated acts and those managed by general practitioners. Further limitation of the study (one that warrants further research) is the inability to study the effects of withdrawal of Distalgesic on rates of fatal suicidal acts.

Implications: The results of this study support the idea that restriction of over-the-counter analgesics can be an effective suicide prevention measure. Similar restrictive approaches have also been found to be related to a reduction of suicides in England and Wales.¹ While there has been no equivalent controlled restriction of paracetamol in Australia, a study measuring rates of deliberate and accidental paediatric poisoning with paracetamol during recall periods in 2000 yielded results that seem to contradict the findings by Corcoran and colleagues. Specifically, reduced paracetamol availability increased poisoning with alternative analgesics, but had little effect on the incidence of paracetamol poisoning.² However, the reliability and validity of these results have been called into question due to the uncontrolled and observational design of this research.³ Certainly, international evidence on the topic seems to suggest that restriction to means of suicide can be an effective suicide method. Considering that paracetamol is acknowledged as being a common and lethal method of intentional self-harm in Australia⁴, restrictions of the drug may also be effective in reducing suicide attempts in Australia.

A significant barrier preventing development of studies on the prevalence and trends of suicidal poisonings using analgesics is the lack of standardised monitoring system of presentations to hospitals and emergency departments in Australia. Nationally coordinated efforts are required to establish systems that can guide the developments and subsequent evaluations of efficiency of initiatives to prevent these acts.

Endnotes

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Mobile crisis team intervention to enhance linkage of discharged suicidal emergency department patients to outpatient psychiatric services: a randomized controlled trial

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Academic Emergency Medicine 17, 36-43, 2010

Objectives: Many suicidal patients treated and released from emergency departments (ED) fail to follow through with subsequent outpatient psychiatric appointments, often presenting back for repeat ED services. Thus, the authors sought to determine whether a mobile crisis team (MCT) intervention would be more effective than standard referral to a hospital-based clinic as a means of establishing near-term clinical contact after ED discharge. This objective was based on the premise that increased attendance at the first outpatient mental health appointment would initiate an ongoing treatment course, with subsequent differential improvements in psychiatric symptoms and functioning for patients successfully linked to care.

Methods: In a rater-blinded, randomized controlled trial, 120 participants who were evaluated for suicidal thoughts, plans, or behaviors, and who were subsequently discharged from an urban ED, were randomized to follow-up either in the community via a MCT or at an outpatient mental health clinic (OPC). Both MCTs and OPCs offered the same structured array of clinical services and referral options.

Results: Successful first clinical contact after ED discharge (here described as 'linkage' to care) occurred in 39 of 56 (69.6%) participants randomized to the MCT versus 19 of 64 (29.6%) to the OPC (relative risk = 2.35, 95% CI = 1.55-3.56, $p < .001$). However, we detected no significant differences between groups using intention-to-treat analyses in symptom or functional outcome measures, at either 2 weeks or 3 months after enrollment. We also found no significant differences in outcomes between participants who did attend their first prescribed appointment via MCT or OPC versus those who did not. However divided (MCT vs. OPC, present at first appointment vs. no show), groups showed significant improvements but maintained clinically significant levels of dysfunction and continued to rely on ED services at a similar rate in the 6 months after study enrollment.

Conclusions: Community-based mobile outreach was a highly effective method of contacting suicidal patients who were discharged from the ED. However, establishing initial postdischarge contact in the community versus the clinic did not prove more effective at enhancing symptomatic or functional outcomes, nor did successful linkage with outpatient psychiatric care. Overall, participants showed some improvement shortly after ED discharge regardless of outpatient clinical contact, but nonetheless remained significantly symptomatic and at risk for repeated ED presentations

Comment

Main findings: Following recent trends of deinstitutionalization of psychiatric care and the subsequent lower availability of inpatient psychiatric beds, there has been an increasing number of suicidal persons presenting to hospital emergency departments. However, as the majority of these patients fail to present to referred outpatient care, the clinical trajectory of many patients' remains poorly understood. This study addresses this issue by examining the effectiveness of two possible interventions to which patients were randomly assigned: the mobile crisis team (MCT, which consists of clinical assessments of suicidal persons within 48 hours of their discharge from the emergency department) and the outpatient clinic (OPC, which offers clinical assessment within five business days of discharge). Results suggest that significantly more patients assigned to MCT presented for subsequent clinical follow-ups than those in OPC. However, both conditions had similar retention rates at 2 and 12 weeks, with patients assigned to MCT showing a slight advantage. There were no significant differences between the two groups in the magnitude of improvement, overall psychopathology, or functional assessment in three months after the discharge.

This study had a sound methodological design, yet the generalizability of its findings is affected by some limitations. Firstly, the sample consisted of a heterogeneous sample with diverse psychopathologies and social characteristics. Secondly, the relative rarity of suicides makes it difficult to draw conclusions about the long-term effects of MCT on prevention of deaths by self-inflicted causes.

Implications: Results of this study showed that although the MCT did provide benefits in terms of reaching suicidal persons after their discharge, there were no substantive differences observed between control and experimental conditions in terms of improving patients' outcomes. The results of this study are somewhat surprising, considering that it is commonly assumed that improvements in transferrals to outpatient services would be associated with better continuity of care and consequently superior clinical outcomes. This opens questions about the potential redundancy of such 'crisis intervention' programs linking suicidal patients presenting to ED to community care providers. Authors hypothesized that for a certain sub-group of suicidal patients, a visit to the ED itself may be sufficient in assuring clinically significant improvements (albeit only temporary), regardless of the whether or not they present for follow-up appointments at outpatient services. These findings carry important implications for future development of cost-effective prevention and intervention programs, particularly when considered in combination with results of past research, which has shown that even rather simple forms of aftercare can be associated with improved clinical outcomes 1.

There are considerable differences between the community-based mobile outreach, described in this study, and the practices employed in provision of care of suicidal people in Australia. Nevertheless, several significant findings and implications deriving from them could be employed in any environment faced with shortage of psychiatric facilities and a subsequent fast turnover of suicidal patients in emergency departments. A recent Australian study conducted on recently discharged patients sought to address this issue by providing 'Intensive Case Management' (ICM) to a group of high-risk male patients.² Results showed that provision of ICM lead to lower re-hospitalisation rates and greater reductions in psychopathology and suicidality, when compared to the patients receiving 'treatment-as-usual' (which provided no special after-care). However, as suggested by Currier and colleagues, further research is needed into the recognition of patients for whom such intensified efforts would be worthwhile.

Endnotes

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The trend in mental health-related mortality rates in Australia 1916–2004: Implications for policy

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Australia and New Zealand Health Policy 7, 1-10, 2010

Background: This study determines the trend in mental health-related mortality (defined here as the aggregation of suicide and deaths coded as ‘mental/behavioural disorders’), and its relative numerical importance, and to argue that this has importance to policy-makers. Its results will have policy relevance because policy-makers have been predominantly concerned with cost-containment, but a reappraisal of this issue is occurring, and the trade-off between health expenditures and valuable gains in longevity is being emphasised now. This study examines longevity gains from mental health-related interventions, or their absence, at the population level. The study sums mortality data for suicide and mental/behavioural disorders across the relevant ICD codes through time in Australia for the period 1916–2004. There are two measures applied to the mortality rates: the conventional age-standardised headcount; and the age-standardised Potential Years of Life Lost (PYLL), a measure of premature mortality. Mortality rates formed from these data are analysed via comparisons with mortality rates for All Causes, and with circulatory diseases, cancer and motor vehicle accidents, measured by both methods.

Results: This study finds the temporal trend in mental health-related mortality rates (which reflects the longevity of people with mental illness) has worsened through time. There are no gains. This trend contrasts with the (known) gains in longevity from All Causes, and the gains from decreases achieved in previously rising mortality rates from circulatory diseases and motor vehicle accidents. Also, PYLL calculation shows mental health-related mortality is a proportionately greater cause of death compared with applying headcount metrics.

Interpretation: There are several factors that could reverse this trend. First, improved access to interventions or therapies for mental disorders could decrease the mortality analysed here. Second, it is important also that new efficacious therapies for various mental disorders be developed. Furthermore, it is also important that suicide prevention strategies be implemented, particularly for at-risk groups. To bring the mental health sector into parity with many other parts of the health system will require knowledge of the causative factors that underlie mental disorders, which can, in turn, lead to efficacious therapies. As in any case of a knowledge deficit, what is needed are resources to address that knowledge gap. Conceiving the problem in this way, ie as a knowledge gap, indicates the crucial role of research and development activity. This term implies a concern, not simply with basic research, but also with applied research. It is commonplace in other sectors of the economy to emphasise the trichotomy of invention, innovation and diffusion of new products and processes. This three-fold conception is also relevant to addressing the knowledge gap in the mental health sector.

Comment

Main findings: Health services expenditure has typically been evaluated by adopting a cost-containment view, but this relevant study by Doessel and colleagues argues that equal attention should be paid to produced health outputs. Authors examine longevity gains from mental health-related interventions by analysing mortality due to suicide and mental health/behavioural disorders in Australia from the year 1916 onwards. This paper does this through two measures: the 'head count' measure (deaths per 100,000) and the measure of premature mortality or potential years of life lost (PYLL measure). Results from the PYLL calculations showed that mental health-related mortality represents a significantly greater cause of death when compared to the headcount approach (14% vs. 5%, respectively). Further, results demonstrated that, when measured by counts, mortality due to mental-health related causes has been increasing from 1916 to 1996, after which the trend has remained stable. When applying the PYLL measure, sharply decreasing trend was observed from 1998 onwards, yet this decrease was not statistically significant when considering the longitudinal time-series.

In interpreting these results, one should be aware of the effects of under-reporting of suicide data in recent years, and the fact that mortality statistics represent only a partial measure of the community's health status. Indeed, measures related to quality of life need to be included in future methodological design endeavouring to quantify the gains of mental health expenditures.

Implications: In recent years there has been much debate in Australia about the accuracy of suicide mortality data and the observed declines in suicide rates following their peak in late 1990s. This paper adds to the available knowledge by first, confirming that any such trends can only be evaluated when measured over a time frame spanning several decades; and second, that they are best to be approached by different measuring methods. Results showed that not only are the recent declines insignificant when examined over general trends in these past hundred years, but if anything, the burden of suicide and mental illness appears to be increasing in the Australian population. This finding carries important implications for research and policy making, particularly in evaluating existing suicide prevention strategies and designing future governmental initiatives. Specifically, it is important to assess prevention strategies using a longer time series than the past 10 years as, when examined from 1916 onwards, suicide rates have not significantly declined, despite the presence of a national suicide prevention strategy.

Risk for five forms of suicidality in acute pain patients and chronic pain patients vs. pain-free community controls

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Pain Medicine 10, 1095-1105, 2009

Objective: The objective of this study was to determine the risk for five forms of suicidality in rehabilitation acute pain patients (APPs) and rehabilitation chronic pain patients (CPPs) vs pain-free community controls.

Method: The Battery for Health Improvement 2 was developed utilizing a healthy (pain-free) community sample ($N = 1,478$), a community patient sample ($N = 158$), and a rehabilitation patient sample ($N = 777$). These groups were asked five suicidality questions relating to history of wanting to die, wanting to die because of pain, recent frequent suicide ideation, having a suicide plan, and history of suicide attempt. Of the rehabilitation patients, 326 were identified as being APPs, 341 as being CPPs, and 110 as having no pain. The risk for affirming each of the five suicidality questions was calculated for rehabilitation APPs, rehabilitation CPPs, and rehabilitation patients without pain utilizing the healthy pain-free community sample as the reference group. In addition, risk was calculated for various subgroups of rehabilitation patients: those with worker's compensation status, with litigation status, and with personal injury status.

Setting: There are a variety of settings.

Results: In rehabilitation CPPs the risk for suicidality was greater than community pain-free controls for three suicidality questions: history of wanting to die, recent frequent suicide ideation, and having a suicide plan. Worker's compensation status, litigation status, and personal injury status appeared to increase risk for affirmation of some types of suicidality in CPPs. Rehabilitation APPs were at greater risk for all five suicidality items than the community pain-free controls.

Conclusions: Rehabilitation CPPs are at greater risk for some forms of suicidality than community pain-free controls. This risk is increased by variables such as worker's compensation status, litigation status, and personal injury status. However, it is yet unclear if these variables actually predict suicidality as this requires further analysis.

Comment

Main findings: This study used a case-control design to investigate suicide ideation and attempts in those persons undergoing rehabilitation (in 30 states of the USA) to those in the general populations (in 16 states of the USA). One of the unique aspects of this study is that it is the first to examine suicide ideation and attempts in acute and chronic pain patients in comparison to a general community (rather than clinical) sample.

Results showed that rehabilitation patients suffering chronic pain were at greater risk of suicidality than those not in rehabilitation or who were pain-free. Findings also suggest that groups of patients with acute and chronic pain were at higher risk when also faced with personal injury, litigations and workplace compensations (particularly if the outcomes are not favourable). The authors of this study suggest that this is because these environmental factors may increase stress, anxiety and depression, and thereby heighten the risk for suicide. Limitations are that the study did not control for mental illness or whether reported 'pain' was of a psychological or physical nature.

Implications: Chronic and acute pain accompanies a variety of injuries, such as car and occupational accidents. The findings of this study support past research linking chronic pain suffering and suicide.¹ This shows the importance of screening for suicide and ongoing psycho-social support following and during the rehabilitation of chronic and acute pain patients. The finding that those involved in compensation and litigation are at greater risk of suicidality concurs with past research, and suggests that these people experience significant mental distress and worse outcomes than other populations.² Some researchers suggest that this is due to biased sample characteristics, as those seeking compensation are more behaviourally complex and often achieve poorer treatment results.³ These people may also be at higher risk because they experience more debilitating injuries than those who choose not to seek compensation.² As stated in the paper by Fishbain and colleagues, litigation and compensation produces considerable stress, depression and anxiety which may also contribute to higher levels of suicidality.

Given that those seeking financial recoupment are likely to be under significant stress, these people need to feel supported throughout the claim process by employers and clinicians. Recognising these added risks is therefore necessary to ensure positive outcomes for those suffering from chronic pain.

Endnotes

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Service use by at-risk youths after school-based suicide screening

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Journal of the American Academy of Child & Adolescent Psychiatry 48, 1193-1201, 2009

Objective: We sought to examine follow-up service use by students identified at risk for suicidal behavior in a school-based screening program and assess barriers to seeking services as perceived by youths and parents.

Method: We conducted a longitudinal study of 317 at-risk youths identified by a school-based suicide screening in six high schools in New York State. The at-risk teenagers and their parents were interviewed approximately 2 years after the initial screen to assess service use during the intervening period and identify barriers that may have interfered with seeking treatment.

Results: At the time of the screening, 72% of the at-risk students were not receiving any type of mental health service. Of these students, 51% were deemed in need of services and subsequently referred by us to a mental health professional. Nearly 70% followed through with the screening's referral recommendations. The youths and their parents reported perceptions about mental health problems, specifically relating to the need for treatment, as the primary reasons for not seeking service.

Conclusions: Screening seems to be effective in enhancing the likelihood that students at risk for suicidal behavior will get into treatment. Well-developed and systematic planning is needed to ensure that screening and referral services are coordinated so as to facilitate access for youths into timely treatment.

Comment

Main findings: This study assessed whether school-based suicide screening in adolescent populations was associated with subsequent treatment seeking. The intervention, based on six schools, specifically focused on 13- to 19-year-olds who were identified to be ‘at risk’ (reporting to have serious suicide ideation or history of suicide attempt). The majority of these participants were not seeking treatment for suicidality at the time of the screening. At follow up, three-quarters of those who attended referral treatments reported that the decision to seek help was influenced by the screening. Further, 24% of these new service users had their first appointment within a month after the screen. Within 6 months, 52% had kept their first appointment, and within a year, 70% had reached a mental health provider. The perceived barriers to seeking treatment included lack of recognition of the seriousness of mental illness, a perception that mental health professionals could not be helpful, and structural barriers such as cost and transportation.

Implications: This study addresses an important gap in literature on youth suicidality by exploring whether the screening for suicidality at schools is related to later service use. Uptake of referrals to appropriate services is clearly a wanted outcome considering that treatment such as psychotherapy and follow-up care post suicide attempt are associated with positive clinical outcomes.¹ This study confirmed the great extent of unmet service needs within the youth population, as majority of identified suicide attempters participating in this research had not sought treatment at the time of the screening. The implications of this study are that there is the need for an expanded role of mental health services in schools to screen for suicidality and provide referrals. Education of parents and school teachers into the importance of recognising and seeking help for suicidality is recommended to assure provision of help to those recognised to be at elevated risks for suicide.

Endnote

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Posttraumatic stress disorder and completed suicide

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American Journal of Epidemiology 171, 721-726, 2010

Most research regarding posttraumatic stress disorder (PTSD) and suicide has focused on suicidal ideation or attempts; no known study of the association between PTSD and completed suicide in a population-based sample has been reported. This study examined the association between PTSD and completed suicide in a population-based sample. Data were obtained from the nationwide Danish health and administrative registries, which include data on all 5.4 million residents of Denmark. All suicides between January 1, 1994, and December 31, 2006, were included, and controls were selected from a sample of all Danish residents. Using this nested case-control design, the authors examined 9,612 suicide cases and 199,306 controls matched to cases on gender, date of birth, and time. Thirty-eight suicide cases (0.40%) and 95 controls (0.05%) were diagnosed with PTSD. The odds ratio associating PTSD with suicide was 9.8 (95% confidence interval: 6.7, 15). The association between PTSD and completed suicide remained after controlling for psychiatric and demographic confounders (odds ratio = 5.3, 95% confidence interval: 3.4, 8.1). Additionally, persons with PTSD and depression had a greater rate of suicide than expected based on their independent effects. In conclusion, a registry-based diagnosis of PTSD based on International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, is a risk factor for completed suicide.

Comment

Main findings: This paper explores the relationship between suicidality and PTSD using a high-quality database on mortality in a longitudinal way. It represents a substantial improvement on past research, which have been conducted mainly using suicide attempts or ideations. The sample is comprised of suicide cases with a diagnosis of PTSD, which were matched with living controls for age, gender and calendar time. Analyses were adjusted for psychiatric and demographic confounders to control for co morbid effects of other mental illnesses. Logistic regression results suggest that those with PTSD had 6.7-times the risk of suicide compared to those without PTSD. This association remained significant (5.3 greater risk of suicide) after controlling for other mental illnesses such as depression, substance abuse and anxiety. Depression in particular was found to have a significant additive effect on suicide in PTSD cases compared to those without co morbid depression.

Implications: The findings by Gradus and colleagues report a significant relationship between PTSD and suicide using a sound methodological design and representative population sample size. Its conclusions are important because it finds that PTSD can act as an independent risk factor for suicide after controlling for other mental illnesses. This finding indicates the need for improved suicide risk assessment and treatment for those who have had experienced trauma and developed symptoms of PTSD.

There is increasing awareness of the relationship between PTSD and suicide in the Australian context.^{1,2} The main problem with research in Australia is the lack of strong research designs (when compared to the one described above). This study by Gradus and colleagues not only indicates the need to improve the methodological design of research, but also has implications for the assessment, treatment and clinical management of those with PTSD. Developing strategies to counter the risk of suicide in those suffering from PTSD is particularly important considering Australia's recent military involvement in overseas conflicts, and the increasing number of persons who seek asylum in Australia due to political unrest or adverse living experiences in their country of origin.

Endnotes

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Bullying victimization and adolescent self-harm: testing hypotheses from general strain theory

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Journal of Youth and Adolescence 39, 446-459, 2010

Self-harm is widely recognized as a significant adolescent social problem, and recent research has begun to explore its etiology. Drawing from Agnew's (1992) social psychological strain theory of deviance, this study considers this issue by testing three hypotheses about the effects of traditional and cyber bullying victimization on deliberate self-harm and suicidal ideation. The data come from a school-based survey of adolescents in a rural county of a southeastern state ($n = 426$); 50% of subjects are female, their mean age was 15 years, and non-Hispanic whites represent 66% of the sample. The analysis revealed that both types of bullying are positively related to self-harm and suicidal ideation, net of controls. Moreover, those relationships are partially mediated by the negative emotions experienced by those who are bullied and partially moderated by features of the adolescent's social environment and self. Regarding the latter, exposure to authoritative parenting and high self-control diminished the harmful effects of bullying victimization on self-harm and suicidal ideation. The article concludes by discussing the implications of these conclusions for future research and for policy efforts designed to reduce self-harm.

Comment

Main findings: This paper was based on the results of a school-based survey conducted on a large sample of adolescents in a rural state of America. It used Agnew's (1992) General Strain Theory (GST) to explain suicide ideation and self-harming behaviours in adolescents who have experienced bullying. Two types of bullying behaviours were examined: cyber bullying via the internet and mobile phones, and traditional bullying via physical and verbal harassment. Findings suggest that both traditional and cyber bullying were related to self-harm; however, this association was mediated by negative emotions experienced by the bullied individual (e.g. anxiety, depression and low self-worth). The presence of authoritative parenting and high self-control were found to reduce the harmful effects of bullying. As a general conclusion, the authors of this study argue that strained social relations are associated with negative emotions; these emotions, in turn, are associated with deliberate self-harm. The potency of these relationships depends on other features of the adolescent's social environment and individual level factors such as self-control. Although the cross-sectional design of the study prevents drawing conclusions of a causal nature, results support the hypothesis derived from the GST that abusive treatment from peers can lead to subsequent self-directed aggression.

Implications: The detrimental effects of bullying on Australian students have been previously demonstrated.¹ However, few studies have examined this in relation to suicidal behaviours or considered the effects of cyber bullying on suicidality. This is likely to be an increasingly relevant issue, given the high rate of internet and mobile phone use in children.² Clearly, more research is needed in order to assess whether the relationships found in this American sample can be generalised to other environments. The authors of the study make a number of suggestions that may also be helpful in tackling this increasingly relevant issue. First, it is necessary to implement anti-bullying programs in schools that involve active participations from parents, teachers, and the students themselves. Second, more attention should be placed on recognising possible causal factors which make some youth experiencing bullying more vulnerable and at higher risk of suicide than others. This refers to the role of negative self-perceptions, which can be addressed with cognitive behavioural therapy. It would also be beneficial to conduct more research into the family dynamics of bullying victims, as this paper suggests that parenting styles can also have a significant influence on self-harm.

Endnotes

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How adolescents who cut themselves differ from those who take overdoses

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European Child & Adolescent Psychiatry. Published online: 26 September 2009. doi: 10.1007/s00787-009-0065-0, 2009

The aims of this study were to identify in what ways adolescents who cut themselves differ from those who take overdoses, and to investigate the role of contagion in these behaviours. Data from an anonymous self-report questionnaire survey of 6,020 adolescents in 41 schools were analysed. Comparison of 220 adolescents who reported self-cutting in the previous year with 86 who had taken overdoses in the previous year as the sole method of deliberate self-harm (DSH) showed that far more of those who cut themselves had friends who had also engaged in DSH in the same period (OR 2.84, 95% CI 1.5-5.3, $P < 0.001$), and fewer had sought help from friends before cutting (OR 0.5, 95% CI 0.3-0.9, $P < 0.02$). Self-cutting usually involved less premeditation. Analyses at both the individual and school level showed that the association between engaging in DSH and exposure to DSH amongst peers was largely confined to girls who cut themselves. There are important differences between adolescents who cut themselves and those who take overdoses. Contagion may be an important factor in DSH by adolescents, especially in girls who cut themselves. These findings are relevant to the design of prevention and treatment programmes.

Comment

Main findings: Past studies have generally investigated adolescent deliberate self-harm (DSH) in hospital based settings, and are therefore likely to under-estimate the prevalence of these acts in the general community. Also, these tend to be based on those persons who choose to seek help, rather than those who choose to avoid it. The study by Hawton and colleagues is a substantial improvement on this past research as it conducted using a large representative sample of school children in England, rather than only those who attended a health care facility. This study aimed to assess the prevalence of self-cutting and self-poising behaviours in the community, and to identify the similarities and differences between the two groups. Of the 398 (6.9% of the total) adolescents reporting a history of DSH, 55.3% had cut themselves while 21.6% had taken an overdose of drugs. Contrary to some past research, similar proportions of boys and girls who had engaged in DSH used self-cutting as the single method (there was however an overall greater number of females who used self-cutting compared to men). Further, those who engaged in self-cutting were found to be more impulsive, less likely to seek help and more likely to repeat these behaviours. This sub-population was also more exposed to others in the social group who had engaged in self-cutting. This study also reports that female adolescents with history of self-cutting had friends who engaged in similar self-destructive acts, suggesting the possible contagious effects of such behaviours.

Implications: Self-harm such as cutting is an increasing issue among young people in Australia, as well as other countries of the world¹. As the majority of those who engage in acts of self-harm seldom present to health care settings, there is a lack of knowledge about the characteristics of this population and risks associated with the act. This study presents an alarming proportion of self-harm in schools, and also draws attention to the problem of contagion (e.g. influences of friends who also engage in the act). Some of the reasons for this may include peer pressure to conform to group behaviours and the normalisation of the behaviour through exposure to it in peers.

Considering the recognition that youth may engage in these behaviours as way of releasing anxiety or coping with overwhelming emotions, targeted prevention programmes are needed to encourage alternative ways of coping with stress. Also, following findings of this study, methods of dealing with perceived pressure to follow the behaviour of peers should be presented to school pupils in an attempt to prevent the contagious spreading of these acts. Lastly, more research into the specific risks associated with the behaviour in the Australian population is needed. In particular, there is great scarcity of longitudinal studies examining potential clustering of fatal and non-fatal self-harming behaviours in schools.

Endnote

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Sustainable effects on suicidality were found for the Nuremberg Alliance Against Depression

Hegerl U, Mergl R, Havers I, Schmidtke A, Lehfeld H, Niklewski G, Althaus D (Germany)

European Archives of Psychiatry and Clinical Neuroscience. Published online: 17 November 2009. doi: 10.1007/s00406-009-0088-z, 2009

During an intense four-level community-based intervention program conducted in Nuremberg (490,000 inhabitants) in 2001 and 2002 [Nuremberg Alliance Against Depression (NAD)], the number of suicidal acts (main outcome completed + attempted suicides) had dropped significantly (-21.7%), a significant effect compared with the baseline year and the control region (Wuerzburg, about 290,000 inhabitants). To assess the sustainability of the intervention effects the number of suicidal acts was assessed in the follow-up year (2003), after the termination of the 2-year intervention. Also, in the follow-up year (2003), the reduction in suicidal acts compared with the baseline year in Nuremberg (2000 vs. 2003: -32.4%) was significantly larger than that in the control region ($P = 0.0065$). The reduction was even numerically larger than that of the intervention years (2001, 2002). Thus, 1 year after the end of the main intervention, preventive effects on suicidality of the NAD remain at least stable. The four-level intervention concept appears to be cost-effective and is presently implemented in many European regions.

Comment

Main findings: This paper presents results of a follow-up of the Nuremberg Alliance Against Depression (NAD), a community based two-year intervention conducted in Nuremberg, Germany. The main features of this four-level approach intervention were: improving the knowledge and sensitivity of primary care physicians; encouraging positive media and public health campaigns; training 'gate keepers' such as teachers, priests, policemen and geriatric care givers, and increasing care and support of depressed and suicidal persons, as well as their families¹. Hegerl and colleagues report that the reduction in suicidal acts observed during the intervention period remained stable two years after the termination of the programme. The decrease in rates of suicidal behaviours was found to be mainly due to the lower number of suicide attempts and the reduction in the use of the more lethal suicide methods.

While the NAD was developed in the context of treating depression, its strategies have been proven to also be successful in reducing suicide. This paper is particularly relevant because it demonstrates the continued success of community-level approaches to suicide prevention using an 'experimental' or intervention region compared to a control (where the intervention was not conducted). This means that it is more likely that the positive results are due to effects of treatment intervention, rather than characteristics associated with the area itself.

Implications: Based on the successes described in this study, the strategies undertaken in the NAD have now been implemented in a number of other European countries.^{1,2} This also has clear implications for approaches to suicide prevention in Australia. Specific strategies that may be particularly beneficial include: education for GPs in how to recognise, treat or refer suicidal persons, media campaigns to reduce stigma against suicide and encourage help-seeking, and education of ‘gate keepers’ such as teachers, police and community leaders. It should be noted that gatekeepers are likely to differ in regional and remote areas, and may also include a variety of other professions that come in contact with persons at elevated risks for depression and/or suicidality, such as veterinarians, business managers, bank employees and mechanics. These persons can also encourage help-seeking and provide information on available treatment options. Lastly, it is also important to recognise the need for greater support for those who are affected by suicide, including those who are suicidal themselves and also their friends/families. Some of the strategies mentioned above have been integrated in the Australian ‘LIFE’ Framework;³ however, implementation and, equally important, evaluation of successes of these programmes between and within states to date remain insufficient and unsystematic.

Endnotes

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Suicide amongst psychiatric in-patients who abscond from the ward: a national clinical survey

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BMC Psychiatry 10, 1-14, 2010

Background: Suicide prevention by mental health services requires an awareness of the antecedents of suicide among high-risk groups such as psychiatric in-patients. The goal of this study was to describe the social and clinical characteristics of people who had absconded from an in-patient psychiatric ward prior to suicide, including aspects of the clinical care they received.

Methods: We carried out a national clinical survey based on a 10-year (1997-2006) sample of people in England and Wales who had died by suicide. Detailed data were collected on those who had been in contact with mental health services in the year before death.

Results: There were 1,851 cases of suicide by current psychiatric in-patients, 14% of all patient suicides. 1,292 (70%) occurred off the ward. Four hundred and sixty-nine of these patients died after absconding from the ward, representing 25% of all in-patient suicides and 38% of those that occurred off the ward. Absconding suicides were characterised by being young, unemployed and homeless compared to those who were off the ward with staff agreement. Schizophrenia was the most common diagnosis, and rates of previous violence and substance misuse were high. Absconders were proportionally more likely than in-patients on agreed leave to have been legally detained for treatment, non-compliant with medication, and to have died in the first week of admission. Whilst absconding patients were significantly more likely to have been under a high level of observation, clinicians reported more problems in observation due to either the ward design or other patients on the ward.

Conclusions: Measures that may prevent absconding and subsequent suicide amongst in-patients might include tighter control of ward exits, and more intensive observation of patients, particularly in the early days of admission. Improving the ward environment to provide a supportive and less intimidating experience may contribute to reduced risk.

Comment

Main findings: This study was based on data from a nationally representative database of deaths receiving a verdict of suicide or self-poisoning/self injury. Over the period from 1997 to 2006, results indicated that approximately 14 % of suicides occurred in persons who were psychiatric in-patients at the time of death. Of these, 38% had absconded from the ward. The majority of these subjects were from psychiatric wards (86%), while a smaller proportion came from the rehabilitation wards, intensive care wards, or other wards. Compared to those on authorized leave, absconders were less likely to die by hanging or poisoning, but more often died by jumping and drowning. Absconders were also more significantly likely to be younger, unemployed, unmarried and homeless. There were also several differences in psychiatric diagnoses between these two groups, with absconders suffering from schizophrenia, alcohol dependence, and a larger proportion of comorbid diagnoses compared to suicides that occurred on agreed leave. Those who had left the ward without consent were reported as more difficult to observe while in the ward, more likely to be detained under the Mental Health Act, and had reported abnormalities at the last contact with mental health services. In terms of prevention, clinicians were more likely to report these suicides as preventable. Specific suggestions made to reduce such suicide deaths included: closer supervision, better treatment compliance, increased staff numbers, and better communication and training of staff.

Implications: Death while under psychiatric care is an area of key concern for many governments and those involved in the prevention of suicide. This study has a number of clinical implications on this topic that may be implemented in the Australian context. For one, deaths may be prevented by greater attention to environmental factors such as tighter control of wards entries and exits, and improved security through video monitoring and swipe access cards. Suicide among absconders may also be reduced by providing more observation and support of suicidal persons during times when they may be particularly 'at risk', such as the first few days in care. Developing stronger links with family members can also be important as they can encourage absconders to return to psychiatric care. The results of this study provided a profile of persons who may be more likely to die from suicide after absconding (e.g., being younger, less likely to have social ties, being mentally ill). Based on this, further strategies to reduce the number of absconders who die of suicide could include more frequent assessments of suicidal risk and identification of those who may be likely to abscond.

One-year follow-up of suicidal adolescents: Parental history of mental health problems and time to post-hospitalization attempt

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Journal of Youth and Adolescence 39, 219-234, 2010

This longitudinal study of recently hospitalized suicidal youth examined parental mental health history in addition to several indices of adolescent functioning as risk factors for time-to-suicide attempt over a 1-year period. Participants were 352 adolescents (253 girls, 99 boys; ages 13-17 years) who participated in self-report and interview assessments within 1 week of hospitalization and 6 weeks, 3, 6, and 12 months post-hospitalization. Multivariable proportional hazards regression modeled time-to-suicide attempt. Results indicate that adolescents were almost twice as likely to make a suicide attempt if they had at least one biological parent with mental health problems. Risk was also increased for adolescents with baseline histories of multiple previous suicide attempts, more severe suicidal ideation and more severe functional impairment. Findings suggest the need to consider the family system when intervening with suicidal youth.

Comment

Main findings: This article draws attention to the family system as an important influence on adolescent suicidality. Over a one year period, the study followed a large number of adolescents who were hospitalized for either suicide ideation or attempt, and used a survival analysis to assess the extent to which the occurrence of a suicide attempt could be predicted by parental mental health. Multivariate results suggest an increased risk of suicide in those who had at least one parent with a history of mental health problems (compared to those without parental mental health problems). This analysis adjusted for individual history of suicide attempts, suicide ideation, and functional impairment in major life domains, such as work, education and behaviours towards others.

The strengths of this study include its case-controlled longitudinal design. It also provides a relatively new perspective on risk factors for adolescent suicidal behaviours. The major limitation of this study is that may not be able to be generalised to other contexts as it was conducted with a clinical sample rather than the general population. Consequently, there is still a question about whether these findings regarding parental mental health and adolescent suicidality hold in the general community setting.

Implications: This study shows that adolescents were about twice as likely to make a suicide attempt if they had at least one biological parent with a history of mental health problems. Parents' mental health history should therefore be taken into account when assessing suicidality in adolescents, and particularly during follow-up after a suicide attempt. The pathway that links these two factors remains unclear, although King and colleagues suggest that parents with mental health problems are more likely to have difficulties in carrying out family responsibilities, less likely to live with their children, and have history of problematic alcohol consumption. This suggests that these persons may require more support in their parenting role, which could be achieved through greater help from social services, teachers, family and friends. A barrier to treatment seeking is the fact that some parents with mental health difficulties have problems recognizing and seeking help for children's suicidality and mental health issues.¹ Related to this, the authors suggest that it may also be beneficial to examine parental satisfaction with the care provided for their own mental health problems, as this may be an important determining factor for seeking help for their children.

Endnote

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The association between internet addiction and self-injurious behaviour among adolescents

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Injury Prevention 15, 403–408, 2009

Objective: To examine the association between internet addiction and self-injurious behaviour (SIB) in adolescence.

Methods: Population-based cross-sectional survey of 1618 high school students aged 13–18 years in Guangzhou city, Guangdong Province, PR China. Deliberate SIB was measured using self-reported questionnaire; internet addiction was assessed using the Internet Addiction Test (IAT).

Results: 263 (16.3%) participants reported having committed some form of SIB in the past 6 months. 73 (4.5%) had committed SIB 6 times or more, and 157 (9.7%) 1–5 times. The majority of respondents were classified as normal users of the internet ($n = 1392$, 89.2%), with 158 (10.2%) moderately and 10 (0.6%) severely addicted to the internet. After adjusting for potential confounders, the odds ratio for SIB was 2.0 (95% CI 1.1 to 3.7) for those who were classified as moderately and severely addicted to the internet when compared to the normal group.

Conclusions: SIB is common in adolescence in the study population in China. Addiction to the internet is detrimental to mental health and increases the risk of self-injury among adolescents. Clinicians need to be aware of potential co-morbidities of other addictions among adolescent self-injured patients.

Comment

Main findings: Excessive use of internet, particularly among adolescents, has been recognised as an increasing problem associated with a range of mental health problems.¹ This is the first study in international literature to explore the links between internet addictions and self-harm, conducted on Chinese adolescents. Authors report that about 10% of the participating youth reported moderate or severe levels of internet addiction, and that these adolescents had a twice higher rate of engaging in a range of self-harming behaviours, including hitting themselves, pulling their hair, and deliberately burning themselves, when compared to adolescents with a normal use of internet. The authors argue that both internet addiction and self-injurious behaviours could be considered as part of an impulse control disorders and could therefore be treated with similar approaches.

The main methodological strength of this study was the inclusion of a large, nationally representative sample of adolescents. However, the fact that the study was performed in China may limit the generalizability of its findings to the Australian context. A further potential limitation is related to the criteria used for recognising pathological levels of internet usage, which were based on the DSM-IV diagnostic criteria for pathological gambling. While to an extent all addictions share similar characteristics and behaviours, internet addiction represents a relatively new phenomenon and warrants further research into its causes and particularities of related features.

Implications: The results of this study have clinical implications for youth, for whom engagement in excessive use of internet and self-inflicted injuries represent particularly prominent problems. In recent years, discussion around the amount of time teenagers spend on the internet has highlighted the potentially harmful effects of such activities on physical and mental wellbeing. While there is a scarcity of research into these phenomena in Australia, one study on the impact of internet use on Australian teenagers found that a third of respondents were in the process of becoming psychologically addicted.² More in-depth examinations of the habits of internet users are therefore essential for the development of efficacious prevention programs promoting healthy participation. Further, development of longitudinal studies is needed to monitor the long-term impact of internet use on mental health and to determine possible links to risks for fatal suicidal acts.

Endnotes

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Suicidal ideation: the role of economic and Aboriginal cultural status after multivariate adjustment

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Canadian Journal of Psychiatry 54, 589-595, 2009

Objective: To determine if Aboriginal (in this paper, First Nations and Métis people) cultural status is independently associated with lifetime suicidal ideation in the Saskatoon Health Region after controlling for other covariates, particularly income status.

Methods: Data collected by Statistics Canada in all 3 cycles of the Canadian Community Health Survey (CCHS) were merged with identical questions asked in February 2007 by the Saskatoon Health Region. The health outcome was lifetime suicidal ideation. The risk indicators included demographics, socioeconomic status, cultural status, behaviours, life stress, health care use, and other health problems.

Results: Participants ($n = 5948$) completed the survey with a response rate of 81.1%. The prevalence of lifetime suicidal ideation was 11.9%. After stratification, it was found that high-income Aboriginal people have similar low levels of suicidal ideation, compared with high-income Caucasian people. The risk-hazard model demonstrated a larger independent effect of income status in explaining the association between Aboriginal cultural status and lifetime suicidal ideation, compared with the independent effect of age. After full multivariate adjustment, Aboriginal cultural status had a substantially reduced association with lifetime suicidal ideation. The odds of lifetime suicidal ideation for Aboriginal people reduced from 3.28 to 1.99 after multivariate adjustment for household income alone.

Conclusion: The results of this study suggest reductions in lifetime suicidal ideation can be observed in Aboriginal people in Canada by adjusting levels of household income.

Comment

Main findings: Results of this study showed that Aboriginal cultural status was associated with an increased risk for lifetime suicidal ideation when compared to Caucasian Canadians. The strength of this relationship substantially decreased once other covariates were controlled for, yet remained statistically significant. This suggests that being Aboriginal may represent a risk factor for development of thoughts of suicide that is not tied to poor living circumstances. An interesting conclusion derived from stratification of data was that high-income Aboriginal people have similarly low levels of suicidal ideation as high-income Caucasian people.

There are several limitations of this study. First, the cross-sectional design does not allow for conclusions on causality between observed phenomena. Second, the health survey, thorough which data for this study were collected, did not inquire about the presence of mood disorders, which remain to be one of the least understood aspects of suicidality in Indigenous people. Lastly, inclusion of only off-reserve Aboriginal people may impact the generalizability of results.

Implications: Suicide rates of Australian Aboriginal and Torres Strait Islander communities exceed those of non-Indigenous Australians by almost twofold.¹ Yet, comprehensive understanding of their self-harming behaviours remains limited by the lack of research into risk factors and underlying causal pathways. This study represents an important contribution to existing knowledge about suicidal behaviour in Aboriginal people, as it focuses on variables associated with socio-economic status, such as household income level. Despite some notable differences between Canadian and Australian Aboriginal people, great percentages of both populations live in impoverished social conditions, which may act as pathways to non-fatal and fatal forms of suicidality.²

Authors of this study suggest that targeted policies to improve the social conditions for Indigenous people, coupled with generic policies focusing on reducing socio-economic inequalities, could provide helpful adjuncts to individual treatment strategies. To achieve this goal, an active participation from Aboriginal communities should be encouraged.

Endnotes

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GPs' role in the detection of psychological problems of young people: A population-based study

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British Journal of General Practice 59, 660-664, 2009

Background: Among young people, about one in three females and one in five males report experiencing emotional distress but 65-95% of them do not receive help from health professionals.

Aim: To assess the differences among young people who seek help and those who do not seek help for their psychological problems, considering the frequency of consultations to their GP and their social resources.

Design of study: School survey.

Setting: Post-mandatory school.

Method: Among a Swiss national representative sample of 7429 students and apprentices (45.6% females) aged 16-20 years, 1931 young people reported needing help for a problem of depression/sadness (26%) and were included in the study. They were divided into those who sought help ($n = 256$) and those who did not ($n = 1675$), and differences between them were assessed.

Results: Only 13% of young people needing help for psychological problems consulted for that reason and this rate was positively associated with the frequency of consultations to the GP. However, 80% of young people who did not consult for psychological problems visited their GP at least once during the previous year. Being older or a student, having a higher depression score, or a history of suicide attempt were linked with a higher rate of help seeking. Moreover, confiding in adults positively influenced the rate of help seeking.

Conclusion: The large majority of young people reporting psychological problems do not seek help, although they regularly consult their GP. While young people have difficulties in tackling issues about mental health, GPs could improve the situation by systematically inquiring about this issue.

Comment

Main findings: It has been previously demonstrated that the more contacts young people have with general practitioners, the better the odds for them to also consult mental health services for psychological problems.¹ However, several barriers prevent the utilisation of these services, leaving the majority of adolescent with unmet needs. Mauerhofer and colleagues therefore conducted a timely and relevant study looking into characteristics of Swiss adolescents who do not consult their GPs for psychological problems (they accounted for 87% of the included sample). Characteristics that increased the likelihood of consulting GPs included older age, higher frequency of visits at the GP, higher scores on depression scale and history of suicide attempts. An additional relevant finding of this cross-sectional study was the fact that young people who talk about their problems with adults were more likely to seek professional help when they felt the need to do so.

Implications: While this study does not look specifically into help-seeking behaviours of suicidal adolescents, we feel the findings carry significant practical implications for suicide prevention initiatives. It is well-established that suicide risk often progresses from more 'benign' levels of psychological distress and symptoms of mental disorders to thoughts of suicide or a suicidal plan. Intercepting young people at this stage is extremely important, and acquiring knowledge of availability of help for psychological problems at an early age can represent an invaluable lesson for their adult life and future experiences of coping with distress.

It would be advantageous to consider approaches that encourage suicidal adolescents in the community to seek treatment. This should focus on reducing the stigma associated with mental health problems and aim to increase access to relevant services, particularly for people in rural and remote areas and those with lower levels of socio-economic status. An additional reason that prevents people from consulting GPs is the belief that they deal exclusively with physical illnesses; this misconception could be tackled by media campaigns, raising awareness and encouraging general public to more readily exploit this venue of help-provision. Implications from findings of this study partly overlap with those coming from the study of Vannoy and colleagues about the language used by primary care physicians in their inquiries about suicide, which is also discussed in Key Articles,² and readers are encouraged to read both articles.

Endnotes

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Cannabis and suicide: longitudinal study

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British Journal of Psychiatry 195, 492-497, 2009

Background: Some studies suggest that cannabis use is associated with suicidal ideation, but no detailed longitudinal study has examined suicide as an outcome.

Aims: To examine the association between cannabis use and completed suicide.

Method: A longitudinal study investigated 50,087 men conscripted for Swedish military service, with cannabis use measured non-anonymously at conscription. Suicides during 33 years of follow-up were identified by linkage with the National Cause of Death Register.

Results: There were 600 (1.2% of cohort) suicides or deaths from undetermined causes. Cannabis use was associated with an increased risk of suicide (crude OR for 'ever use' 1.62, 95% CI 1.28-2.07), but this association was eliminated after adjustment for confounding (adjusted OR = 0.88, 95% CI 0.65-1.20).

Conclusions: Although there was a strong association between cannabis use and suicide, this was explained by markers of psychological and behavioural problems. These results suggest that cannabis use is unlikely to have a strong effect on risk of completed suicide, either directly or as a consequence of mental health problems secondary to its use.

Comment

Main findings: This article presents findings of a landmark prospective cohort study conducted on a representative sample young males aged 18-20 in Sweden in 1969. While evidence from the crude analysis indicated that those who smoked marijuana at the time of conscription to military service had an increased risk for suicide over the following 33 years, no independent causal association was found after controlling for several confounding social and personal factors. This indicates that cannabis use is unlikely to be either an independent causal factor contributing to suicide or a factor that elevates the risks for development of mental disorders such as psychosis. This finding is in contrast to some previous studies;¹ however, most of them have measured outcomes such as suicidal ideation or suicide attempt rather than completed suicides.

Main strengths of this study were: the large and representative sample, capturing the age group in which suicide is a major public health concern, and the inclusion of a great number of potential confounders. On the other hand, as this cohort was not initially planned to be followed for the purposes of studying suicide risk, several of the reported risk factors were not measured and controlled for, such as past suicidal behaviours, family history of suicide or

personality disorders. Further, the self-reported nature of obtaining information on drug use has most likely lead to an under-estimation of the number of participants that have ever used cannabis.

Implications: Cannabis is the most common illicit drug used by Australians, with one in three persons having used it at least once in their lifetime and 11% of the population having used it in the previous 12 months. This percentage is estimated to be twice higher among the Aboriginal and Torres Strait Islanders (AIHW, 2007). Cannabis' popularity is derived from the generally held belief that its health consequences are rather benign. However, there is growing evidence of an association between mental health problems and cannabis use, which has been proven on Australian samples of young populations in both cross-sectional³ and longitudinal⁴ studies. Yet to date the causal links between cannabis and mental health or suicidal behaviours remain poorly understood, most likely due to restraints preventing sufficiently long follow-up studies and inability to control for all potential confounding factors.

While results by Price and colleagues, presented above, showed no direct causal effect between cannabis use and subsequent risk for suicide, this should not discourage future policy developments from introducing more stringent legal restriction preventing access to marijuana and its derivatives. In parallel, provision of adequate and timely medical and psychological help to those already using cannabis is warranted. Prevention of developments of malignant patterns of comorbid cannabis use with depression, conduct problems, excessive drinking and use of other drugs might in the long-term also prove efficient in reducing deaths from suicide.

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Suicide and hospitalization for mental disorders in Sweden: A population-based case-control study

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The aim of this study was to estimate suicide risk during hospitalization and in the year following discharge for patients with mental disorders. All suicide cases in Sweden 18 years and older, between 1991 and 2003 ($N = 20,675$; 70% male), were individually matched to 10 controls from the general Swedish population. Discharge diagnoses in the year before suicide of any mental disorder, mood disorder, schizophrenia spectrum disorder, and alcohol use disorder were identified from the Swedish Patient Register. Highest suicide risk during hospitalization and in the year following discharge was found for mood disorder [odds ratio (OR) 55 (95% CI, 47-65) for men and 86 (95% CI, 70-107) for women], with the risk peaking in the first week following discharge [OR 177 (95% CI, 78-401) for men and OR 268 (95% CI, 85-846) for women]. Compared to that for mood disorder, the suicide risk for schizophrenia spectrum disorder and alcohol use disorder was about half and more constant over time. The majority of suicide victims with a psychiatric diagnosis had been discharged from psychiatric treatment more than a month before the suicide. Over time, a constant proportion of 25% of the suicide victims had been hospitalized with a mental disorder in the year before suicide (23% of males and 31% of females), despite a significant decrease in psychiatric hospitalizations in the population. In conclusion, suicide risk was found to vary by type of mental disorder, time since discharge, and sex. This should be taken into account when planning suicide preventive efforts.

Comment

Main findings: This study fills an important gap in literature by examining the risk of suicide in persons hospitalized for a mental disorder prior to death. The sample of suicide cases was drawn from a register of all deaths in Sweden over a 13-year period, while data on controls (living population) was ascertained from a census registry. Results show that a substantial proportion of suicide victims (18% for men and 26% for women) were hospitalized for a mental disorder in the year before death, compared to controls (0.9% of male controls and 0.7% of female controls). Further, those hospitalized with a mental disorder had a notably higher risk of suicide in the year following discharge compared to those without diagnosis. Cases with a mood disorder were at greatest risk at the first week after discharge, but still had a heightened risk one year after the suicide (compared to cases with a diagnosis of schizophrenia or alcohol use disorder, which had a relatively low but stable risk over the time period). Findings also suggest significant gender differences as there was a

similar proportion of alcohol and mood disorders in male suicides, while a higher proportion of mood disorders were apparent in female suicides. Compared to controls, males with a history of previous suicide attempts were at substantially higher risk of suicide than females.

Implications: Similar to Sweden, recent decades have seen a decrease in the number of inpatient beds in Australian hospitals.¹ This has led to concern about the possible implications of these trends on the quality of mental health care provided to persons with mental and substance use disorders.² However, this study from Sweden showed that a reduced number of psychiatric beds did not appear to markedly affect mortality by suicide, as there was no change in the percentage of suicide victims who were hospitalized before their death. Reutfors and colleagues suggest that this is because persons with severe risk for suicide remain a priority for hospitalization. It is unknown whether there have been changes in the priority order of hospitalization has occurred in Australia; however, this represents an important area of investigation with significant implications for the health care and management of suicidal persons.

A further implication of this study is the need to monitor and provide follow up care for those persons who have been recently discharged from hospital.³ The high rate of suicide soon after discharge among those with a diagnosed mood disorder indicates that this is a particularly important time in which care and support is needed. As suggested in Bergmans et al. (2009)⁴ (reviewed earlier in this volume), those who suffer from mental illness or have made a suicide attempt often face considerable difficulties in their rehabilitation, and require additional support and understanding to ease their adjusting after the intensive care and treatment provided in a hospital setting. This indicates the need for a collaborative approach from health care professionals, employers and family in helping someone who was previously suicidal rehabilitate into society.

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Drugs associated with more suicidal ideations are also associated with more suicide attempts

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Context: In randomized controlled trials (RCTs), some drugs, including CB1 antagonists for obesity treatment, have been shown to cause increased suicidal ideation. A key question is whether drugs that increase or are associated with increased suicidal ideations are also associated with suicidal behavior, or whether drug-induced suicidal ideations are unlinked epiphenomena that do not presage the more troubling and potentially irrevocable outcome of suicidal behavior. This is difficult to determine in RCTs because of the rarity of suicidal attempts and completions.

Objective: To determine whether drugs associated with more suicidal ideations are also associated with more suicide attempts in large spontaneous adverse event (AE) report databases.

Methodology: Generalized linear models with negative binomial distribution were fitted to Food and Drug Administration (FDA) Adverse Event (AE) Reporting System (AERS) data from 2004 to 2008. A total of 1,404,470 AEs from 832 drugs were analyzed as a function of reports of suicidal ideations; other non-suicidal adverse reactions; drug class; proportion of reports from males; and average age of subject for which AE was filed. Drug was treated as the unit of analysis, thus the statistical models effectively had 832 observations.

Main outcome measures: Reported suicide attempts and completed suicides per drug.

Results: 832 drugs, ranging from abacavir to zopiclone, were evaluated. The 832 drugs, as primary suspect drugs in a given adverse event, accounted for over 99.9% of recorded AERS. Suicidal ideations had a significant positive association with suicide attempts ($p < .0001$) and had an approximately 131-fold stronger magnitude of association than non-suicidal AERS, after adjusting for drug class, gender, and age.

Conclusions: In AE reports, drugs that are associated with increased suicidal ideations are also associated with increased suicidal attempts or completions. This association suggests that drug-induced suicidal ideations observed in RCTs plausibly represent harbingers that presage the more serious suicide attempts and completions and should be a cause for concern.

Comment

Main findings: This paper shows that drugs associated with a higher number of suicidal thoughts were also related to an increase in suicidal behaviours. In numerical terms, for every reported suicide ideation per drug, attempts increased by a factor of 3.7%. To reach this conclusion, the authors of this paper analysed information from ‘adverse events’ associated with 832 medicinal drugs using a database from 2004 to 2008. Results also indicated there were some distinctions between differing categories of drugs, with medications such as birth control pills, prostrate drugs, acne medication, ADHD drugs, growth hormones, or Alzheimer’s medication being associated with fewer attempts.

Implications: In the past, randomised clinical trials on specific drugs have suggested that associations with suicide ideation are not equivalent to suicide attempts. The results of this study indicate that this may not be the case, reporting that drugs that are associated with a higher number of suicidal thoughts may also result in a higher number of suicidal behaviours. This is an obvious and concerning finding in the Australian context considering the high rate of prescription and medication of many common conditions.¹ A recent study in Australia found that 2.5% of hospital admissions are medication-related, which is equivalent to 150 000 such admissions each year¹. However, as there is no comprehensive, reliable source of information about adverse drug reactions, medication errors or medication-related problems in Australia, it is difficult to determine whether these may have a relationship with suicide. More research into the effects of medication on suicide is necessary. This will enable greater understanding of the effects of drugs beyond the randomized-clinical-trial.

Endnote

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Does early improvement in major depression protect against treatment emergent suicidal ideation?

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Journal of Affective Disorders. Published online: 3 November 2009. doi: 10.1016/j.jad.2009.10.010, 2009

Objective: To investigate the association of early improvement and treatment emergent suicidal ideation in a large sample ($N = 705$) of naturalistically treated inpatients with major depressive disorder.

Method: In line with previous reports early improvement was defined as a 20% HAMD improvement within the first two weeks of antidepressant treatment. Treatment emergent suicidal ideation was defined by a sudden increase from 0 or 1 to at least 3 on HAMD item 3 and from 0.1 to at least 4 on MADR item 10 for suicidal ideation. Early improvers were compared with non-early improvers with respect to the occurrence of treatment emergent suicidality during treatment.

Results: Early improvers were 3 (MADRS) to 3.4 (HAMD) times less likely to experience new emergence of suicidal ideation during the treatment course than non-improvers. In addition, early improvement was associated with significantly less pessimistic thoughts.

Limitations: The analysis is based on secondary analysis of prospectively collected data. No controlled study design.

Conclusion: Early improvement is associated with significantly less treatment emergent suicidal ideation for it may provide rapid symptom relief and reduce hopelessness.

Comment

Main findings: Following the 2004 US Food and Drug Administration (FDA) recommendation for caution in prescribing antidepressants, there has been much debate on the possible links between the use of antidepressant and suicidality. Several studies have confirmed that antidepressants may increase risk for suicide in children and adolescents;¹ however, many of these studies failed to control whether patients showed any improvement from the allocated antidepressant treatment. This study, conducted on a large sample of German psychiatric in-patients, confirmed that early antidepressant treatment effect leads to about three-times less treatment emergent suicidality. Another relevant finding emerging from this study is that patients with early improvement had been treated with antidepressants in combination with tranquilizers.

Inclusion of only psychiatric in-patients, absence of a control group and the failure to control for potential confounders deters the generalizability of the observed links between suicidal behaviour and efficiency of antidepressant treatment. Nevertheless, this study represents a very significant contribution to available knowledge on treatment of depression.

Implications: Depression has long been recognised to be the most common psychiatric disorder in cases of both fatal and non-fatal suicidal acts, and the improvement of physicians' recognition and subsequent treatment of depression have been confirmed as efficient components of suicide prevention.² However, as many as half of patients prematurely discontinue with treatment, which leads to frequent reoccurrences of depressive symptoms, poorer clinical and functional outcomes and higher risk of suicide.³ Authors of this study have suggested that early experiences of symptom improvement might impact on the doctor-patient relationship and improve the overall treatment outcome by giving patients instant hope and reassuring them of the effectiveness of the initiated treatment. More research is needed to recognize particular variables that augment the likelihood of a fast response to antidepressant treatment, even more so in the light of fact that this outcome does not seem to rely that much on the severity of the actual illness but more on the comorbid personality disorder and treatment resistance.⁴

Results carry significant practical implications for suicide prevention strategies worldwide in that they underline the importance of close collaboration between clinicians and patients. This facilitates the choice of the most suitable antidepressant and also ensures that the patient's response is closely monitored. Particular attention should be placed on patients in whom no improvement is observed after first few weeks of antidepressant treatment. Not only do these people have smaller odds of complete recovery at discharge from psychiatric hospitals, but they also carry greater risks for development of suicidal thoughts as a result.

Endnotes

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The development of effective message content for suicide intervention

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Crisis 30, 174-179, 2009

Background: Each year there are over 31,000 suicides in the United States, constituting a significant problem in every respect. It is important for research efforts to focus on the communication elements involved in suicide prevention because the messages produced by individuals close to those who have suicidal thoughts have the potential to save a life.

Aims: The current manuscript presents the theory of planned behavior (TPB) as a foundation to increase understanding of what message content would be most effective to convince an individual to intervene when someone is suicidal.

Methods: Suicide and suicidal behaviors are briefly reviewed, as is the TPB. Then it is argued how and why TPB can help construct persuasive messages.

Results: The authors suggest that TPB guide the content of persuasive messages. Messages created in combination of persuasive theories with TPB are likely to encourage an individual to intervene when someone is suicidal.

Conclusions: A key element to suicide prevention is intervention by close others. Use of TPB provides an increased understanding of how to persuade close individuals to intervene when an individual is suicidal.

Comment

Main findings: This paper presents a theory of planned behaviour (TPB), a theoretical framework that seeks to explain the intentions, attitudes, norms, and perceived behavioural control of people who are faced with a person expressing suicidal thoughts. This theory has been particularly used in the health communication context, to help predict and understand motivational influences on behaviours. On an individual level, TPB identifies three main factors influencing whether or not an individual will perform certain behaviour: attitude towards behaviour, subjective norms and perceived behavioural control.

Authors argue that convincing friends and family to intervene when they suspect someone is suicidal may be more beneficial than targeting the suicidal individual directly. Understanding of what message content is effective in reducing suicidality carries tremendous potential for suicide prevention in the future by bringing the broader community into the forefront of tackling this vast health problem. This paper does not offer suggestions on what the content of such interventions should be; rather it presents ways in which theory of planned behaviours could be utilised in research efforts.

Implications: A crucial step in utilizing TPB is to conduct open-ended focus groups and observations of salient beliefs associated with suicide interventions as these have been recognised to often represent barriers towards provision of help. Based on that, appropriate message content can be developed and thus guide theoretically based suicide prevention programs. In doing so, individuals prepared to intervene need to also be provided with guidelines and ‘tools’ for recognition of suicide risk signs and knowledge about available resources offering professional help.

In Australia, the problems of developing effective message for suicide prevention programs are particularly relevant. In view of this, strategies targeting Indigenous people have to consider ‘glossaries’ of terms, habits, traditions and activities dictated by Indigenous community members.¹ The same may also hold true for men² and youth,³ whose limited help-seeking capabilities have to be addressed in order to facilitate positive outcomes from public campaigns.

Endnotes

- 1 De Leo D, Svetic J, Klieve H, Andersen K, Milner A, & McKay K (in press). *Suicide in Indigenous Populations of Queensland*. Brisbane: Australian Academic Press.
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Pre-teen alcohol use initiation and suicide attempts among middle and high school students: Findings from the 2006 Georgia Student Health Survey

Swahn MH, Bossarte RM, Ashby JS, Meyers J (USA)

Addictive Behaviors 35, 452-458, 2010

Early alcohol use initiation has been linked to suicide attempts among youth. However, very little is known about the potential impact of alcohol-related norms and beliefs and how these may impact the association between alcohol use and suicide attempt. This study examines the associations between early alcohol use and suicide attempts while controlling for demographic characteristics, and alcohol-related beliefs and norms (e.g., believing alcohol causes harm to health or that adults or friends disapprove of alcohol use) and potential confounders. Analyses were based on the 2006 Georgia Student Health Survey ($N = 175,311$) of students in grades 6, 8, 10 and 12. The current analyses were limited to students in grades 8, 10 and 12, who either began drinking prior to age 13 or who were non drinkers ($n = 87,349$). Pre-teen alcohol use initiation was associated with suicide attempts (Adj.OR = 1.51; 95%CI:1.38–1.66) relative to not drinking with similar associations for boys (Adj.OR = 1.72; 95%CI:1.52–1.94) and girls (Adj.OR = 1.26; 95%CI:1.08–1.45). Students who believed that alcohol was harmful to their health, or that friends or adults disapproved of their alcohol use, or who had been taught about substance use in school were less likely to make a suicide attempt, although findings differed for boys and girls. Pre-teen alcohol use initiation is an important risk factor for suicide attempts among boys and girls in Georgia. Increased efforts to delay and reduce early alcohol use through clinical interventions, education, and policies that impact norms and knowledge related to alcohol use are needed and may in turn reduce suicide attempts.

Comment

Main findings: Swahn and colleagues examined the association between pre-teen alcohol use and suicide attempts in a large epidemiological survey on a nationally representative sample of students in Grades 8, 10 and 12. This is a timely and relevant study addressing a growing public health problem, which has been identified in most of the western world and has detrimental short- and long-term consequences on both physical and mental health.

Results showed that one out of seven participating students initiated alcohol use prior to age 13. In comparison to non-drinkers, both boys and girls had higher odds of reporting a suicide attempt in the previous year, even after controlling for a variety of confounding variables (increase of 72% and 26%, respectively). The innovation of this study is an inclusion of several alcohol-use related factors that are particularly relevant for the prevention of alcohol misuse. Results suggested that disapproving attitudes towards alcohol from adults and peers, belief that alcohol is harmful to health and having received education on alcohol and drug use can serve as potentially modifiable factors in determining the strength of the relationship between early drinking age and suicidal behaviours.

Implications: This research is very topical for Australia, which faces ongoing concerns about underage drinking and binge drinking behaviours in younger populations. As a result, the Prime Minister announced a national strategy to address the binge drinking epidemic among young Australians in March 2008. Results of presented study contribute to the knowledge of the potential adverse outcomes of drinking at an early age.

Encouragement of parental guidance and monitoring of teenagers' alcohol use is of crucial importance in designing any future prevention programs. As an extension of this, Swahn and colleagues suggest that negative attitudes towards alcohol from peers can also have a beneficial role in deterring youth under age of 13 from consuming alcohol (although the latter seems to affect girls more than boys). Authors recommend that health care providers screen for alcohol use from an early age, and that paediatricians strongly advise against the use of alcohol. Also, hazards of alcohol use at an early age should be discussed between health professionals, school teacher and parents, and between parents and children. The role of positive modelling behaviour from family and friends cannot be overstated and can be a particularly powerful way to reduce pre-teen alcohol consumption.

Suicide inquiry in primary care: creating context, inquiring, and following up

Vannoy SD, Fancher T, Meltvedt C, Unützer J, Duberstein P, Kravitz RL (USA)
Annals of Family Medicine 8, 33-39, 2010

Purpose: We wanted to describe the vocabulary and narrative context of primary care physicians' inquiries about suicide.

Methods: One hundred fifty-two primary care physicians (53% to 61% of those approached) were randomly recruited from 4 sites in Northern California and Rochester, New York, to participate in a study assessing the effect of a patient's request for antidepressant medication on a physician's prescribing behavior. Standardized patients portraying two conditions (carpal tunnel syndrome and major depression, or back pain and adjustment disorder with depressed mood) and three antidepressant request types (brand-specific, general, or none) made 298 unannounced visits to these physicians between May 2003 and May 2004. Standardized patients were instructed to deny suicidality if the physician asked. We identified the subset of transcripts that contained a distinct suicide inquiry ($n = 91$) for inductive analysis and review. Our qualitative analysis focused on elucidating the narrative context in which inquiries are made, how physicians construct their inquiries, and how they respond to a patient's denial of suicidality.

Results: Most suicide inquiries used clear terminology related to self-harm, suicide, or killing oneself. Three types of inquiry were identified: (1) straightforward (e.g., 'Are you feeling like hurting yourself?'); (2) supportive framing (e.g., 'Sometimes depression gets so bad that people feel that life is no longer worth living. Have you felt this way?'); and (3) no problem preferred (e.g., 'You're not feeling suicidal, are you?'). Four inquiries were glaringly awkward, potentially inhibiting a patient's disclosure. Most (79%) suicide inquiries were preceded by statements focusing on psychosocial concerns, and most (86%) physician responses to a standardized patient's denial of ideation were followed up with relevant statements (e.g., 'I hope you would tell me if you did.').

Conclusion: Although most suicide inquiries by primary care physicians are sensitive, clear, and supportive, some language is used that may inhibit suicide disclosure. Some physician responses may unintentionally reinforce patients for remaining silent about their risk. This study will inform future research in the development of quality improvement interventions to support primary care physicians in making clear, appropriate, and sensitive inquiries about suicide.

Comment

Main findings: From a public health perspective, primary care visits represent an important opportunity for suicide prevention, particularly since it has been established that nearly half of people that die of suicide see a GP within a month from death.¹ Detecting and assessing risk for suicide by a GP relies on the patient's willingness to disclose this information and also on the particular ways the physician inquires about it.

Vannoy and colleagues have designed an original study which involved patients instructed to present to GPs with different conditions from the spectrum of depressive disorders. They monitored whether or not the physician assessed the suicide risk, and where they did, the authors analysed the linguistic structure of the suicide discourse. It is noteworthy that only 36% of the visits to the physicians triggered an inquiry about suicidality; however, authors caution of the limited ability to generalize these findings beyond first-visit physician encounter with middle-aged white women. Despite the low frequency, study found that most inquiries were sensitive, appropriate and supportive. Analyses of linguistic content of inquiries showed that the most common wording was related to self-harm (56%), followed by direct inquiries into wishes to suicide in 48% of cases. About a quarter of patients reported that the GPs used wordings with which they tried to dismiss the possibility of suicidal thoughts or plans, and there were also some examples of vague or perplexing inquiries. In general, suicide enquiries were embedded within a contextual discussion on depression and psychosocial functioning. Perhaps the most encouraging finding was that the patients' denial of suicide ideation was often followed by supportive statements or probing for more information.

Implications: Findings of this study may be useful in developing educational interventions to assist physicians who are reluctant to discuss suicidality with patients presenting with symptoms indicating an elevated risk for development of suicidal thoughts or behaviours. In particular, it was seen that failure to respond to patients' statements in an appropriate way or displaying discomfort at discussing this topic may inhibit their disclosure. As the authors suggest, training for primary care physicians should include practice on holding discussion about suicide, through which they could raise awareness of methods for creating safe environment for patients to disclose such thoughts. There is evidence from an Australian study that training general practitioners to recognise and respond to psychological distress can lead to an increase in enquiries about suicidal ideation and improved identification of suicidal patients; however, it was also shown that higher recognition rates do not necessarily lead to changes in patient management.² Therefore, knowledge on where to refer suicidal patients and the ability to adequately explain available treatment options should also be considered as essential parts of tackling suicidality through the primary care health services.

Endnotes

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- 2 Pfaff JJ, Acres JG, McKelvey RS (2001). Training general practitioners to recognise and respond to psychological distress and suicidal ideation in young people. *Medical Journal of Australia* 174, 222-226.

Consistency of immigrant suicide rates in Austria with country-of-birth suicide rates: A role for genetic risk factors for suicide?

Voracek M, Loibl LM, Dervic K, Kapusta ND, Niederkrotenthaler T, Sonneck G (Austria)
Psychiatry Research 170, 286-289, 2009

Multifaceted evidence (family, twin, adoption, molecular genetic, geographic, and surname studies of suicide) suggests genetic risk factors for suicide. The migrant study design is also informative in this context, but underused. In particular, immigrant studies of suicide with a continental European host country are unavailable. The correspondence of suicide prevalence among 22 immigrant groups in Austria (1970-2006) with those of the homelands during the same period was analyzed. Immigrant and homeland suicide rates were significantly positively associated. Controls for age of suicide victim, immigrant group size, national pride, and quality of life in the homelands left the finding essentially unchanged. This correspondence of immigrant and country-of-birth suicide rates is consistent with the assumption of population differences in the prevalence of genetic risk factors for suicide, for which there is emerging evidence.

Comment

Main findings: This is the first study to examine the evidence supporting the role of genetic factors in suicide through an analysis of immigrant suicide rates within a European continental host country. The results confirmed that the ranking of suicide prevalence among the several immigrant groups in Austria corresponded to those of their homelands, suggesting a generalizable trend that is consistent with findings of available studies from other parts of the world. This also means that the shared environmental factors, such as social context and living circumstances in a country in which one currently resides, may not play a significant role in determining the risk of suicide.

The authors caution that these findings can not be seen as conclusive due to the fact that migrants may not be fully representative of their homeland populations, even on a genetic level. Secondly, the observed effects are based on group-level findings and as such do not necessarily reflect the gene-environment interaction on an individual level.

Implications: The presented study by Voracek and colleagues showed that suicide risk in certain immigrant groups resembles that of their country of origin. This has practical implications for improvements in recognition of minority groups that are at greatest risk for suicide, be it due to major life adjustments related to considerable changes in their physical, social, cultural and economic milieu (environmental factors) or due to genetic factors.

Australia is one of the most ethnically heterogeneous countries in the world. Latest census counts in 2006 showed that nearly half of all Australians were either first or second-generation immigrants.¹ To date, there has been very little research done on suicide in immigrant populations despite the fact that these persons might have a higher prevalence of psychiatric disorders and lower rate in utilisation of mental health services when compared to those born in Australia.² Also, most of the available ecological studies from Australia have used suicide mortality data from the 1960s and 1970s, indicating the need for an updated analysis of these phenomena. Since the structure of immigrant populations changes significantly over time, it is important that any future analyses distinguishes between specific countries of origin and also controls for any potential societal changes that might have occurred in their homelands during studied periods.

In general, past studies have concluded that migration increases the risk of suicide through acculturation stress, which is influenced by factors such as the degree of social support experienced, family cohesion and social integration, as well as the person's mental health prior to migration. Future suicide prevention initiatives should therefore focus on providing culturally sensitive programs that support transition into host countries by promoting the role of protective factors, particularly in persons emigrating from countries with recognised higher rates of suicides.

Endnotes

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Attempted suicide in the elderly: characteristics of suicide attempters 70 years and older and a general population comparison group

Wiktorsson S, Runeson B, Skoog I, Ostling S, Waern M (Sweden)

American Journal of Geriatric Psychiatry 18, 57-67, 2009

Objective: To identify factors associated with attempted suicide in the elderly.

Design: Social, psychological, and psychiatric characteristics were compared in suicide attempters (70 years and older) and a representative population sample.

Settings: Emergency departments at five hospitals in western Sweden and a representative sample of the elderly population.

Participants: Persons with Mini Mental State Examination (MMSE) score < 15 were excluded. One hundred forty persons who sought hospital treatment after a suicide attempt were eligible and 103 participated (57 women, 46 men, and mean age 80 years). Comparison subjects matched for gender and age group ($N = 408$) were randomly selected among participants in our general population studies.

Measurements: Symptoms were rated with identical instruments in cases and comparison subjects. The examination included the MMSE and tests of short- and long-term memory, abstract thinking, aphasia, apraxia, and agnosia. Depressive symptomatology was measured using the Montgomery-Asberg Depression Rating Scale, and major and minor depressions were diagnosed according to Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, using symptom algorithms.

Results: Factors associated with attempted suicide included being unmarried, living alone, low education level, history of psychiatric treatment, and previous suicide attempt. There was no association with dementia. Odds ratios were increased for both major (odds ratio OR: 47.4, 95% confidence interval CI: 19.1-117.7) and minor (OR: 2.6, 95% CI: 1.5-4.7) depressions. An association was observed between perceived loneliness and attempted suicide; this relationship was independent of depression (OR: 2.8, 95% CI: 1.3-6.1).

Conclusions: Observed associations mirrored those previously shown for completed suicide. Results may help to inform clinical decisions regarding suicide risk evaluation in this vulnerable and growing age group.

Comment

Main findings: This Swedish study reports of many commonalities in predictors of suicide attempts and completed suicides among elderly. Results confirm previously reported findings of a higher ratio of mortality after suicide attempts when compared to younger populations, indicating a more developed and determined suicidal plan. Further relevant findings of this cross-sectional study include observations that dementia was not associated with attempted suicide, and that the attempters were more than twice as likely to have minor depression as their counterparts in general population.

Limitations in the methodological design include the modest generalizability of results to all elderly suicide attempters, as not all persons in the general community receive hospital care following a suicide attempt. Despite this, the paper carries significant findings that may help inform clinical decisions regarding suicide risk evaluation in this vulnerable and growing age group.

Implications: A survey investigating lifetime risk of suicide ideation and attempts in an Australian community found that about 2% of elderly population had attempted suicide in their lifetime, but less than half of them had received any formal medical or psychiatric help.¹ This indicates that greater attention needs to be placed on encouraging and enabling help-seeking behaviours of suicidal individuals, particularly as Wiktorsson and colleagues found that a previous attempt was associated with an almost 20-fold increase in odds for a repeated suicidal act. Additionally, this suggests that suicide prevention initiatives should specifically address the issue of loneliness in the elderly. While feelings of loneliness or social isolation are often the result of a complex relationship between living circumstances, disabilities and personality traits, they nevertheless represent a more easily modifiable risk factor for suicide than medical or mental illnesses. Greater inclusion of elderly population in pass-time activities and encouragement of active participation in the broader community may assist in reducing feelings of social isolation.

To date, there remains a paucity of reliable data on the rate of attempted suicide in Australia, not only because distinguishing presentations to hospitals or emergency departments due to intentional or unintentional injuries can be extremely difficult, but also because of absence of an official national register of data on suicide attempters. Data reliant on hospital samples can be unreliable due to inconsistent recordings and changes in definitions used to record attempted suicides. Further, only those people who present to hospitals are eventually recorded, which omits the people who see a general practitioner or who do not seek any medical assistance. Combined and nationally coordinated efforts are required to overcome this impediment. Increased detection and improved treatment of suicide attempters may be important issues to consider in future policy developments.

Endnote

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Suicidal ideation and attempt among adolescents reporting 'unsure' sexual identity or heterosexual identity plus same-sex attraction or behavior: forgotten groups?

Zhao Y, Montoro R, Igartua K, Thombs BD (Canada)

Journal of the American Academy of Child and Adolescent Psychiatry 49, 104-113, 2010

Objective: To compare risk of suicide ideation and attempts in adolescents with (1) gay, lesbian, or bisexual (GLB) identity, (2) 'unsure' identity, or (3) heterosexual identity with same-sex attraction/fantasy or behavior, to heterosexual identity without same-sex attraction/fantasy or behavior.

Method: A total of 1,856 students 14 years of age and older from 14 public and private high schools in Montréal, Québec, were surveyed anonymously. The survey included items assessing sexual orientation, health risk behaviors, and suicidal ideation and attempts. Multiple logistic regression models were used to assess risk factors for suicidal ideation and attempts.

Results: In all, 58 (3.1%) adolescents self-identified as GLB, 59 (3.2%) as unsure, and 115 (6.2%) as heterosexual with same-sex attraction/fantasy or behavior. Compared with heterosexually identified youth without same-sex attraction/fantasy or behavior ($N = 1,624$; 87.5%), in multivariable analyses, 12-month suicidal ideation was significantly higher for both GLB (odds ratio [OR] = 2.31, 95% confidence interval [CI] = 1.22-4.37) and unsure youth (OR = 2.64, 95% CI = 1.38-5.08). Twelve-month suicide attempts were significantly elevated for GLB youth (OR = 2.23, 95% CI = 1.15-4.35) and high, although not statistically significant, for unsure youth (OR = 1.61, 95% CI = 0.77-3.36). Heterosexual identity with same-sex attraction/fantasy or behavior was not significantly associated with increased suicidal ideation (OR = 1.26, 95% CI = 0.76-2.08) or attempts (OR = 1.03, 95% CI = 0.55-1.91) in multivariable analyses.

Conclusion: Compared with heterosexual youth without same-sex attraction/fantasy or behavior, adolescents with GLB and unsure identities were at greater risk of suicidality. However, youth who reported same-sex attraction or behavior but a heterosexual identity were not at elevated risk.

Comment

Main findings: This study, using a large representative sample of Canadian students, is the first to systematically investigate the risk for suicidal ideation and suicidal attempts among youth with ‘unsure’ sexual identity and those who define themselves as heterosexual but with same-sex attraction. Results of the study represent a relevant contribution to the available knowledge on mental health problems and suicidality among gay, lesbian and bisexual (GLB) persons, who have previously been recognised as being at greater risk than heterosexual peers.¹ The first notable finding was that an equal percentage of participating adolescents identified themselves as GLB or as unsure about their sexual identity (each about 3%); while about 6% said they were heterosexual but have occasionally felt attracted to same-sex peers. These results confirmed that sexual minority youths do not comprise a homogenous population but rather represent a diverse collection of individuals with great variability on several mental-health related characteristics. Further, adolescents with GLB and unsure identities were at greater risk of suicidality when compared to heterosexual youth, while same-sex attraction per se did not increase suicidality. A major limitation of this study is its small sample which prevented more in-depth statistical analyses and limited the generalizability of findings. Further, the cross-sectional study design could not address questions related to stability of sexual patterns over time and the link between potential variability in sexual identity in transitions from adolescence to adulthood and subsequent emergence of suicidal behaviours.

Implications: Findings of this study carry strong implications for research studies and for clinical work. First, closer attention is warranted in designing future research studies including adolescents’ sexual orientation as a potential risk factor in predicting adverse mental health outcomes and/or suicidality. Second, to achieve better recognition and prevention of suicidality among youth with different types of sexual orientation, it is necessary to consider broader social contexts and particularly focus on discriminative environments in which disclosure of one’s sexual identity could expose adolescents to prejudice and even violence.

Endnote

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Recommended Readings

Suicide assessment by psychiatric nurses: a phenomenographic study

Aflague JM, Ferszt GG (USA)

Issues in Mental Health Nursing 31, 4, 248-256, 2010

Although suicide assessment has been researched, nurses haven't been included in studies nor has this been explored from a phenomenographic perspective. Suicide assessment by nurses was investigated using a phenomenographic design. Data were collected through observations, vignettes, and interviews. Phenomenographic analysis discovered four qualitative differences in suicide assessment among nurse participants: reliance on (1) examples of other suicide cases, (2) intuition, (3) others' assessments, and (4) prior experience. The categories were classified into a three dimensional theoretical structure of suicide assessment: (a) Knowledge, (b) Method, and (c) Reference. Variability in participants' assessments established a structure of suicide assessment that furthers understanding of how nurses assess suicide and provides implications for practice.

Role of self and other forgiveness in predicting depression and suicide ideation of divorcees

Ahadi B, Ariapooran S (Iran)

Journal of Applied Sciences 9, 3598-3601, 2009

This study aims to survey the role of forgiveness of self and forgiveness of others to predict depression and suicide ideation among divorced women. Then 124 divorced women of Kermanshah City were selected. Subjects completed following scales; forgiveness questionnaire, beck depression inventory and suicide ideation scale. Findings showed significant negative correlation of forgiveness of self and others to depression and suicide ideation. Results of multivariate regression through enter method also showed that forgiveness of self has explained significant value of variance of depression and suicide ideation.

Suicidal behaviour and psychotropic medications for adolescents: an uneasy association, as yet not clarified

Alderman CP

The Annals of Pharmacotherapy 43, 2093-2095, 2009

Despite considerable recent attention and wide-scale interventions by regulatory authorities that have changed drug usage patterns, the possible relationship between psychotropic pharmacotherapy and suicidal behaviour among children and adolescents remains unclear. Confounding by diagnosis adds to confusion in the interpretation of the relationship between antidepressant use

and suicidal behaviour among young people. Recent research suggests that antidepressants may be protective against early readmission after hospitalization for suicide attempts or ideation, but that psychotropic polypharmacy (although common) may be associated with increased risk of rehospitalization. There remains an urgent need for high-quality, ongoing research into these clinical dilemmas.

Suicide in patients treated for obsessive-compulsive disorder: A prospective follow-up study

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Journal of Affective Disorders. Published online: 8 January 2010. doi: 10.1016/j.jad.2009.12.001, 2010

Background: To describe the occurrence of persistent suicidal ideation and suicide attempts in a sample of obsessive-compulsive patients followed-up prospectively during 1 to 6 years, and to determine the existence of predictors of suicide behavior.

Method: Two hundred and eighteen outpatients with DSM-IV OCD, recruited from a specialized OCD Unit in Barcelona, Spain, between February 1998 and December 2007, were included in the study. Suicide ideation was assessed by item 3 of the Hamilton Depression Rating Scale. Suicide attempts were evaluated by the Beck Suicide Intent Scale. Patients with and without persistent suicidal thoughts and suicide attempters and non-attempters were compared on sociodemographic and clinical variables. A Cox proportional hazards regression analysis was used to estimate potential predictors of suicide.

Results: Patients completed a mean follow-up period of treatment of 4.1 years (*SD*: 1.7; range: 1-6 years). During this period, eighteen patients (8.2%) reported persistent suicidal ideation, two patients (0.91%) committed suicide and 11 (5.0%) attempted suicide. Being unmarried, presenting higher basal scores in the HDRS, current or previous history of affective disorders and symmetry/ordering obsessions were independently associated with suicidal behaviors.

Limitations: Patients were recruited from a specialized OCD clinic and received exhaustive treatment. Influence of variables including social support, life events, hopelessness and substance abuse/dependence was not assessed.

Conclusions: Suicide behavior is not a highly common phenomenon in OCD, but it should not be disregarded, especially in unmarried patients, with comorbid depression and symmetry/ordering obsessions and compulsions, who appear to be at a greater risk for suicide acts.

Duration of untreated illness and suicide in bipolar disorder: a naturalistic study

Altamura AC, Dell'osso B, Berlin HA, Buoli M, Bassetti R, Mundo E (Italy)

European Archives of Psychiatry and Clinical Neuroscience. Published online: 13 November 2009. doi: 10.1007/s00406-009-0085-2, 2009

The aim of this naturalistic study was to evaluate the potential influence of the duration of untreated illness (DUI)-defined as the time elapsed between the occurrence of the first mood episode and the first adequate pharmacological treatment with mood stabilizers-on the clinical course of bipolar disorder (BD). Three hundred and twenty outpatients ($n = 320$) with a DSM-IV diagnosis of BD-either Type I or Type II-were interviewed; their clinical features were collected and they were naturalistically followed-up for 5 years. At the end of the follow-up observation, the sample was subdivided into two groups: one group with a DUI 2 years ($n = 255$). The main demographic and clinical variables were analyzed and compared between the two subgroups of patients using chi-square tests for dichotomous variables or Mann-Whitney U tests for continuous variables. Patients with a longer DUI showed a higher frequency of suicide attempts ($Z = -2.11$, $P = .035$), a higher number of suicide attempters ($\chi(2) = 4.13$, $df = 1$, $P = .04$), and a longer duration of illness ($Z = -6.79$, $P < .0001$) when compared to patients with a shorter DUI. Moreover, patients with a longer DUI had a depressive first episode more frequently than patients with a shorter DUI ($\chi(2) = 11.28$, $df = 2$, $P = 0.004$). A further analysis performed dividing the total sample into two subgroups on the basis of a DUI of 6 years (corresponding to the median value of the DUI in the study sample) confirmed prior findings. Results indicate a potential association between a longer DUI and a worse outcome in BD, particularly in terms of suicidality, and confirm the clinical relevance of early diagnosis and pharmacological intervention with mood stabilizers in BD.

Toxoplasma gondii antibody titers and history of suicide attempts in patients with recurrent mood disorders

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Journal of Nervous and Mental Disease 197, 905-908, 2009

Toxoplasma gondii (T.gondii) is an obligate intracellular protozoan parasite infecting one-third of the world population, residing relatively silently in the brain of the immunocompetent host. We hypothesized that T.gondii seropositivity and serointensity are associated with having a history of attempting suicide and, in those attempting suicide, a greater number of attempts. T.gondii seropositivity and antibody titers were compared between (a) patients with recurrent mood disorders with history of suicide attempt (99 individuals) versus (b) patients with recurrent mood disorders without history of

suicide attempt (119 individuals), and (c) healthy controls (39 individuals). Diagnosis was made using the Structured Clinical Interview for DSM-IV. Statistical methods included chi square, analysis of variance, and linear and logistic regression analyses. Suicide attempters had higher *T.gondii* antibody titers than nonsuicide attempters ($p = .004$). The logistic regression analysis revealed a predictive association between titers of anti- *T.gondii* antibodies and history of suicide attempt with OR = 1.55 (1.14-2.12), $p = .006$. No significant relationship was found between *T.gondii* seropositivity and suicide attempt status, number of prior suicide attempts, and recurrent mood disorder diagnosis. Although preliminary and bearing replication, this is the first report, to our knowledge, of an association between attempting suicide and *T. gondii*.

Cholesterol and CSF 5-HIAA in attempted suicide

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Journal of Affective Disorders. Published online: 16 March 2010. doi: 10.1016/j.jad.2010.02.111, 2010.

Background: Low serum cholesterol has been linked to suicide and violent behaviour. The same kind of associations has been reported regarding low levels of 5-hydroxyindolacetic acid (5-HIAA) in the cerebrospinal fluid (CSF) and suicidal behaviour. The hypothesis of the link between serum cholesterol and suicide incorporate serotonin. It proposes that low cholesterol is related to altered serotonergic neurotransmission. A correlation between CSF 5-HIAA and serum cholesterol has been shown in animal studies, but has not been found in humans.

Aim: To study the interrelationship between serum cholesterol and CSF 5-HIAA in suicide attempters. Since both cholesterol and CSF 5-HIAA are associated with suicide and violent suicide attempts, we also investigated the correlation with suicide, violent suicide attempt method, suicide intent, hopelessness and depression severity.

Methods: Serum total cholesterol and CSF 5-HIAA were measured in 42 medication free suicide attempters. Patients were assessed with Beck's Hopelessness scale (BHS), Suicide Intent Scale (SIS) and Montgomery-Asberg depression rating scale (MADRS) and followed-up for causes of death.

Results: Serum total cholesterol and CSF 5-HIAA showed a significant positive correlation adjusted for age, body mass index and substance abuse diagnosis. Cholesterol and CSF 5-HIAA levels did not differ between violent and non-violent suicide attempters or between suicide completers and survivors.

Conclusions: These findings indicate that the serotonergic system may be connected to serum cholesterol in patients with a recent suicide attempt.

Suicidal behaviour in a French cohort of major depressive patients: characteristics of attempters and nonattempters

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Journal of Affective Disorders. Published online 1 October 2009. doi: 10.1016/j.jad.2009.09.004, 2009

Background: Epidemiological and clinical studies indicate that major depressive disorder is the leading cause of suicidal behaviour and that bipolar II subjects carry the highest risk. Identification of risk factors is therefore essential to prevent suicide in this population.

Methods: As part of the EPIDEP National Multisite French Study of 493 consecutive DSM-IV major depressive patients evaluated in at least two semi-structured interviews 1month apart, 155 (33.7%) were classified as suicide attempters, and 295 (66.3%) as nonattempters, after exclusion of bipolar I patients.

Results: Compared to nonattempters, attempters had a longer duration of illness, longer delays before seeking help and correct diagnosis and a higher number of previous episodes; they were more frequently rapid cyclers, with fewer free intervals between episodes. Lifetime suicide attempts were associated with more comorbid bulimia and substance abuse. Bipolar II spectrum disorders, depressive, cyclothymic and irritable temperaments were overrepresented in attempters, as well as family history of both affective disorder and suicide attempts. The following independent variables were associated with lifetime suicide attempts: higher number of previous depressive episodes, multiple hospitalizations, cyclothymic temperament, rapid cycling and earlier age at onset.

Limitations: Retrospective design, recall bias, lack of sample homogeneity, and insufficient assessment of hypomanic features during index depression.

Conclusions: In major depressive disorders, family history, age at onset, illness course, comorbidity and cyclothymic temperament alongside other indices of bipolarity may help predict suicidal behaviour. Longer delays to seeking help and diagnosis in attempters emphasize the importance of early recognition of bipolar spectrum disorders.

Suicide ideation and depression: the moderation effects of family cohesion and social self-concept

Au ACY, Lau S, Lee MTW (Hong Kong)
Adolescence 44, 851-868, 2010

This study examined the moderation effects of family cohesion and social self-concept on the well-established relation between depression and suicide ideation. Participants were 3,634 primary and 2,706 secondary school students. Based on hierarchical regression analyses, results confirmed the hypothesis that family cohesion and social self-concept were significant moderators

for children and adolescents. Specifically, better family support and peer relationships weakened the relation between depression and suicide ideation. Further analysis showed that the moderation effect of social self-concept was less obvious among adolescents. The study introduced another approach for future research that includes other potential variables as moderators in the relation between depression and suicide ideation.

Suicide attempts among women during low estradiol/low progesterone states

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Journal of Psychiatric Research 44, 209-214, 2010

The relationship between the menstrual cycle and risk for suicidal behaviors is not clear. The aim of this study is to determine whether perimenstrual phases in fertile women are associated with acute risk for suicide attempt and explore whether risk is elevated during low estradiol/low progesterone states. Women ($N = 431$) recruited within 24h of a suicide attempt were assessed for psychopathology, suicidal behavior and LH, FSH, estradiol and progesterone blood levels. Among fertile women ($N = 281/431$), suicide attempts were more likely to occur during menses (26%, 72/281 observed vs. 15%, 43/281 expected attempts; $p < .001$). Compared to women whose attempts occurred during other phases, women who attempted suicide during low estradiol/low progesterone states (menstrual phase, amenorrhea and menopause) reported severe suicide intent, a measure that may be predictive of eventual suicide death. Suicide attempts among women are more likely when estrogen and progesterone levels are low and attempts made under these conditions are associated with greater severity. Low gonadal hormone levels may constitute a key factor in the neurobiological basis of suicidal behavior among women, suggesting a novel, testable hypothesis regarding the underpinnings of suicidal acts.

Suicidal ideation in patients with obsessive-compulsive disorder

Balci V, Sevincok L (Turkey)

Psychiatry Research 175, 104-108, 2010

The risk factors for suicidal behaviour in obsessive-compulsive disorder (OCD) have been less studied compared than in other anxiety disorders. In the present study, we examined the demographic and clinical correlates of current suicidal ideation (SI) in patients with OCD. Forty-four patients were grouped into those with ($n = 23$) and without current SI ($n = 21$) as assessed by the Scale for Suicidal Ideation. The Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) was used to assess the obsessive-compulsive (OC) symptomatology.

Following Bonferroni correction, only the severity of depression differed significantly between the two groups. The presence of major depression and aggressive obsessions, the level of hopelessness, and the severity of OC symptomatology were significant predictors of current SI in patients with OCD. The relatively low frequency of some comorbid Axis I disorders is based on small sample size and therefore may be vulnerable to type II error. We did not examine the relationship between the recent suicidal attempts and OCD. Also, we did not assess the effect of impulsivity in the occurrence of SI in patients with OCD. Associated depression, hopelessness, and aggressive obsessions might play an important role in the occurrence of SI in patients with OCD. However, future studies with a psychological autopsy design are required to systematically determine the presence for OCD among those who have completed suicide.

Does intent matter? The medical and societal burden of self-inflicted injury

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Journal of Trauma 67, 841-847, 2010

Background: The objective of our study was to assess the impact of injury intentionality on the outcomes and healthcare resource utilization of severely injured patients in the United States.

Methods: The National Trauma Data Bank for the years 2001 through 2006 was used for our analysis. Adult patients with an injury severity score ≥ 15 were divided into three groups based on injury intentionality: unintentional, assault, and self-inflicted. Demographic and injury characteristics, unadjusted and risk-adjusted mortality rates, and healthcare resource utilization variables were compared for these three groups using t tests, analysis of variance, and multivariable regression analyses where appropriate. Stata/SE version 9.2 was used for all statistical analyses; *p* values $< .05$ were considered significant.

Results: A total of 138,589 patients were included for analysis. After adjustment for potentially confounding variables, self-inflicted injury remained a significant predictor of increased mortality (mortality 42.3%, adjusted odds ratio for death = 2.31, 95% confidence interval 1.97-2.71), and injury by assault a significant predictor of decreased mortality (mortality 18.3%, adjusted odds ratio for death = 0.83, 95% confidence interval 0.74-0.92), when compared with unintentional injury (mortality 15.1%). Patients surviving self-inflicted injury required longer intensive care unit stays and overall hospital stays than survivors of unintentional injury.

Conclusions: Patients who are treated for self-inflicted injury have higher risk-adjusted mortality and utilize comparatively higher levels of healthcare resources than victims of assault or patients sustaining unintentional injury. The findings of our study emphasize the need for trauma center participation

in the development and maintenance of aggressive primary and secondary suicide prevention programs.

Trends in prescribing and self-poisoning in relation to UK regulatory authority warnings against use of SSRI antidepressants in under-18-year-olds

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British Journal of Clinical Pharmacology 68, 618-629, 2009

Aims: To assess the impact of the UK Medicines and Healthcare products Regulatory Authority (MHRA) warning in December 2003 not to prescribe selective serotonin reuptake inhibitor (SSRI) antidepressants, except fluoxetine, to under-18-year-olds.

Methods: Interrupted time series analysis of prescriptions (UK) and general hospital presentations for nonfatal self-poisoning (three centres in England) for 2000-2006.

Results: Following the MHRA warning in December 2003 there were significant decreases in prescribing of SSRI antidepressants (conservative estimate 51%) to young people aged 12-19 years. Surprisingly, this decrease also affected fluoxetine (conservative estimate 20%) and tricyclics (conservative estimate 27%). Nonfatal self-poisoning in this age group following the warning also declined significantly for SSRIs (conservative estimate 44%), but not for fluoxetine, tricyclic antidepressants, or all drugs and other substances. Rates of nonfatal self-harm did not change significantly over the study period.

Conclusions: The reduction in both prescribing and self-poisoning with SSRI antidepressants (except fluoxetine) following the MHRA warning is in keeping with reduced availability of these drugs. There was some evidence of substitution from other SSRIs to fluoxetine for use in self-poisoning. Importantly, overall rates of nonfatal self-harm and self-poisoning did not change, indicating no substitution of method or increases in self-injury.

Self-focused attention reduces self-injurious behavior in alcohol-intoxicated men

Berman ME, Bradley TP, Fanning JR, McCloskey MSS (USA)
Substance Use & Misuse 44, 1280-1297, 2009

Both chronic alcohol use and acute intoxication are risk factor for self-aggression (i.e., intentional self-injury) across the spectrum of lethality. Studies designed to identify a cause-and-effect relation between alcohol intoxication and self-aggression, or the factors that facilitate or mitigate this effect, are rare due to the inherent difficulty of studying self-injurious behavior experimentally. In this study, we experimentally demonstrate that alcohol intoxication

leads to heightened self-injurious behavior and that enhanced self-focused attention (self-awareness) attenuates this effect. Specifically, 40 men consumed either alcohol (mean Blood Alcohol Concentration [BAC] = .10) or a veridical control drink, and then completed a laboratory task designed to assess self-injurious behavior. Self-focused attention was experimentally enhanced in half the participants in each drink condition. Results support the notion that prevention and intervention programs designed to reduce intentional self-injurious behaviors should include components that address alcohol misuse and self-awareness.

Suicide from the Golden Gate Bridge

Blaustein M, Fleming A (USA)

American Journal of Psychiatry 166, 1111-1116, 2009

The Golden Gate Bridge is the number one suicide site in the world. In this clinical case conference, the authors begin by presenting vignettes to capture the diversity of bridge suicide. They then examine the demographic characteristics of those who commit suicide from the bridge as well as the fatal attraction of the Golden Gate Bridge. Interviews with jump survivors and potential jumpers are presented, and the authors examine the evidence for the efficacy of suicide barriers.

Alcohol and drug use in suicidal behaviour

Borges G, Loera CR (Mexico)

Current Opinion in Psychiatry 23, 195-204, 2010

Purpose of Review: To present a summary of estimates of the risk of suicidal behaviour (ideation, plan and attempt) among those with substance use disorders in the general population and risk estimates for those with acute alcohol and drug consumption (intoxication) immediately prior to a suicide attempt.

Recent Findings: In Mexico and elsewhere studies have emerged on the risk of suicidal behaviour among those with substance use disorders that are not affected by treatment selection bias or by psychiatric comorbidity. In developed and developing groups of nations, alcohol use disorders were associated with increased odds ratio (OR) of ideation (range 2.0-2.5) and attempt (2.6-3.7), whereas drug use disorders were associated with increased risk of ideation (2.3-3.0) and attempt (2.0-4.0). Follow-up studies of general population samples reported an OR for drug use disorders from 1.9 to 3.7 for ideation, and an OR of 3.0 for attempt. Alcohol dependence increased suicide ideation with an OR of 1.5. Those drinking alcohol prior to the suicide attempt had ORs in the range of 6.2-9.6. This increase may have a dose-response relationship. We found no studies providing risk estimates for drug use prior to a suicide attempt.

Summary: Current evidence points to a causal role of alcohol and drug use disorders exerting a distal effect on suicidal behaviour. Evidence for the proximal role of alcohol and drug use, as triggers of suicidal behaviour, are still very limited in number, analytical techniques and scope of substances other than alcohol.

Differences in non-suicidal self-injury and suicide attempts in adolescents

Brausch AM, Gutierrez PM (USA)

Journal of Youth and Adolescence 116, 1-10, 2009

As suicide attempts and self-injury remain predominant health risks among adolescents, it is increasingly important to be able to distinguish features of self-harming adolescents from those who are at risk for suicidal behaviors. The current study examined differences between groups of adolescents with varying levels of self-harmful behavior in a sample of 373 high school students with a mean age of 15.04 ($SD = 1.05$). The sample was 48% female and the distribution of ethnicity was as follows: 35% Caucasian, 37.2% African-American, 16% Multi-ethnic, 9.2% Hispanic, and 2.3% Asian. The sample was divided into three groups: no history of self-harm, non-suicidal self-injury (NSSI) only, and NSSI in addition to a suicide attempt. Differences in depressive symptoms, suicidal ideation, social support, self-esteem, body satisfaction, and disordered eating were explored. Results indicated significant differences between the three groups on all variables, with the no self-harm group reporting the lowest levels of risk factors and highest levels of protective factors. Further analyses were conducted to examine specific differences between the two self-harm groups. Adolescents in the NSSI group were found to have fewer depressive symptoms, lower suicidal ideation, and greater self-esteem and parental support than the group that also had attempted suicide. The clinical implications of assessing these specific psychosocial correlates for at-risk adolescents are discussed.

The Treatment of Adolescent Suicide Attempters Study (TASA): predictors of suicidal events in an open treatment trial

Brent DA, Greenhill LL, Compton S, Emslie G, Wells K, Walkup JT, Vitiello B, Bukstein O, Stanley B, Posner K, Kennard BD, Cwik MF, Wagner A, Coffey B, March JS, Riddle M, Goldstein T, Curry J, Barnett S, Capasso L, Zelazny J, Hughes J, Shen S, Gugga SS, Turner JB (USA)

Journal of the American Academy of Child & Adolescent Psychiatry 48, 987-996, 2009

Objective: To identify the predictors of suicidal events and attempts in adolescent suicide attempters with depression treated in an open treatment trial.

Method: Adolescents who had made a recent suicide attempt and had unipolar depression ($n = 124$) were either randomized ($n = 22$) or given a choice ($n = 102$) among three conditions. Two participants withdrew before treatment

assignment. The remaining 124 youths received a specialized psychotherapy for suicide attempting adolescents ($n = 17$), a medication algorithm ($n = 14$), or the combination ($n = 93$). The participants were followed up 6 months after intake with respect to rate, timing, and predictors of a suicidal event (attempt or acute suicidal ideation necessitating emergency referral).

Results: The morbid risks of suicidal events and attempts on 6-month follow-up were 0.19 and 0.12, respectively, with a median time to event of 44 days. Higher self-rated depression, suicidal ideation, family income, greater number of previous suicide attempts, lower maximum lethality of previous attempt, history of sexual abuse, and lower family cohesion predicted the occurrence, and earlier time to event, with similar findings for the outcome of attempts. A slower decline in suicidal ideation was associated with the occurrence of a suicidal event.

Conclusions: In this open trial, the 6-month morbid risks for suicidal events and for reattempts were lower than those in other comparable samples, suggesting that this intervention should be studied further. Important treatment targets include suicidal ideation, family cohesion, and sequelae of previous abuse. Because 40% of events occurred with 4 weeks of intake, an emphasis on safety planning and increased therapeutic contact early in treatment may be warranted.

Changes in suicide rates by hanging and/or suffocation and firearms among young persons aged 10-24 years in the United States: 1992–2006

Bridge JA, Greenhouse JB, Sheftall AH, Fabio A, Campo JV, Kelleher KJ (USA)

Journal of Adolescent Health. Published online: 13 January 2010. doi: 10.1016/j.jadohealth.2009.11.206, 2010

We examined changes in suicide rates among 10- to 24-year-olds in the United States from 1992 to 2006. The overall suicide rate and the rate by firearms, poisoning, and other methods declined markedly, whereas the hanging/suffocation rate increased significantly from 1992 to 2006. This increase occurred across every major demographic subgroup, but was most dramatic for females.

Predictors of attempted suicide among Swiss patients with alcohol-use disorders

Buri C, von Bonin B, Strik W, Moggi F (Switzerland)
Journal of Studies on Alcohol & Drugs 70, 668- 674, 2009

Suicide attempts are common in patients being treated for alcohol-use disorders (AUDs). However, clinical assessment of suicide risk is difficult. In this Swiss multisite study, we propose a decision tree to facilitate identification of profiles of AUD patients at high risk for suicidal behavior. In this retrospective study, we used a sample of 700 patients (243 female), attending 1 of 12 treatment programs for AUDs in the German-speaking part of Switzerland. Sixty-nine patients who reported a suicide attempt in the 3 months before the index treatment were compared using risk factors with 631 patients without a suicide attempt. Receiver operating characteristic (ROC) analyses were used to identify patients at risk of having had a suicide attempt in the previous 3 months. Consistent with previous empirical findings in AUD patients, a prior history of attempted suicide and severe symptoms of depression and aggression considerably increased the risk of a suicide attempt and, in combination, raised the likelihood of a prior suicide attempt to 52%. In addition, one third of AUD patients who had a history of suicide attempts and previous inpatient psychiatric treatment, or who were male and had previous inpatient psychiatric treatment, also reported a suicide attempt. The empirically supported decision tree helps to identify profiles of suicidal AUD patients in Switzerland and supplements clinicians' judgments in making triage decisions for suicide management.

Socioeconomic disparities and attempted suicide: state of knowledge and implications for research and prevention

Burrows S, Laflamme L
International Journal of Injury Control and Safety Promotion 17, 23-40, 2010

This comprehensive review covers studies that have examined the relationship between socioeconomic status (SES) and attempted suicide over a 20 year period. As a whole, they suggest that greater socioeconomic disadvantage is often — but not consistently — associated with higher rates of suicide attempts. The strength of the association varies across countries, the demographic groups examined, the SES measures used and the data source. This knowledge comes from a few, mostly high-income, countries. Future studies are needed that clarify the mechanisms involved and determine whether they are context-specific. The evidence base as to how to avoid — or narrow down — socioeconomic divides in attempted suicide is poor, and we do not know whether documented counter-measures work best where they may be needed most.

Unemployment and suicide: is alcohol the missing link?

Caan W

The Lancet 374, 1241-1242, 2009

The alcohol and violence special interest group of the UK Public Health Association has been focusing on the need to make policy makers aware that people with alcohol problems usually have multiple needs and they typically present for health care on the basis of those other needs. Risky drinking often overlaps with experiences such as clinical depression or homelessness or domestic abuse but, for example, a depressed woman fleeing from a violent spouse whose hungry children now lack shelter seems unlikely to begin her engagement with a clinician by saying 'Doctor, my priority today is to discuss my concealed drink problem'.

History of abuse and current suicidal ideation: results from a population based survey

Calder J, McVean A, Yang W (USA)

Journal of Family Violence 25, 205-214, 2010

The relationship between a history of physical or sexual abuse and current suicidal ideation was examined in the current study based on data from the Washington state 2002 Behavioral Risk Factor Surveillance System (BRFSS). Out of the total sample of 4081, 1058 indicated they had experienced either physical or sexual abuse before the age of 18, 52 indicated they had experienced physical abuse in the past 12 months, and 210 indicated they had been forced to have sex since the age of 18. Additionally, 106 indicated they had seriously considered committing suicide in the past year. After controlling for such factors as age, gender, income, education, race, employment and marital status and the interactions between different abuse risk factors using multivariate logistic regression, results showed that a history of childhood physical (OR = 2.31, 95% CI = 1.364, 3.90) or sexual (OR = 2.72, 95% CI = 1.58, 4.67) abuse and adult physical (OR = 27.30, 95% CI = 11.64, 64.01) or sexual (OR = 5.87, 95% CI = 3.24, 10.63) abuse all were related to current suicidal ideation. Implications for future research are discussed.

The role of impulsivity in self-mutilators, suicide ideators and suicide attempters — a study of 1265 male incarcerated individuals

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Journal of Affective Disorders. Published online: 6 March 2010. doi: 10.1016/j.jad.2010.02.119, 2010

Objective: We explored differences between high and low-impulsive incarcerated individuals in the context of lifetime self-mutilation, suicide ideation and suicide attempt.

Methods: A total of 1265 males detained in Italian penitentiary institutions were studied between January 2006 and December 2008. The study raters were specifically trained to discriminate between suicide attempters, ideators and self-mutilators. Participants completed the Barratt Impulsivity Scale, Childhood Trauma Questionnaire (CTQ), Eysenck Personality Questionnaire (EPQ), Connor-Davidson Resilience Scale (CD-RISC), Brown-Goodwin Assessment for Lifetime History of Aggression (BGLHA) and Buss and Durkee Hostility Inventory (BDHI). Based on BIS 7 total score distribution, two extreme quarters — high-impulsive group ($n = 306$) and low-impulsive group ($n = 285$) — were compared.

Results: Over 42% of participants had lifetime suicide ideation, 13% attempted suicide and 17% were self-mutilators. High-impulsive subjects were younger, more often single and with more prominent psychoticism, extraversion, aggression, hostility and resilience capacity. They were more frequently diagnosed with substance use disorders and engaged in self-mutilating behaviour. There was no difference in the rate of suicide attempts between the two groups.

Conclusion: Although high-impulsive subjects were more prone to suicidal behaviour, it was not predicted by higher impulsivity when other psychological variables were accounted for.

Gender differences in healthcare service utilisation 1 year before suicide: national record linkage study

Chang CM, Liao SC, Chiang HC, Chen YY, Tseng KC, Chau YL, Chang HJ, Lee MB (Taiwan)
British Journal of Psychiatry 195, 459-460, 2009

All suicides ($n = 12\ 497$) in Taiwan in 2001-2004 were identified from mortality records retrieved from the National Health Insurance Database. Altogether, 95.1% of females and 84.9% of males had been in contact with healthcare services in the year before their death. Females received significantly more diagnoses of psychiatric disorders (48.0% v. 30.2%) and major depression (17.8% v. 7.4%) than males. Such differences were consistent across different medical settings where contact with hospital-based non-psychiatric physicians was as common as with general practitioners (GPs). However, diagnoses of psychiatric disorders were underdiagnosed in both genders.

The evolution of the epidemic of charcoal-burning suicide in Taiwan: a spatial and temporal analysis

Chang SS, Gunnell D, Wheeler BW, Yip P, Sterne JA (Taiwan)

PLoS Medicine 7, e1000212, 2010

Background: An epidemic of carbon monoxide poisoning suicide by burning barbecue charcoal has occurred in East Asia in the last decade. We investigated the spatial and temporal evolution of the epidemic to assess its impact on the epidemiology of suicide in Taiwan.

Methods and Findings: Age-standardised rates of suicide and undetermined death by charcoal burning were mapped across townships (median population aged 15 years or over = 27,000) in Taiwan for the periods 1999-2001, 2002-2004, and 2005-2007. Smoothed standardised mortality ratios of charcoal-burning and non-charcoal-burning suicide and undetermined death across townships were estimated using Bayesian hierarchical models. Trends in overall and method-specific rates were compared between urban and rural areas for the period 1991-2007. The epidemic of charcoal-burning suicide in Taiwan emerged more prominently in urban than rural areas, without a single point of origin, and rates of charcoal-burning suicide remained highest in the metropolitan regions throughout the epidemic. The rural excess in overall suicide rates prior to 1998 diminished as rates of charcoal-burning suicide increased to a greater extent in urban than rural areas.

Conclusions: The charcoal-burning epidemic has altered the geography of suicide in Taiwan. The observed pattern and its changes in the past decade suggest that widespread media coverage of this suicide method and easy access to barbecue charcoal may have contributed to the epidemic. Prevention strategies targeted at these factors, such as introducing and enforcing guidelines on media reporting and restricting access to charcoal, may help tackle the increase of charcoal-burning suicides.

Characteristics and co-occurrence of adolescent non-suicidal self-injury and suicidal behaviours in pediatric emergency crisis services

Cloutier P, Martin J, Kennedy A, Nixon MK, Muehlenkamp JJ (Canada)

Journal of Youth & Adolescence. Published online: 24 October 2009. doi: 10.1007/s10964-009-9465-1, 2009

During the potentially tumultuous adolescent period, non-suicidal self-injury (NSSI) and suicide attempts are relatively common, particularly amongst youth who present to mental health services. These phenomena frequently co-occur but their relationship is unclear. This study evaluated clinical data from 468 youth between the ages of 12 and 17 years (63.5% female) to determine the incidence of NSSI 24 h prior to presentation at emergency crisis services,

evaluated the overlap between NSSI and suicide attempt, and examined the characteristics of different types of self-harm. Half of the adolescents presenting to emergency crisis services had self-harmed within the previous 24 hrs, with most of these (91%) classified as NSSI only. The percentage of youth with a suicide attempt was 5% and the co-occurrence of these two behaviours was 4%. Group differences in depressive symptoms, suicidal ideation and impulsivity were identified, with the co-occurring NSSI and suicide attempt group presenting with the highest level of psychopathology. This study underscores the necessity of assessing suicidal ideation and NSSI in all youth presenting to mental health services.

Temperament and character personality profile in relation to suicidal ideation and suicide attempts in major depressed patients

Conrad R, Walz F, Geiser F, Imbierowicz K, Liedtke R, Wegener I (Germany)
Psychiatry Research 170, 212-217, 2010

To prevent suicidal behaviour, it is important to better understand those personality traits associated with suicidal ideation and suicide attempts. A sample of 394 consecutive major depressed outpatients admitted to Bonn University Hospital was subdivided into three groups: Lifetime suicide attempters ($N = 32$; 8.1%), suicide ideators ($N = 133$) and patients without suicide ideation ($N = 229$). Psychodiagnostic measures embraced the Temperament and Character Inventory (TCI), the Symptom Checklist-90-R and the Hamilton Depression Rating Scale. Suicide attempters and ideators showed higher scores on emotional distress and depression. Analysis of covariance (covariates: age, gender, depression) revealed that suicide attempters score higher on the temperament dimension harm avoidance compared with non-attempters. Suicide ideators could be distinguished from non-ideators by character dimensions in terms of lower self-directedness and higher self-transcendence. Our findings suggest that high harm avoidance is a personality trait associated with suicide attempt in major depression, whereas low self-directedness and high self-transcendence are related to suicidal ideation. As temperament dimensions represent the 'emotional core' and character dimensions the 'cognitive core' of personality, we discuss whether Cloninger's psychobiological model might be helpful to distinguish between non-suicide ideators, patients who do think about suicide, and patients initiating suicidal behaviour.

The impact of widowhood on Irish mortality due to suicide and accidents

Corcoran P (Ireland)

The European Journal of Public Health 19, 583-585, 2010

The impact of widowhood on suicide and accident mortality in Ireland was investigated using Poisson regression analysis applied to routine data relating to all 10 561 suicidal and accidental deaths of married or widowed persons aged at least 35 years in Ireland during 1986-2005. Mortality rates were almost always higher among the widowed and often by a 2-fold, statistically significant difference. The excess mortality was equivalent to 2083 or 57.6% of all suicidal or accidental deaths of widowed persons in 1986-2005. Routine contact with recently widowed persons by public health professionals may be warranted with a view to reducing their excess mortality.

PTSD, depression, and their comorbidity in relation to suicidality: cross-sectional and prospective analyses of a national probability sample of women

Cogle JR, Resnick H, Kilpatrick DG (USA)

Depression and Anxiety 26, 1151-1157, 2009

Background: A growing body of literature implicates major depressive disorder (MDD) and posttraumatic stress disorder (PTSD) as risk factors for suicidal ideation (SI) and suicide attempts (SA), though research has not adequately examined their differential contributions to increasing suicide risk prospectively or cross-sectionally.

Methods: The contribution of these disorders and their comorbidity to SI and SA was examined using a national household probability sample of women ($N = 3,085$) and covarying for trauma history, substance abuse, and demographic variables.

Results: Cross-sectional analyses indicated that lifetime comorbidity of MDD and PTSD were associated with much higher prevalence of SI than either diagnosis alone; prevalence of SI was elevated and comparable for PTSD and MDD only. Comorbid diagnosis and PTSD only groups displayed greater prevalence of SA than those with MDD only. Lastly, a 2-year prospective analysis indicated that PTSD only at baseline was predictive of greater subsequent SI risk than MDD only, though comorbid diagnosis did not differ from either PTSD only or MDD only.

Conclusions: PTSD appears to be a particularly strong predictor of SI and SA. Overall, only 16% of women with lifetime SA did not have a history of MDD or PTSD, highlighting the importance of assessing these variables when assessing suicide risk.

Increased mortality in bulimia nervosa and other eating disorders

Crow SJ, Peterson CB, Swanson SA, Raymond NC, Specker S, Eckert ED, Mitchell JE (USA)
American Journal of Psychiatry 166, 1342-1347, 2009

Objective: Anorexia nervosa has been consistently associated with increased mortality, but whether this is true for other types of eating disorders is unclear. The goal of this study was to determine whether anorexia nervosa, bulimia nervosa, and eating disorder not otherwise specified are associated with increased all-cause mortality or suicide mortality.

Method: Using computerized record linkage to the National Death Index, the authors conducted a longitudinal assessment of mortality over 8 to 25 years in 1,885 individuals with anorexia nervosa ($N = 177$), bulimia nervosa ($N = 906$), or eating disorder not otherwise specified ($N = 802$) who presented for treatment at a specialized eating disorders clinic in an academic medical center.

Results: Crude mortality rates were 4.0% for anorexia nervosa, 3.9% for bulimia nervosa, and 5.2% for eating disorder not otherwise specified. All-cause standardized mortality ratios were significantly elevated for bulimia nervosa and eating disorder not otherwise specified; suicide standardized mortality ratios were elevated for bulimia nervosa and eating disorder not otherwise specified.

Conclusions: Individuals with eating disorder not otherwise specified, which is sometimes viewed as a 'less severe' eating disorder, had elevated mortality risks, similar to those found in anorexia nervosa. This study also demonstrated an increased risk of suicide across eating disorder diagnoses.

Suicide and fatal drug overdose in child sexual abuse victims: a historical cohort study

Cutajar MC, Mullen PE, Ogloff JR, Thomas SD, Wells DL, Spataro J (Australia)
Medical Journal of Australia 192, 184-187, 2010

Objective: To determine the rate and risk of suicide and accidental fatal drug overdose (ie, overdose deemed not to have been suicide) in individuals who had been medically ascertained as having been sexually abused during childhood.

Design: A historical cohort linkage study of suicide and accidental drug-induced death among victims of child sexual abuse (CSA).

Setting and Patients: Forensic medical records of 2759 victims of CSA who were assessed between 1964 and 1995 were obtained from the Victorian Institute of Forensic Medicine and linked with coronial data representing a follow-up period of up to 44 years. Main Outcome Measures: Rates of suicide and accidental fatal drug overdose recorded in coronial databases between 1991 and 2008, and rates of psychiatric disorders and substance use recorded in public mental health databases.

Results: Twenty-one cases of fatal self-harm were recorded. Relative risks for suicide and accidental fatal overdose among CSA victims, compared with age-limited national data for the general population, were 18.09 (95% CI, 10.96-29.85; population-attributable risk, 0.37%), and 49.22 (95% CI, 36.11-67.09; population-attributable risk, 0.01%) respectively. Relative risks were higher for female victims. Similar to the general population, CSA victims who died as a result of self-harm were predominantly aged in their 30s at time of death. Most had contact with the public mental health system and half were recorded as being diagnosed with an anxiety disorder.

Conclusion: Our data highlight that CSA victims are at increased risk of suicide and accidental fatal drug overdose. CSA is a risk factor that mediates suicide and fatal overdose.

Trait anger, anger expression, and suicide attempts among adolescents and young adults: a prospective study

Daniel SS, Goldston DB, Erkanli A, Franklin JC, Mayfield AM (USA)

Journal of Clinical Child & Adolescent Psychology 38, 661-671, 2009

Previous studies of the relationship between anger, anger expression, and suicidal behavior have been largely cross-sectional and have yielded mixed findings. In a prospective, naturalistic study, we examined how trait anger and anger expression influenced the likelihood of suicide attempts among 180 adolescents followed for up to 13.3 years after discharge from an inpatient psychiatry unit. Results showed that higher trait anger and anger expressed outwardly over the follow-up was related to increased likelihood of suicide attempts among boys. For girls, trait anger and both the inward and outward expression of anger moderated the risk for suicide attempts associated with major depression. These results are interpreted in light of theory regarding behavioral activation and behavioral inhibition systems.

Farmers' suicide in India: implications for public mental health

Das A (India)

Journal of Affective Disorders. Published online: 30 April 2009. doi: 10.1016/j.jad.2009.03.022, 2009

Farmers' suicide in India is a cause of concern and government figures, though conservative, predict an impending epidemic. Various measures to curb this calamity are being made in a piecemeal manner. Considering it as an issue of social and mental health concern, this article attempts to evaluate the situation based on the tenet that health and illness are the result of a complex interplay between bio-logical, psychological, social, environmental, economic and political factors. Thus in India the agrarian crisis, among other causes, has been largely debated as the major reason for the current state of farmers. It is important that (psychiatric) epidemiology and public mental health try to evolve

mechanisms to understand and implement measures, and take this into consideration when attempting health promotion and prevention.

Suicide and Emo youth subculture — a case analysis

Definis-Gojanovic M, Gugić D, Sutlović D (Bosnia and Herzegovina)

Collegium Antropologicum 33, 173-175, 2010

Depression and suicide present a serious health problem especially for teenagers as they are increasingly diagnosed with mood disorders of different severity, possibly leading to suicidal activity. Reported here is a unfortunate young girl who committed suicide by jumping from high altitude. She left a suicide note which, together with her behavior in the death-preceding period, pointed to her apparently belonging to an Emo subculture. Although few and scarce, most existing articles and reports on Emo subculture found that its members like to focus on negative things, dark premonitions and deprivation of enjoyment, like self harm and suicide but no scientific information is available about the characteristics, trends and possible suicidal tendencies of children and adolescents who belong to this subgroup. It is for the future researches to answer whether this type of behavior and music preference are causal factors for increased suicidal vulnerability, or personal characteristics and anamnesis, upbringing and mental health status are actual sources of the problem.

Apples to oranges? A direct comparison between suicide attempters and suicide completers

DeJong TM, Overholser JC, Stockmeier CA (USA)

Journal of Affective Disorders. Published online: 10 November 2010. doi: 10.1016/j.jad.2009.10.020, 2010

Background: Suicide attempters and completers may represent different but overlapping groups of distressed individuals. Although depression is related to an increased risk of suicide, the presence of depression may not discriminate suicide attempters from completers. The present study compared suicide attempters and suicide completers on symptoms of depression, the presence of suicide-related variables and stressful life events.

Aims: The present study sought to identify the key differences between 50 suicide attempters and 50 completers, all diagnosed with a Major Depressive Disorder at the time of their suicidal act.

Methods: Suicide attempters and family member informants of suicide completers participated in a thorough psychosocial evaluation. To maximize comparisons with completers, suicide attempters were subclassified based on the lethality of their attempt.

Results: Suicide attempters and completers were similar on most measures of depressive symptoms. However, suicide completers were significantly more likely to use alcohol or drugs prior to their suicidal act and they were more likely to leave a suicide note. Suicide completers were significantly more likely to have encountered significant job stress and financial problems.

Conclusions: The present findings have documented several similarities and differences between suicide attempters and suicide completers. Future research may help to clarify the key warning signs that reflect the risk of completed suicide in adults who have been diagnosed with a major depressive disorder.

Taking care of teenagers hospitalized after a suicidal gesture or a suicidal threat

De Kernier N, Canoui P, Golse B (France)

Archives of Pediatrics 17, 435-441, 2010

Teenagers' suicidal gestures are a major problem of public health and it is important to understand its meaning. A global taking care of teenagers hospitalized after a suicide attempt or a suicidal threat by the pediatric teams and by the team of child psychiatry, having links with each department, is essential in the Necker-Enfants Malades hospital in Paris. The protocole of care has been recently strengthened by the integration of a deep psychological checkup with the projective tests Rorschach and Thematic Apperception Test (TAT) during the hospitalization, a psychological follow-up from a distance of the suicidal gesture and a second psychological checkup one year later in order to observe the evolution of the psychic functioning. The projective tests offer a special way to express the own intimate problematic while respecting the subject's need to remain hidden. These tests, analyzed with a psychodynamic interpretation, help the clinician to precise the psychic diagnosis, which is very important for the future therapeutic orientation, and offer to the patient a medium to express the hidden meaning of his gesture. To consider suicidal gesture not only as a dead end of identificatory process but also as an attempt to start up again this process may favor a therapeutic mobilization of psychic resources. Self-attack may signify a struggle against melancholy, the prospect of death appearing less frightening than those of madness. Suicidal gesture may express a transitory developmental breakdown but identificatory process may be revived if the suffering of the teenager may be listened, contented, elaborated and linked to meaning.

WHO research and intervention projects into suicidal behaviours: The WHO/SUPRE-MISS and the WHO/START studies

De Leo D

Clinical Neuropsychiatry 6, 192-196, 2009

Historically, suicide prevention efforts in a structured form date more than one century back. This paper mentions a few milestones in the internationalisation of anti-suicide strategies, emphasizing the role of both the International Association for Suicide Prevention (IASP) and the International Academy for Suicide Research (IASR). The core of the discussion, however, is the relatively recent involvement of the United Nations, particularly through their ad hoc branch, the World Health Organization (WHO), in the fight against suicidal behaviours. A brief description is dedicated to the important WHO/EURO Multi-centre Study on Suicidal Behaviour and to its 15 years of formal existence. Its impact was markedly influential in many European environments and in the growth of a generation of scholars. The ecological approach of WHO to suicide phenomena is probably better reflected in subsequent studies, the SUPRE-MISS and the START, the former spread around five continents, the latter mainly located in the Western Pacific Region of WHO. Brief history and main characteristics of these projects are here commented.

Adult suicide mortality in the United States: marital status, family size, socioeconomic status, and differences by sex

Denney JT, Rogers RG, Krueger PM, Wadsworth T (USA)

Social Science Quarterly 90, 1167-1185, 2009

Objective: This article addresses the relationship between suicide mortality and family structure and socioeconomic status for U.S. adult men and women.

Methods: We use Cox proportional hazard models and individual-level, prospective data from the National Health Interview Survey Linked Mortality File (1986-2002) to examine adult suicide mortality.

Results: Larger families and employment are associated with lower risks of suicide for both men and women. Low levels of education or being divorced or separated, widowed, or never married are associated with increased risks of suicide among men, but not among women.

Conclusions: We find important sex differences in the relationship between suicide mortality and marital status and education. Future suicide research should use both aggregate and individual-level data and recognize important sex differences in the relationship between risk factors and suicide mortality—a central cause of preventable death in the United States.

Early dementia diagnosis and the risk of suicide and euthanasia

Draper B, Peisah C, Snowdon J, Brodaty H
Alzheimer's and Dementia 6, 75-82, 2010

Background: Diagnosis of dementia is occurring earlier, and much research concerns the identification of predementia states and the hunt for biomarkers of Alzheimer's disease. Reports of suicidal behavior and requests for euthanasia in persons with dementia may be increasing.

Methods: We performed a selective literature review of suicide risk in persons with dementia and the ethical issues associated with euthanasia in this population.

Results: In the absence of any effective treatments for Alzheimer's disease or other types of dementia, there is already evidence that persons with mild cognitive change and early dementia are at risk of suicidal behavior, often in the context of comorbid depression. The ensuing clinical, ethical, and legal dilemmas associated with physician-assisted suicide and euthanasia in the context of dementia are a subject of intense debate. By analogy, the preclinical and early diagnoses of Huntington's disease are associated with an increased risk of suicidal behavior. Thus there is the potential for a preclinical and early diagnosis of Alzheimer's disease (through biomarkers, neuroimaging, and clinical assessment) to result in increased suicide risk and requests for physician-assisted suicide.

Conclusions: Although dementia specialists have long recognized the importance of a sensitive approach to conveying bad news to patients and families and the possibility of depressive reactions, suicidal behavior has not been regarded as a likely outcome. Such preconceptions will need to change, and protocols to monitor and manage suicide risk will need to be developed for this population.

Suicidal events in adolescents: how clear are the warning signs?

Duke NN, Borowsky IW
Pediatric Health 3, 551-563, 2009

Adolescence should mark a time of exploration, self-discovery and the development of a sense of meaning and purpose in life. Adolescent suicidality represents the ultimate threat to these normal developmental processes. Factors impacting the likelihood of adolescent self-directed violence are numerous and this reality can often leave providers and youth advocates with a dilemma when attempting to identify suicidal youths. Universal screening in primary clinic settings provides an opportunity to identify youths most at risk of suicide. Multiple levels exist for provider and youth advocate intervention in the prevention of adolescent suicide.

Self-injurious behavior in correctional settings

Fagan TJ, Cox J, Helfand SJ, Aufderheide D

Journal of Correctional Health Care 16, 48-66, 2010

This article reviews the literature concerning self-injury among criminal offenders. It describes many of the problems, barriers, and obstacles to effective assessment and treatment of self-injury and discusses the absence of a clear paradigm within which to develop a classification system and standardized nomenclature to describe the spectrum of self-injurious behaviors. This article distinguishes between self-injury resulting from suicidal versus nonsuicidal intent, presents treatment strategies for managing each, and concludes with a proposed set of eight recommended goals for creating a national strategy to develop self-injury programming in correctional settings.

Prison suicide in 12 countries: an ecological study of 861 suicides during 2003–2007

Fazel S, Grann M, Kling B, Hawton K

Social Psychiatry and Psychiatric Epidemiology. Published online: 7 Februar 2010. doi: 10.1007/s00127-010-0184-4, 2010

Background: Although suicide rates among prisoners are high and vary between countries, it is uncertain whether this reflects the importation of risk from the general population or is associated with incarceration rates.

Methods: We collected data on suicides and undetermined deaths in 12 countries (Australia, Belgium, Canada, Denmark, England and Wales, Finland, Ireland, Netherlands, New Zealand, Norway, Scotland, and Sweden) directly from their prison administrations for 2003-2007. These were compared with rates of suicides in the general population separately by gender using Pearson's correlations. In addition, they were compared with rates of incarceration. Linear regression was used to examine any association after adjustment for rates of incarceration.

Results: Data were collected on 861 suicides in prison, of which 810 were in men. In the men, crude relative rates of suicide were at least three times higher than the general population. Western European countries had similar rates of prisoner suicide which were mostly higher than those in Australia, Canada, and New Zealand. There was no association between rates of suicide in prisoners and general population rates or rates of incarceration. In the women, inmate suicide rates varied widely and were mostly raised compared with rates in the general population. In addition, these rates did not appear to be associated with general population rates of suicide.

Conclusions: Rates of prison suicide do not reflect general population suicide rates, suggesting that variations in prison suicide rates reflect differences in criminal justice systems including, possibly, the provision of psychiatric care in prison.

Suicide prevention by limiting access to methods: A review of theory and practice

Florentine JB, Crane C

Social Science and Medicine 70, 1626-1632, 2010

This review discusses the limitation of access to suicide methods as a way to prevent suicide, an approach which forms a major component of many national suicide prevention strategies. An important distinction is made between efforts that attempt to limit physical access to suicide methods and those that attempt to reduce the cognitive availability of suicide. Physical imitations will be reviewed with reference to restricting access to domestic gas, catalytic converters, firearms, pesticides, jumping, paracetamol and methods used in prisons. Impacts of cognitive availability will be discussed mainly with regard to the media in terms of providing access to technical information and sensational or inaccurate portrayals of suicide. Drawing on psychological models of suicidal ideation and behaviour, this review explores how processes leading to suicidal behaviour and issues around method choice may relate to the effectiveness of limiting access to methods. Potential problems surrounding method limitations are explored, in particular the factors contributing to substitution, the risk that alternative methods of suicide may be used if one is restricted. It is concluded that in appropriate contexts, where substitution is less likely to occur, and in conjunction with psychosocial prevention efforts, limitation of both physical and cognitive access to suicide can be an effective suicide prevention strategy.

Earlier parental set bedtimes as a protective factor against depression and suicidal ideation

Gangwisch JE, Babiss LA, Malaspina D, Turner JB, Zammit GK, Posner K (USA)

Sleep 33, 97-106, 2010

Study objectives: To examine the relationships between parental set bedtimes, sleep duration, and depression as a quasi-experiment to explore the potentially bidirectional relationship between short sleep duration and depression. Short sleep duration has been shown to precede depression, but this could be explained as a prodromal symptom of depression. Depression in an adolescent can affect his/her chosen bedtime, but it is less likely to affect a parent's chosen set bedtime which can establish a relatively stable upper limit that can directly affect sleep duration.

Design: Multivariate cross-sectional analyses of the ADD Health using logistic regression.

Setting: United States nationally representative, school-based, probability-based sample in 1994-96.

Participants: Adolescents ($n = 15,659$) in grades 7 to 12.

Measurements and results: Adolescents with parental set bedtimes of midnight or later were 24% more likely to suffer from depression (OR = 1.24, 95% CI 1.04-1.49) and 20% more likely to have suicidal ideation (1.20, 1.01-1.41) than adolescents with parental set bedtimes of 10:00 PM or earlier, after controlling for covariates. Consistent with sleep duration and perception of getting enough sleep acting as mediators, the inclusion of these variables in the multivariate models appreciably attenuated the associations for depression (1.07, 0.88-1.30) and suicidal ideation (1.09, 0.92-1.29).

Conclusions: The results from this study provide new evidence to strengthen the argument that short sleep duration could play a role in the etiology of depression. Earlier parental set bedtimes could therefore be protective against adolescent depression and suicidal ideation by lengthening sleep duration.

Relationship between antiepileptic drugs and suicide attempts in patients with bipolar disorder

Gibbons RD, Hur K, Brown CH, Mann JJ (USA)

Archives of General Psychiatry 66, 1354-1360, 2009

On January 31, 2008, the Food and Drug Administration issued an alert regarding increased risk of suicidal thoughts and behavior related to use of antiepileptic drugs (AEDs). On July 10, 2008, a Food and Drug Administration scientific advisory committee voted that, yes, there was a significant positive association between AEDs and suicidality but voted against placing a black box warning on AEDs for suicidality.

Objective: To determine if AEDs increase the risk of suicide attempt in patients with bipolar disorder.

Design: A pharmacoepidemiologic study in which suicide attempt rates were compared before and after treatment and with a medication-free control group. Analyses were restricted to AED and lithium monotherapy.

Setting: We used the PharMetrics medical claims database to study the relationship between the 11 AEDs identified in the FDA alert, and lithium, to suicide attempts.

Main outcome measure: Suicide attempts.

Patients: A cohort of 47 918 patients with bipolar disorder with a minimum 1-year window of information before and after the index date of their illness.

Results: Overall, there was no significant difference in suicide attempt rates for patients treated with an AED (13 per 1000 person-years [PY]) vs patients not treated with an AED or lithium (13 per 1000 PY). In AED-treated subjects, the rate of suicide attempts was significantly higher before treatment (72 per 1000 PY) than after (13 per 1000 PY). In patients receiving no concomitant treatment with an antidepressant, other AED, or antipsychotic, AEDs were significantly protective relative to no pharmacologic treatment (3 per 1000 vs 15 per 1000 PY).

Conclusions: Despite Food and Drug Administration reports regarding increased risk of suicidality associated with AED treatment, the current study reveals that, as a class, AEDs do not increase risk of suicide attempts in patients with bipolar disorder relative to patients not treated with an AED or lithium. Use of AEDs reduces suicide attempt rates both relative to patients not receiving any psychotropic medication and relative to their pretreatment levels.

Obesity is associated with previous suicide attempts in bipolar disorder

Gomes FA, Kauer-Sant'Anna M, Magalhaes PV, Jacka FN, Dodd S, Gama CS, Cunha A, Berk M, Kapczinski F (Brazil)

Acta Neuropsychiatrica 22, 2, 63-67, 2010

Objective: There is a paucity of data about risk factors for suicide attempts in bipolar disorder. The aim of this study is to examine the association between suicide attempts and obesity in people with bipolar disorder.

Methods: Two hundred fifty-five DSM-IV out-patients with bipolar disorder were consecutively recruited from the Bipolar Disorder Program at Hospital das Clinicas de Porto Alegre and the University Hospital at the Universidade Federal de Santa Maria, Brazil. Diagnosis and clinical variables were assessed with Structured Clinical Interview for DSM-IV-axis I (SCID I) and Program structured protocol. History of suicide attempts was obtained from multiple information sources including patients, relatives and review of medical records. Patients with body mass index (BMI) ≥ 30 were classified as obese.

Results: Over 30% of the sample was obese and over 50% had a history of suicide attempt. In the multivariate model, obese patients were nearly twice (OR = 1.97, 95% CI: 1.06-3.69, $p = .03$) as likely to have a history of suicide attempt(s).

Conclusion: Our results emphasise the relevance of obesity as an associated factor of suicide attempts in bipolar disorder. Obesity may be seen as correlate of severity and as such, must be considered in the comprehensive management of bipolar patients.

Problem solving moderates the effects of life event stress and chronic stress on suicidal behaviors in adolescence

Grover KE, Green KL, Pettit JW, Monteith LL, Garza MJ, Venta A (USA)

Journal of Clinical Psychology 65, 1281-1290, 2009

The present study examined the unique and interactive effects of stress and problem-solving skills on suicidal behaviors among 102 inpatient adolescents. As expected, life event stress and chronic stress each significantly predicted suicidal ideation and suicide attempt. Problem solving significantly predicted sui-

cidal ideation, but not suicide attempt. Problem solving moderated the associations between life event stress and suicidal behaviors, as well as between chronic stress and suicidal ideation, but not chronic stress and suicide attempt. At high levels of stress, adolescents with poor problem-solving skills experienced elevated suicidal ideation and were at greater risk of making a nonfatal suicide attempt. The interactive effects decreased to non-significance after controlling for depressive symptoms and hopelessness. Clinical implications are discussed.

Attachment and social adjustment: relationships to suicide attempt and major depressive episode in a prospective study

Grunebaum MF, Galfalvy HC, Mortenson LY, Burke AK, Oquendo MA, Mann JJ (USA)

Journal of Affective Disorder. Published online: 9 October 2009. doi: 10.1016/j.jad.2009.09.010, 2009

Objective: To study two aspects of interpersonal function — attachment security and social adjustment — in relation to suicide attempt and major depressive episode (MDE) during naturalistic follow-up of up to one year after presentation with MDE.

Method: 136 adults who presented with a DSM-IV MDE completed the Adult Attachment Scale and the Social Adjustment Scale-Self Report at study entry. Based on follow-up interviews at three months and one year, we used survival analysis to investigate the relationship of scores on these measures with time to a suicide attempt and time to recurrent MDE.

Results: Less secure/more avoidant attachment predicted increased risk of suicide attempt during the 1-year follow-up (Wald $\chi^2(2) = 9.14$, $df = 1$, $p = .003$, HR = 1.16, 95% CI = 1.05 to 1.27). Poorer social adjustment predicted increased risk of recurrent MDE (Wald $\chi^2(2) = 6.95$, $df = 1$, $p = .008$, HR = 2.36, 95% CI = 1.25 to 4.46), and that in turn increased the risk of a suicide attempt ($z = 4.19$, $df = 1$, $p < .001$, HR = 17.3, 95% CI = 4.6 to 65.5).

Conclusions: Avoidant attachment in the setting of major depressive disorder is a potential therapeutic target to prevent suicidal behavior. Enhancing social adjustment may reduce relapse in major depressive disorder and thereby reduce risk of a suicide attempt. Study limitations include small sample size and use of a self-report attachment scale.

Risk of suicide and fatal drug poisoning after discharge from the emergency department: a nested case-control study

Gunnarsdottir OS, Rafnsson V (Iceland)

Emergency Medicine Journal 27, 93-96, 2010

Objectives: The objectives were to study the risk of suicide and fatal drug poisoning among emergency department users who had been discharged home, based on the main diagnoses selected by the emergency physician upon discharge.

Methods: This is a case-control study nested in a cohort of users of the emergency department who had been discharged. The cases of suicide ($n=41$) and fatal drug poisoning ($n = 21$) were identified from the National Cause-of-death Registry, and five times as many controls were selected from users of the emergency department. Multivariate logistic regression analysis was used to calculate the OR and 95% CI adjusted for age and gender.

Results: Frequent visits to the emergency department were significantly associated with suicide and fatal poisoning. The study period spanned 7 years. The OR for suicide among cases and controls was 7.84 for those diagnosed as having mental disorders, 96.89 for those with use of alcohol, 24.51 for those with drug intoxication and 2.69 for those with a non-causative diagnosis. The OR for fatal poisoning for cases and controls was 12.26 for those with use of alcohol, 37.22 for those with drug intoxication and 5.76 for those with the classification category factors influencing health status.

Conclusions: The clinical implication is that patients with any combination of previous main diagnoses of mental disorder, alcohol use, drug intoxication, a non-causative diagnosis or with the classification category factors influencing health status should be evaluated and assessed for potential risk of suicide or fatal drug poisoning.

Varenicline and suicidal behaviour: a cohort study based on data from the General Practice Research Database

Gunnell D, Irvine D, Wise L, Davies C, Martin RM (UK)

British Medical Journal 339, b3805, 2009

Objectives: To determine whether varenicline, a recently licensed smoking cessation product, is associated with an increased risk of suicide and suicidal behaviour compared with alternative treatments bupropion and nicotine replacement therapy. Design: Cohort study nested within the General Practice Research Database.

Setting: Primary care in the United Kingdom.

Participants: 80,660 men and women aged 18-95 years were prescribed a new course of a smoking cessation product between 1 September 2006 and 31 May 2008; the initial drugs prescribed during follow-up were nicotine replacement products ($n = 63\ 265$), varenicline ($n = 10\ 973$), and bupropion ($n = 6422$).

Main outcome measures: Primary outcomes were fatal and non-fatal self harm, secondary outcomes were suicidal thoughts and depression, all investigated with Cox's proportional hazards models.

Results: There was no clear evidence that varenicline was associated with an increased risk of fatal ($n = 2$) or non-fatal ($n = 166$) self harm, although a twofold increased risk cannot be ruled out on the basis of the upper limit of

the 95% confidence interval. Compared with nicotine replacement products, the hazard ratio for self harm among people prescribed varenicline was 1.12 (95% CI 0.67 to 1.88), and it was 1.17 (0.59 to 2.32) for people prescribed bupropion. There was no evidence that varenicline was associated with an increased risk of depression ($n = 2244$) (hazard ratio 0.88 (0.77 to 1.00)) or suicidal thoughts ($n = 37$) (1.43 (0.53 to 3.85)).

Conclusion: Although a twofold increased risk of self harm with varenicline cannot be ruled out, these findings provide some reassurance concerning its association with suicidal behavior.

Mortality after traumatic spinal cord injury: 50 years of follow-up

Hagen EM, Lie SA, Rekan T, Gilhus NE, Gronning M (Norway)
Journal of Neurology, Neurosurgery and Psychiatry 81, 368-373, 2010

Objective: To study mortality and causes of death in an unselected geographically defined cohort of patients with traumatic spinal cord injury (TSCI), 1952-2001.

Methods: Patients were identified from hospital records. The date of death was obtained from the National Population Register, and causes of death recorded by linkage to the Norwegian Cause of Death Registry. Patient mortality was compared with mortality in the Norwegian population using standardised mortality ratios (SMR) adjusted for age and gender.

Results: 401 patients (70 women and 331 men) were identified. By 31 August 2008, 173 were dead. Median survival time in deceased patients was 7.4 years; 6.9 years for patients with cervical injuries and 8.2 years for patients with thoracolumbosacral injuries (TLS). TSCI patients had an increased mortality (SMR 1.85) compared with the Norwegian population. SMR did not change during the observation period. SMR was significantly higher for women than for men (2.88 vs 1.72), and higher in patients with complete TSCI compared with patients with incomplete TSCI (4.23 vs 1.25). SMR was 6.70 for patients with complete cervical injuries and 3.07 for patients with complete TLS injuries. Cause specific SMR were 1.96 for respiratory disease, and for suicide including accidental poisoning 3.70 for men and 37.59 for women.

Conclusions: Patients with a TSCI, and especially women, have an increased mortality despite modern treatment and care. Special attention should be paid to respiratory dysfunction and pulmonary infections, and to prevent suicide and accidental poisoning.

Alone? Perceived social support and chronic interpersonal difficulties in suicidal elders

Harrison KE, Dombrowski AY, Morse JQ, Houck P, Schlernitzauer M, Reynolds CF, Szanto K (USA)

International Psychogeriatrics 22, 454-455, 2010

Objective: To determine whether the number of advanced life support-trained personnel at the scene of an out-of-hospital cardiac arrest (OHCA) was associated with return of spontaneous circulation (ROSC) or survival to hospital discharge.

Methods: A retrospective database review using Utstein-style reporting definitions was conducted in Milwaukee County. All adult (≥ 18 years of age) OHCA cases of presumed cardiac etiology from January 1993 through December 2005 were eligible for inclusion in the study. Cardiac arrests resulting from a drug overdose, suicide, drowning, hypoxia, exsanguination, stroke, or trauma were excluded from the study. Also excluded were cases in which no crew configuration or responding unit was available, cases in which no resuscitation effort was attempted, and cases in which no time data were available. Return of spontaneous circulation and survival to hospital discharge for OHCA patients treated by a crew with two paramedics were compared to those patients treated by crews with three or more paramedics. Multivariable logistic regression was used for the analysis and the results are reported as odds ratios (ORs).

Results: During the study period, there were 10,298 OHCA of cardiac etiology. Of those, 10,057 (98%) cases had sufficient data to be included in the analysis. There were 4,229 patients treated by two paramedics (9% survived to discharge), 4,459 patients treated by three paramedics (9% survived to discharge), and 1,369 patients treated by four or more paramedics (8% survived to discharge). In the multivariable analysis, when referenced against crews with two paramedics and controlled for factors that have a known correlation with cardiac arrest survival, patients treated by crews with three paramedics (0.83, 95% confidence interval [CI] 0.70 to 0.97, $p = .02$) and crews with four or more paramedics (0.66, 95% CI 0.52 to 0.83, $p < .01$) were associated with reduced survival to hospital discharge. Return of spontaneous circulation was not influenced by the number of paramedics present.

Conclusions: The presence of three or more paramedics at the scene of OHCA was not associated with improved survival to hospital discharge when compared to crews with two paramedics. Additional research is needed to determine the potential cause of this finding.

Smoking, parent smoking, depressed mood, and suicidal ideation in teens

Hockenberry JM, Timmons EJ, Vander Weg M (USA)
Nicotine & Tobacco Research 12, 253-242, 2010

Objectives: We address whether smoking is related to suicidal ideation in teens and whether there is evidence of a causal pathway.

Methods: We use data from the 2002 National Annenberg Survey of Youth and employ multivariate logistic regression to model each teen's risk of suicidal ideation as a function of self-report of depressive symptoms, own smoking, parent smoking, and demographic and household income variables.

Results: Individuals reporting depressive symptoms have an increased risk of suicidal ideation (odds ratio [OR] = 13.13; 95% CI = 5.98-28.81). Relative to teens who do not smoke and whose parents do not smoke, teens who smoke and do not have a parent who smokes have increased risk of suicidal ideation (OR = 8.10; 95% CI = 2.88-22.80), whereas those with a parent who smokes do not have a statistically significant increased risk of suicidal ideation regardless of teen smoking behavior.

Conclusion: Relative to teens who do not smoke and do not have parents who smoke, suicidal ideation risk is increased in teens who smoke only if they do not have a parent who smokes. We find evidence that the smoking and suicidal ideation of the teens is likely due to common psychosocial causes rather than a causal pathway from smoking to suicidal ideation.

Mortality among residents of shelters, rooming houses, and hotels in Canada: 11 year follow-up study

Hwang SW, Wilkins R, Tjepkema M, O'Campo PJ, Dunn JR (Canada)
British Medical Journal 339, 1068, 2009

Objective: To examine mortality in a representative nationwide sample of homeless and marginally housed people living in shelters, rooming houses, and hotels.

Design: Follow-up study.

Setting: Canada 1991-2001. Participants: 15 100 homeless and marginally housed people enumerated in 1991 census.

Main outcome measures: Age specific and age standardised mortality rates, remaining life expectancies at age 25, and probabilities of survival from age 25 to 75. Data were compared with data from the poorest and richest income fifths as well as with data for the entire cohort.

Results: Of the homeless and marginally housed people, 3280 died. Mortality rates among these people were substantially higher than rates in the poorest income fifth, with the highest rate ratios seen at younger ages. Among those who were homeless or marginally housed, the probability of survival to age 75

was 32% (95% confidence interval 30% to 34%) in men and 60% (56% to 63%) in women. Remaining life expectancy at age 25 was 42 years (42 to 43) and 52 years (50 to 53), respectively. Compared with the entire cohort, mortality rate ratios for men and women, respectively, were 11.5 (8.8 to 15.0) and 9.2 (5.5 to 15.2) for drug related deaths, 6.4 (5.3 to 7.7) and 8.2 (5.0 to 13.4) for alcohol related deaths, 4.8 (3.9 to 5.9) and 3.8 (2.7 to 5.4) for mental disorders, and 2.3 (1.8 to 3.1) and 5.6 (3.2 to 9.6) for suicide. For both sexes, the largest differences in mortality rates were for smoking related diseases, ischaemic heart disease, and respiratory diseases.

Conclusions: Living in shelters, rooming houses, and hotels is associated with much higher mortality than expected on the basis of low income alone. Reducing the excessively high rates of premature mortality in this population would require interventions to address deaths related to smoking, alcohol, and drugs, and mental disorders and suicide, among other causes

Community-based suicide prevention research in remote on-reserve first nations communities

Isaak CA, Campeau M, Katz LY, Enns MW, Elias B, Sareen J (Canada)

International Journal of Mental Health and Addiction. Published online: 7 October 2009. doi: 10.1007/s11469-009-9250-0, 2009

Suicide is a complex problem linked to genetic, environmental, psychological and community factors. For the Aboriginal population more specifically, loss of culture, history of traumatic events, individual, family and community factors may also play a role in suicidal behaviour. Of particular concern is the high rate of suicide among Canadian Aboriginal youth. While the need to develop interventions to reduce suicidal behaviour for First Nations on-reserve populations is evident, there may be an element of distrust of researchers by Aboriginal communities. Furthermore, research in mental health and specifically suicide is much more sensitive than studying medical illnesses like diabetes. Clearly, this issue requires a unique and insightful approach. While numerous suicide prevention/intervention plans and guidelines have been published specifically for work involving Aboriginal people, the literature lacks a comprehensive discussion of the methodological and logistical issues faced by research teams and Aboriginal communities attempting to develop culturally grounded and community-specific suicide prevention and intervention strategies. This paper outlines the research process, key challenges and lessons learned in a collaborative University-First Nations suicide prevention project conducted with eight north-western Manitoba First Nations communities (Canada).

Resilience as positive coping appraisals: testing the schematic appraisals model of suicide (SAMS)

Johnson J, Gooding PA, Wood AM, Tarrrier N (UK)

Behaviour Research and Therapy Behaviour Research and Therapy 48, 179-186, 2010

Aims: The Schematic Appraisals Model of Suicide (SAMS) suggests that positive self-appraisals may be important for buffering suicidal thoughts and behaviours, potentially providing a key source of resilience. The current study aimed to explore whether positive self-appraisals buffered individuals from suicidality in the face of stressful life events.

Method: 78 participants who reported experiencing some degree of suicidality were recruited from a student population. They completed a battery of questionnaires including measures of suicidality, stressful life events and positive self-appraisals.

Results: Positive self-appraisals moderated the association between stressful life events and suicidality. For those reporting moderate or high levels of positive self-appraisals, raised incidence of stressful life events did not lead to increases in suicidality.

Discussion: These results support the SAMS framework, and suggest that positive self-appraisals may confer resilience to suicide. Positive self-appraisals may be a promising avenue for further resilience research, and an important area to target for suicide interventions.

All-cause mortality after non-fatal self-poisoning: a cohort study

Karasouli E, Owens D, Abbott RL, Hurst KM, Dennis M (UK)

Social Psychiatry Psychiatric Epidemiology. Published online: 25 March 2010. doi: 10.1007/s00127-010-0213-3, 2010

Background: Suicide has been repeatedly shown to have greatly increased incidence after non-fatal self-harm but far less is known about early death from other causes. The present study's aim was to describe mortality and risk factors concerning all causes of death after non-fatal self-poisoning.

Methods: A prospective cohort study of 976 patients who attended the Emergency Department in Nottingham, UK during a 9-month period in 1985-1986. Information on deaths was obtained for 16 years following an episode of self-poisoning, from the records of the Office for National Statistics.

Results: The observed:expected ratio for all-cause mortality was 2.2. Deaths due to diseases of the digestive and respiratory systems were, respectively, 4.4 and 2.9 times more frequent than expected. The risk for accidents was sixfold and for probable suicides 17-fold when compared with the risk in the general population. The main risk factor for subsequent deaths from natural causes was increasing age.

Conclusions: The findings of this study suggest that patients who survive self-poisoning have an increased risk of death from natural and unnatural causes. The findings point towards the need for more effective clinical management and preventive initiatives.

Case-control study of the relationship of depressive symptoms to suicide in a community-based sample of individuals with schizophrenia in China

Kasckow J, Liu N, Haas GL, Phillips MR (China)

Schizophrenia Research. Published online: 22 March 2010. doi: 10.1016/j.schres.2010.02.1056, 2010

Background: Suicide is the leading cause of premature death among people with schizophrenia. Most studies on suicide and schizophrenia report an associated depression history, but they are based on clinical samples from mostly western countries.

Methods: We conducted a secondary analysis of 74 suicides (cases) and 24 accidental deaths (controls) among persons with schizophrenia identified in a national psychological autopsy study in mainland China using the Chinese version of the Structured Clinical Interview for DSM-IV. A 'depression symptom severity score' based on number, severity, and persistence of depressive symptoms 2 weeks before death was derived from psychiatric interviews with 2 informants; determination of a 'dysfunction due to depressive symptoms score' was based on informants' reports about effects of depressive symptoms on decedents' functioning in the month before death. In addition, the mean number of negative life events was determined along with the effect of the events on the decedent. Comparison of the measures made for cases and controls were made by univariate analysis followed by adjustments using the False Discovery Rate.

Results: Compared to persons with schizophrenia who died by accident, those who died by suicide were more likely to have a recent DSM IV diagnosis of major depression, the symptom of depressed mood, thoughts of death and a prior suicide attempt. In addition, those who died by suicide were more likely to have a higher overall depression severity score and greater dysfunction due to depressive symptoms.

Discussion: This community-based study of individuals with DSM-IV schizophrenia who died by suicide in a non-western culture extends findings from clinical studies in western cultures providing data on the importance of depressive symptoms as risk factors for suicide in schizophrenia in a low income rural setting. These findings underline the importance of routine screening for depressive symptoms among patients with schizophrenia.

Future suicide attempt and responses to serotonergic challenge

Keilp JG, Oquendo MA, Stanley BH, Burke AK, Cooper TB, Malone KM, Mann JJ (USA)
Neuropsychopharmacology 35, 5, 1063-1072, 2010

Blunted neurohormonal responses to serotonergic agents are found in major depression and suicidal behavior, but there have been no prospective studies of their relationship to later suicide attempt. In this study, healthy volunteers and depressed subjects were administered a fenfluramine (FEN) and placebo challenge test at baseline and then followed for 2 years. Seven subjects made suicide attempts within the follow-up period. Healthy volunteers, depressed non-attempters, depressed past suicide attempters, and depressed future attempters were compared on plasma prolactin and cortisol responses, as well as on mood (Profile of Mood States; POMS) and behavioral measures that were assessed at baseline and at the end of each challenge testing day. Both past and future attempters had lower total prolactin output (area under the curve) in response to FEN relative to non-patients. Future attempters had lower cortisol response relative to all other groups. All subject groups reported a decrease in POMS Fatigue subscale score and increase in finger tapping rate after receiving FEN. Depressed subjects reported a significant decline in POMS Total, Depression, and Tension/Anxiety scores, but future attempters' did not, showing a slight mean increase. Lower cortisol response correlated with greater suicidal ideation 3 months and 1 year post-study. Logistic regression revealed that blunting of cortisol response and worsening of mood after FEN, and younger age could be used to predict later suicide attempt in the majority of cases (4/7). Results suggest that blunted cortisol and unfavorable acute mood response to serotonergic challenge, in the context of the general activating effects of these drugs, may be a risk factor for later suicide attempt.

The association between smoking and subsequent suicide-related outcomes in the National Comorbidity Survey panel sample

Kessler RC, Borges G, Sampson N, Miller M, Nock MK (USA)
Molecular Psychiatry 14, 1132-1142, 2009

Controversy exists about whether the repeatedly documented associations between smoking and subsequent suicide-related outcomes (SROs; ideation, plans, gestures and attempts) are due to unmeasured common causes or to causal effects of smoking on SROs. We address this issue by examining associations of smoking with subsequent SROs with and without controls for potential explanatory variables in the National Comorbidity Survey (NCS) panel. The latter consists of 5001 people who participated in both the 1990-2002 NCS and the 2001-2003 NCS follow-up survey. Explanatory variables include

sociodemographics, potential common causes (parental history of mental-substance disorders; other respondent childhood adversities) and potential mediators (respondent history of Diagnostic and Statistical Manual of Mental Disorders, 3rd edn, revised mental-substance disorders). Small gross (that is, without controls) prospective associations are found between history of early-onset nicotine dependence and both subsequent suicide ideation and, among ideators, subsequent suicide plans. None of the baseline smoking measures, though, predicts subsequent suicide gestures or attempts among ideators. The smoking-ideation association largely disappears, but the association of early-onset nicotine dependence with subsequent suicide plans persists (odds ratio = 3.0), after adjustment for control variables. However, the latter association is as strong with remitted as active nicotine dependence, arguing against a direct causal effect of nicotine dependence on suicide plans. Decomposition of the control variable effects, furthermore, suggests that these effects are due to common causes more than to mediators. These results refine our understanding of the ways in which smoking is associated with later SROs and for the most part argue against the view that these associations are due to causal effects of smoking.

Adolescent suicide risk screening in the emergency department

King CA, O'Mara RM, Hayward CN, Cunningham RM (USA)

Academic Emergency Medicine 16, 1234-1241, 2009

Objectives: Many adolescents who die by suicide have never obtained mental health services. In response to this, the National Strategy for Suicide Prevention recommends screening for elevated suicide risk in emergency departments (EDs). This cross-sectional study was designed to examine (1) the concurrent validity and utility of an adolescent suicide risk screen for use in general medical EDs and (2) the prevalence of positive screens for adolescent males and females using two different sets of screening criteria.

Methods: Participants were 298 adolescents seeking pediatric or psychiatric emergency services (50% male; 83% white, 16% black or African American, 5.4% Hispanic). The inclusion criterion was age 13 to 17 years. Exclusion criteria were severe cognitive impairment, no parent or legal guardian present to provide consent, or abnormal vital signs. Parent or guardian consent and adolescent assent were obtained for 61% of consecutively eligible adolescents. Elevated risk was defined as (1) Suicidal Ideation Questionnaire-Junior [SIQ-JR] score of ≥ 31 or suicide attempt in the past 3 months or (2) alcohol abuse plus depression (Alcohol Use Disorders Identification Test-3 [AUDIT-3] score of ≥ 3 , Reynolds Adolescent Depression Scale-2 [RADS-2] score of ≥ 76). The Beck Hopelessness Scale (BHS) and Problem Oriented Screening Instrument for Teenagers (POSIT) were used to ascertain concurrent validity.

Results: Sixteen percent ($n = 48$) of adolescents screened positive for elevated suicide risk. Within this group, 98% reported severe suicide ideation or a recent suicide attempt (46% attempt and ideation, 10% attempt only, 42% ideation only) and 27% reported alcohol abuse and depression. Nineteen percent of adolescents who screened positive presented for nonpsychiatric reasons. One-third of adolescents with positive screens were not receiving any mental health or substance use treatment. Demonstrating concurrent validity, the BHS scores of adolescents with positive screens and the POSIT scores of those with positive screens due to alcohol abuse and depression indicated substantial impairment. The addition of alcohol abuse with co-occurring depression as a positive screen criterion did not result in improved case identification. Among the subgroup screening positive due to depression plus alcohol abuse, all but one ($> 90\%$) also reported severe suicide ideation and/or a recent suicide attempt. This subgroup (approximately 17% of adolescents who screened positive) also reported significantly more impulsivity than other adolescents who screened positive.

Conclusions: The suicide risk screen showed evidence of concurrent validity. It also demonstrated utility in identifying (1) adolescents at elevated risk for suicide who presented to the ED with unrelated medical concerns and (2) a subgroup of adolescents who may be at highly elevated risk for suicide due to the combination of depression, alcohol abuse, suicidality, and impulsivity.

Is the high mortality risk in sentenced offenders independent of previous imprisonment?

Kjelsberg E, Laake P (Norway)

European Journal of Epidemiology 25, 237-243, 2010

The mortality in prisoners is high. However, our knowledge about the mortality in convicted offenders, irrespective of incarceration history, is limited. Our aim was to investigate possible predictors for over-all and cause specific mortality in a nation-wide study of convicted offenders with and without previous imprisonment. This case-control study drew random samples of deceased and living offenders ($N = 1,112$) from four complete cohorts of convicted offenders, two male (born 1967 and 1977, respectively), and two female (born 1967-70 and 1977-80, respectively). All criminal records were systematized and information about date and cause of death was collected on those deceased. Multivariable analyses demonstrated that age at first court conviction (OR = 0.88, 95% CI = 0.84-0.93), drug related crimes (OR = 1.99, 95% CI = 1.23-3.22), and crime diversity (1.51, 95% CI = 1.07-2.13) were significant predictors of premature death in males. In females, age at first court conviction (OR = 0.92, 95% CI = 0.88-0.97), drug related crimes (OR = 2.24, 95% CI = 1.37-3.69) and belonging to the oldest cohort (OR = 2.10, 95% CI = 1.35-3.26) were significant predictors of premature death. Age at first court conviction remained a significant predic-

tor for death in all cause specific multivariable mortality analyses. In addition, having committed drug related crimes and high crime diversity were strong predictors for substance related deaths. Males did more often die in accidents or commit suicide. Somatic deaths were most often encountered in the oldest cohort. Incarceration did not remain a significant predictor for premature death in any of the multivariable analyses. Measures intended to prevent premature death in convicted offenders should target wider populations than hitherto acknowledged.

A systematic review of scales that measure attitudes toward suicide

Kodaka M, Postuvan V, Inagaki M, Yamada M

International Journal of Social Psychiatry. Published online: 8 April 2010. doi: 10.1177/0020764009357399, 2010

Background: Studies on attitudes toward suicide are of great interest to researchers worldwide. Although various instruments have been developed to measure attitudes toward suicide, psychometric properties of these instruments have not been systematically reviewed and organized.

Aim: We aimed to identify valid, reliable and feasible attitudinal scales by systematically reviewing published articles on scale development and validation studies. In particular, this study focused on scales used for a wide range of populations to measure multidimensional attitudes toward suicide and related issues.

Methods: Electronic searches of two databases, PubMed and PsychInfo, were performed. Scales with unique names were identified and listed after reviewing selected publications, and then evaluated for psychometric properties, multidimensionality and appropriateness for a wide range of populations.

Results: A total of 2,210 publications were identified by the first electronic search. In the final review process of the selected publications, three scales — the Suicide Opinion Questionnaire (SOQ), Suicide Attitude Questionnaire (SUIATT) and Attitudes Toward Suicide (ATTS) — were identified.

Conclusion: Each of these scales has its own characteristics and should be used in accordance with research purposes.

Increasing self-reported suicide attempts by adolescents in Greece between 1984 and 2007

Kokkevi A, Rotsika V, Arapaki A, Richardson C (Greece)

Social Psychiatry and Psychiatric Epidemiology. Published online: 16 February 2010. doi: 10.1007/s00127-010-0185-3, 2010

Purpose: This study examines trends in self-reported suicide attempts by Greek adolescents.

Methods: Data were obtained from five nationwide school probability surveys, each of approximately 8,000-10,000 adolescents aged 14-18 years, carried out from 1984 to 2007. Students answered an anonymous questionnaire in their classrooms supervised by research assistants. Logistic regression analysis used as dependent variable any self-reported suicide attempts and as independent variables basic sociodemographic information and the year of the survey.

Results: Self-reported suicide attempts doubled in prevalence from 7.0% in 1984 to 13.4% in 2007. Female gender (odds ratio OR 2.49, 95% confidence interval CI 2.30-2.71), living in a single parent family (OR 1.91, CI 1.73-2.11), lower paternal education (OR 1.20, CI 1.10-1.31) and living in a major city (OR 1.17, CI 1.08-1.27 for Greater Athens and OR 1.13, CI 1.00-1.28 for Thessaloniki) were significantly associated with suicide attempts. A larger increase among males, from 2.4 to 8.4%, compared to females (11.5 to 17.9%) contributed to a decrease in gender differences.

Conclusions: Changes in Greek society during the last 30 years, including loosening of family ties, increased drug use and stress because of the demands of school work, are hypothesized to have had an impact on the increasing trend in suicide attempts among adolescents.

Sense of coherence and psychiatric morbidity: A 19-year register-based prospective study

Kouvonen AM, Vaananen A, Vahtera J, Heponiemi T, Koskinen A, Cox SJ, Kivimaki M (Finland)

Journal of Epidemiology and Community Health 64, 3, 255-261, 2010

(SOC) and mental health have been conducted using subjective health indicators and short-term follow-ups. The objective of this prospective occupational cohort study was to examine whether a strong sense of coherence is a protective factor against psychiatric disorders over a long period of time.

Methods: The study was conducted in a multinational forest industry corporation with domicile in Finland. Participants were 8029 Finnish industrial employees aged 18-65 at baseline (1986). Questionnaire survey data on SOC and other factors were collected at baseline; records of hospital admissions for psychiatric disorders and suicide attempt were derived from the National Hospital Discharge Register, while records of deaths due to suicide were derived from the National Death Registry up until 2006.

Results: During the 19-year follow-up, 406 participants with no prior admissions were admitted to hospital for psychiatric disorders ($n=4351$) or suicide attempt ($n=25$) or committed a suicide ($n=30$). A strong SOC was associated with about 40% decreased risk of psychiatric disorder. This association was not accounted for by mental health-related baseline characteristics, such as sex, age, marital status, education, occupational status, work environment, risk behaviours or psychological distress. The result was replicated in a subcohort of par-

ticipants who did not report an elevated level of psychological distress at baseline (hazard ratio = 0.59, 95% CI 0.40 to 0.86).

Conclusions: A strong SOC is associated with reduced risk of psychiatric disorders during a long time period.

The struggle to prevent and evaluate: application of population attributable risk and preventive fraction to suicide prevention research

Krysinska K, Martin G

Suicide and Life Threatening Behavior 39, 548-557, 2009

Population attributable risk (PAR) estimates have been used in suicide research to evaluate the impact of psychosocial and socioeconomic risk factors, including affective disorders, traumatic life events, and unemployment. A parallel concept of preventive fraction (PF), allowing for estimation of the impact of protective factors and effectiveness of preventive interventions, is practically unknown in suicidology. The study authors discuss the application of both concepts to suicide research and prevention, and review literature on the subject. Despite several methodological and conceptual limitations, both PAR and PF are valuable instruments to inform development and evaluation of suicide prevention programs.

Explaining suicide among blacks and whites: how socioeconomic factors and gun availability affect race-specific suicide rates

Kubrin CE, Wadsworth T (USA)

Social Science Quarterly 90, 1203-1227, 2009

Objectives: What are the correlates of suicide among blacks and whites? One body of literature suggests that structural factors such as poverty, inequality, joblessness, and family disruption are the key contributors, while another literature considers the availability of firearms to be the central factor. No studies have thoroughly explored both possibilities together and thus we know little about the relative contributions of motivation to commit suicide due to structural conditions and opportunity to commit suicide due to firearm availability. The current study addresses this issue.

Methods: Using suicide data from Mortality Multiple Cause of Death Records and 2000 Census data, we examine the roles of motivation and opportunity in shaping suicide rates among young white and young black males in U.S. cities.

Results: We find racial differences in the predictors of suicide; although concentrated disadvantage directly affects suicide among young white males, it only raises levels for young black males by increasing access to firearms. This

finding is confirmed in additional analyses, which examine the effects of concentrated disadvantage on black and white gun and nongun suicides separately.

Conclusion: The findings suggest complex relationships among the structural characteristics of cities, gun availability, and suicide. They also begin to address unresolved issues in the literature including why blacks have demonstrated comparatively lower rates of suicide despite higher levels of disadvantage as well as what may have fueled the increase in young black male suicide over the last 30 years. Finally, the findings have important implications for the study of race and suicide prevention.

Alcohol and other contextual factors of suicide in four Aboriginal communities of Quebec, Canada

Laliberté A, Tousignant M (Canada)

Crisis 30, 215-221, 2009

Background: Aboriginal populations worldwide face increasing rates of suicide. Despite this recurring observation, little research has emerged from Aboriginal settings.

Aims: This paper describes the psychosocial and behavioral characteristics of 30 consecutive adult suicides from four First-Nations communities in Quebec, Canada.

Method: Psychological autopsies guided by the LEDS with family members of the deceased. Results: Suicide among this group is overrepresented by young single men. Alcohol intoxication at the time of death was reported for 22 cases in association with rapid acting out after the precipitating event for 20. All but two cases had a history of alcohol abuse, and drug use was also present in 23 cases. In 16 cases there had been a previous suicide attempt, 14 of which occurred during the previous year. The main socio-demographic characteristics of the communities were overcrowded living arrangements and no job status (90%). Seven cases were incarcerated or locked up at the time of death. Clustering of suicide was observed within seven nuclear families including 16 suicides.

Conclusion: This study shows that Aboriginal suicide is the result of a complex interweaving of individual, familial, and socio-historical variables. The impact of contemporary social stressors on individual well-being must be addressed to prevent suicide in this community.

Suicidal ideation and suicidal behavior in pregnancy

Lara MA, Letechipia G (Mexico)

Salud Mental 32, 381-387, 2010

Aim: The aim is to explore the occurrence of suicide ideation and behavior in pregnant women receiving prenatal care and to analyze the motives behind these behaviors. Although there are very few studies evaluating the prevalence of the suicide phenomenon (suicide, intentional injuries with or without the aim of taking one's own life, ideas of harming oneself or death) during the prenatal period, it has been reported that pregnancy complications due to suicide attempts occur in 0.4 out of every 1 000 patients discharged from hospitals in the state of California in the United States and in one out of every 283 pregnant women in specialized mental health services. Suicide ideation occurs in 1.4% of English expectant mothers, 0.5% of Finnish ones and 27.8% of US pregnant women with psychiatric disorders. In Latin America, it is estimated to occur in 16.7% of pregnant teenagers. Although suicide ideation and suicide attempts during pregnancy are less frequent than at other times in life, they have major consequences, increasing the risk of death and affecting fetal development and pregnancy itself.

Method: Participants: The interviewees comprised 120 pregnant women who come in for prenatal care at 1. a state Health Center providing primary health care and 2. three Health Homes that provide basic medical services, run by the Health Secretariat in Mexico City. Three of the 120 questionnaires were rejected due to incomplete information, which left a total of 117. Sample characteristics include: mean age, 23.2 years ($SD = 5$); mean monthly income, \$3,876 ($SD = \239); schooling, 69% had completed junior high school while 31% had completed senior high school; 71% were housewives while 29% were also engaged in paid employment. Marital status: 18% married, 19% single and 63% cohabiting. **Instrument:** A structured questionnaire with the following areas: (1) Socio-demographic information (age, schooling, etc.); (2) Indicators of suicidal ideation and behavior: (a) Have you thought a lot about death, whether your own, someone else's or death in general? (b) Have you wished to die? (c) Have you ever been about to take your own life? and (d) Have you ever intentionally hurt, cut, poisoned or harmed yourself in order to take your own life? (3) Timing and motives. If the event occurred sometime in their life, the interviewer explored whether the event took place during the current pregnancy as well as the reasons why it happened. **Procedure:** In the waiting room of the Health Center, expectant mothers were told about the purpose of the study and the informed consent form. In the Health Homes, final year medical students did the same and arranged appointments for the interviews. The some researcher conducted the interviews in the two settings. **Results: Suicidal ideation:** Thinking a lot about death at some time in their lives was reported by 29 subjects (24.8%) and during pregnancy by 44 (37.6%). The

reasons for these thoughts during this last period are: separation from one's partner, death of a child, fear of childbirth, fear of accidents or sickness and interest in the subject of death. Realizing one is pregnant, feeling lonely, the death or illness of someone close and family problems are among the reasons for thoughts about death as well as the desire to die. *Desire to die*: This was expressed by 29 subjects (24.8%) in the post and by nine (7.7%) during pregnancy. Among the latter group, the reasons were: realizing one is pregnant, the death or illness of someone close and family problems. They also mentioned problems with their partners and parents. *Suicidal intention*: Thirteen said that they had been about to take their own lives at some stage (11.1%), while three (2.6% said that they had done so during pregnancy. During this period, this had been caused by problems with their partners. *Suicide attempts*: Ten women mentioned suicide attempts (8.5%) at sometime in their lives, while one (0.9%) did so during pregnancy. This particular case mentioned problems with her partner as being the cause.

Discussion: Thinking a lot about death is the most common indicator. It may be explained by disadvantageous social conditions, but also by the particular conditions of pregnancy. In this respect, there are various fears common to expectant mothers who are apprehensive about the wellbeing of the future baby and anticipate a difficult childbirth. As one would expect, suicide attempts are less common than suicide intentions and the desire for and ideas about death. The desire to die, suicide intentions and attempts are less frequent during pregnancy than at other times in a person's life. This may be due to the future mother's feeling of responsibility, or a possible hormonal effect, which act as protective factors. Problems with one's partner are a risk factor for suicide intention and attempts. This is hardly surprising, since marital problems adversely affect women's mental health at different times in their lives, but during pregnancy, they intensify their insecurity at a time of great transition, making them fearful of the future and leading them to wonder about whether getting pregnant was the right thing to do. These observations should be treated with caution due to methodological limitations, such as the small sample size and restricted scope of the research.

Prevalence of suicidal ideation and associated risk factors in the general population

Lee JI, Lee MB, Liao SC, Chang CM, Sung SC, Chiang HC, Tai CW (Taiwan)
Journal of Formosan Medical Association 109, 138-147, 2010

Background/Purpose: Suicide is an important public health problem and one of the leading causes of death worldwide. The present study investigated the prevalence of suicidal ideation (SI) and its associated risk factors in the general population.

Methods: A nationwide community survey was conducted using a computer-aided telephone interview system with residents aged ≥ 15 years, who were selected by a stratified, proportional randomization method. The questionnaire comprised demographic variables, five items of psychopathology selected from the Brief Symptom Rating Scale (BSRS-5) and questions about personal experience with suicide. In total, 2054 respondents, 1002 male (48.8%), and 1052 female (51.2%), completed the survey.

Results: The weighted prevalence of SI was 2.84% in the past week, 5.50% in the past year, and 18.49% during a lifetime. Significant risk factors for SI in the last week included presence of SI over the past year [odds ratio (OR) = 1763.6], SI during the lifetime (OR = 267.6), psychiatric morbidity (OR = 30.3), depression (OR = 26.1), inferiority (OR = 11.2), hostility (OR = 10.9), anxiety (OR = 10.5), insomnia (OR = 6.7), history of seeking help for psychological distress (OR = 7.9), divorce (OR = 6.4), unemployment (OR = 5.0) and having suicidal behavior in relatives or friends (OR = 3.8). Stepwise multiple regression analysis demonstrated that the five symptom items of BSRS-5 and unemployment significantly predicted 25.3% of the variance of SI. Using the BSRS-5 score 3 or 4 as a cut-off to predict SI, the rate of accurate classification was 85.88%, with sensitivity of 0.83 and specificity of 0.86.

Conclusion: A telephone interview survey containing the BSRS-5 items is an efficient way to identify determinants of SI in the general population.

Psychotherapy with suicidal people: Some common factors with attempters

Leenaars AA

Clinical Neuropsychiatry 6, 216-226, 2009

The villain for the would-be suicide attempter is pain; clinicians need something to fight that pain, an anodyne. Psychotherapy is such; yet, to assuage the pain, the clinician primarily needs to know what he/she is treating. This paper, thus, first offers an empirical, cross-cultural perspective on that what, illustrated with the writings of William Styron. It is argued once one understands what we are treating, effective psychotherapy comes knowingly. An outline of some common factors (or commonalities) in the field of psychotherapy with suicidal people is presented. The most essential common factor is the therapeutic relationship. What is effective and what is lethal are outlined, concluding that to treat the suicidal attempter effectively, the clinician has to be person-centred, not mental disorder centred. He/she has to know whom he/she is treating; this is quality care.

Menstruation and suicide

Leenaars AA, Dogra TD, Girdhar S, Dattagupta S, Leenaars L (India)
Crisis 30, 202-207, 2009

Background: Previous research, albeit limited, has reported mixed findings on the impact of menstruation cycle on suicidal behavior. The contribution of menstruation to completed suicide is also controversial; the studies are, in fact, very limited and are not carefully designed.

Aims: To examine whether the menstruation cycle impacts on suicide.

Methods: In order to explore this relationship, 56 autopsies on completed suicides in females were performed and matched to a control group of 44 females who had died from other causes, at the All India Institute of Medical Sciences in New Delhi. Histopathological examination, a method of collecting tissue from the uterus through biopsy, was used to determine the stage of the menstrual cycle.

Results: The results show that 25% of women who had died by suicide were menstruating at the time, compared to 4.5% of the control group; this is statistically (χ^2) significant at the $p < .002$ level.

Conclusions: Menstruation in the women who completed suicide, compared to a control group, appeared to have an association, though more research is warranted. Not only there are serious methodological problems in the study of menstruation and suicide (largely because of problematic tissue storage and examination), but also because of the need to understand the impact within a larger psychological, social, and cultural frame.

Suicide in different cultures: a thematic comparison of suicide notes from Turkey and the United States

Leenaars AA, Sayin A, Candansayar S, Leenaars L, Akar T, Demirel B (Turkey, USA)
Journal of Cross-Cultural Psychology 41, 253-263, 2010

Suicide is a global concern, hence, cross-cultural research ought to be central; yet, there is a paucity of cross-cultural study in suicidology. A thematic or theoretical-conceptual analysis of 60 suicide notes drawn from Turkey and the United States, matched for age and sex, was undertaken, based on Leenaars's empirical-based multidimensional model of suicide. The results suggested that there were more culturally common factors than specific differences; yet, not consistent with previous cross-cultural studies of suicide notes, differences emerged in Turkey notes expressing more indirect and veiled communications (indirect expressions). Specifically, Turkish notes expressed that there may be more reasons to the act than the person writes. It was concluded that the model may be applicable to suicide in both countries, but also much greater cross-cultural study is warranted on specific cultural risk factors. A question raised is whether the findings are related to collectivism versus individualism.

Intimate partner homicide by presence or absence of a self-destructive act

Liem M, Roberts DW (The Netherlands)

Homicide Studies 13, 339-354, 2009

Intimate partner homicide is not only the most common type of domestic homicide, but is also most prevalent in homicides followed by a self-destructive act (e.g., suicide or a suicide attempt). To date, very few studies have addressed this unique circumstance of intimate partner homicide, particularly in comparison to intimate partner homicides that are not followed by a self-destructive act. One possible reason for this lack of research might be that many consider homicide and suicide discrete phenomena, therefore devaluing the similarities that might exist between them. The 'Currents of Lethal Violence' analogy describes homicide and suicide as two currents in a stream of lethal violence. We propose that intimate partner homicide followed by a self-destructive act mixes these currents. This study aims to assess the differences among intimate partner homicide perpetrators who did and did not commit a self-destructive act following the homicide. Descriptive and bivariate analyses of predictive variables were obtained from the records of 341 male intimate partner homicide perpetrators held at a Dutch forensic observation hospital between 1980 and 2006, of which 44 committed a self-destructive act following the offense. Perpetrators that attempted suicide were more likely to have a diagnosis of depressive illness and to have threatened suicide prior to the offense. Perpetrators in this group showed evidence of far-reaching dependency on the victim and a fear of abandonment. Further research into this area is necessary to elucidate this issue.

Suicidal ideation and its correlates among elderly in residential care homes

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International Journal of Geriatric Psychiatry. Published online: 27 November 2009. doi: 10.1002/gps.2426, 2009

Objective: The highest suicide rates are found among the elderly, therefore suicidal ideation is prevalent in long-term care facilities. Despite these facts and multiplying losses, most residents show no signs of suicidal ideation. There is a lack of information on which factors protect against suicidal thoughts among the elderly. The aim of this pilot study was to assess the prevalence and correlates of suicidal ideation with risk and protective factors among older residential care home residents in Vienna.

Methods: This cross-sectional study was conducted in 15 Viennese residential care homes. Participants completed a self-report questionnaire containing sociodemographic factors, physical health, mental health, and protective

factors like optimistic attributional style, self-efficacy, and internal locus of control as well as satisfaction with life and were finally asked about active and passive suicidal thoughts and behaviors.

Results: With the voluntary participation of 129 residents aged 60 years or more, active suicidal ideation during the last month was identified in 7% of the elderly, 11% reported active suicidal ideation during the past year. Primarily, we found that protective factors like internal locus of control, self-efficacy, and satisfaction with life were important single predictors of active suicidal ideation during the past month. Depressive symptoms and current psychotherapeutic treatment were additionally important predictors.

Conclusions: Suicidal ideation is prevalent in Viennese residential care homes; consequently it is necessary to recognize and treat suicidal ideation in an adequate way. Our findings suggest that research and prevention strategies could not merely target risk, but also include protective factors.

Completed suicide and marital status according to the Italian region of origin

Masocco M, Pompili M, Vanacore N, Innamorati M, Lester D, Girardi P, Tatarelli R, Vichi M (Italy)

Psychiatric Quarterly 81, 57-71, 2010

Completed suicide is associated with marital status; being unmarried is associated with a higher suicide rate as compared with being married or living with a partner. Moreover, the region of origin may be particularly important when trying to explain major inequalities in suicide rates across a country. Data were obtained from the Italian Database on Mortality, collected by the Italian Census Bureau (ISTAT) and processed by the Italian National Institute of Health-Statistics Unit. The Italian population in the last Italian census (October 2001) was used to estimate age-standardized mortality rates from suicide by marital status (ICD-9 revision: E950–959) and ‘natural’ causes (ICD-9 revision: 0–280; 320–799). Rate Ratios and 95% confidence intervals were calculated using married individuals as a reference. All analyses were conducted separately for men and women for 2000–2002, the most recent years with data available. Logistic regression analysis was used to compare differences by marital status for suicide versus death from natural causes. There are major inequalities in suicide rates in Italy. The North region has the highest suicide rates both for married and non-married individuals. Sardinia Island has the highest male suicide rate in Italy—23.07 per 100,000 per year—compared with the average national male suicide rate of 13.80, a difference which is significantly higher by 67% (RR: 1.67; 95%CI = 1.40–1.99). In contrast, Sardinia has one of the lowest female suicide rates among the Italian regions, close to that of the South and the Center regions. The North-East is the only region where the suicide rate among divorced men is significantly higher than that of

married men. In the South, widowers have the highest suicide rate, with a rate 6-times that of married men (RR = 5.66; 95%CI = 4.46–7.18). Major inequalities in suicide rates by region may derive from different socio-cultural backgrounds, confirming the notion that suicide is a multifaceted phenomenon. The results of the present study indicate that suicide prevention must take into account the social and cultural characteristics of different communities. Moreover, these findings support the notion that marital status may play a central role in influencing suicide.

Self-harm and risk of motor vehicle crashes among young drivers: findings from the DRIVE Study

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Canadian Medical Association Journal. Published online: 16 November 2009. doi: 10.1503/cmaj.090459, 2009

Background: Some motor vehicle crashes, particularly single-vehicle crashes, may result from intentional self-harm. We conducted a prospective cohort study to assess the risk that intentional self-harm poses for motor vehicle crashes among young drivers.

Methods: We prospectively linked survey data from newly licensed drivers aged 17-24 years to data on licensing attempts and police-reported motor vehicle crashes during the follow-up period. We investigated the role of recent engagement in self-harm on the risk of a crash. We took into account potential confounders, including number of hours of driving per week, psychological symptoms and substance abuse.

Results: We included 18,871 drivers who participated in the DRIVE Study for whom data on self-harm and motor vehicle crashes were available. The mean follow-up was 2 years. Overall, 1495 drivers had 1 or more crashes during the follow-up period. A total of 871 drivers (4.6%) reported that they had engaged in self-harm in the year before the survey. These drivers were at significantly increased risk of a motor vehicle crash compared with drivers who reported no self-harm (relative risk [RR] 1.42, 95% confidence interval [CI] 1.15-1.76). The risk remained significant, even after adjustment for age, sex, average hours of driving per week, previous crash, psychological distress, duration of sleep, risky driving behaviour, substance use, remoteness of residence and socio-economic status (RR 1.37, 95% CI 1.09-1.72). Most of the drivers who reported self-harm and had a subsequent crash were involved in a multiple-vehicle crash (84.1% [74/88]).

Interpretation: Engagement in self-harm behaviour was an independent risk factor for subsequent motor vehicle crash among young drivers, with most crashes involving multiple vehicles.

The association between relationship markers of sexual orientation and suicide: Denmark, 1990-2001

Mathy RM, Cochran SD, Olsen J, Mays VM (Denmark)

Social Psychiatry and Psychiatric Epidemiology. Published online: 24 December 2009. doi: 10.1007/s00127-009-0177-3, 2009

Objective: Minority sexual orientation has been repeatedly linked to elevated rates of suicide attempts. Whether this translates into greater risk for suicide mortality is unclear. We investigated sexual orientation-related differences in suicide mortality in Denmark during the initial 12-year period following legalization of same-sex registered domestic partnerships (RDPs).

Method: Using data from death certificates issued between 1990 and 2001 and population estimates from the Danish census, we estimated suicide mortality risk among individuals classified into one of three marital/cohabitation statuses: current/formerly in same-sex RDPs; current/formerly heterosexually married; or never married/registered.

Results: Risk for suicide mortality was associated with this proxy indicator of sexual orientation, but only significantly among men. The estimated age-adjusted suicide mortality risk for RDP men was nearly eight times greater than for men with positive histories of heterosexual marriage and nearly twice as high for men who had never married.

Conclusions: Suicide risk appears greatly elevated for men in same-sex partnerships in Denmark. To what extent this is true for similar gay and bisexual men who are not in such relationships is unknown, but these findings call for targeted suicide prevention programs aimed at reducing suicide risk among gay and bisexual men.

Coming out to talk about suicide: gay men and suicidality

McAndrew S, Warne T (UK)

International Journal of Mental Health Nursing 19, 92-101, 2010

International studies report increased rates of mental health problems and subsequent suicidality among homosexual populations. While international health-care policy is concerned with reducing suicide among young people, important research findings relating to gay people and suicidality remain unacknowledged in the Suicide Prevention Strategy for England. This qualitative study, utilizing single case studies, was used to gain an in-depth understanding of the life experiences contributing to the suicidality of four gay men. The methodology was psychoanalytically informed, using free association narrative interviewing. The initial data analysis involved interpretation of each of the case studies and a subsequent analysis exploring the shared experiences found in each of the individual narratives. Thematically, these are described as 'knowing and not knowing', 'the centrality of the father-son relationship', 'the

loneliness of outsidersness', 'leading a double life', and 'crime and punishment'. The significance of the life experiences these themes illustrate reveal why some gay men might not only experience long-term mental health problems, but also engage in suicidality. Individually and collectively, the analyses provide important insights for mental health nurses becoming more attuned to provide sensitive mental health care to those who have a gay sexual orientation.

Clinical challenges in the assessment and management of suicidal behaviour in patients with borderline personality disorder

Mehlum L

Epidemiologia E Psichiatria Sociale 18, 184-190, 2009

Self-injurious and suicidal behaviours are highly prevalent in patients with borderline personality disorder (BPD) and the risk of completed suicide is high. Borderline patients often present with heterogeneous clinical pictures and widespread comorbidity complicating clinical assessments and management. This calls for increased efforts in systematic evaluation and monitoring of self-harming and suicidal behaviours; these behaviours should be addressed actively as high priority treatment targets. Early drop-out is common for BPD patients in treatment but is possible to counteract by fostering a strong therapeutic relationship through adopting a realistic, but consistent and supportive approach carefully avoiding reinforcement of suicidal behaviours. Suicidal crises should primarily be managed in an outpatient setting giving priority to keeping the patient safe adopting a safety plan procedure, while helping the patient as quickly as possible to return emotionally to a more acceptable level of arousal and mental functioning. Pharmacological treatments should primarily be used for management of comorbid conditions, but may possibly also be helpful when used to reduce specific symptoms such as anger, hostility and impulsivity. There is currently a range of different integrated short-term and long-term psychological treatments in different stages of development and some of them have been shown to be efficacious in reducing suicidal behaviours; notably dialectical behaviour therapy and mentalization-based therapy.

Suicide risk and acute psychiatric readmissions: a prospective cohort study

Mellesdal L, Mehlum L, Wentzel-Larsen T, Kroken R, Jorgensen HA (Norway)

Psychiatric Services 61, 25-31, 2010

Objective: The objective was to improve knowledge of the role and functioning of psychiatric acute wards with respect to admissions because of suicide risk and factors associated with readmission.

Methods: Over one year, 1,245 consecutive psychiatric patients from a Norwegian catchment area were included at index admission and reassessed in cases of readmission. After a mean follow-up period of 562 days, a total of 1,234 readmissions were assessed. Time from discharge to readmission was analyzed with univariate and multivariate Cox regression analyses. Outcome variables included acute readmissions and readmissions for suicide risk.

Results: Fifty-four percent of the index admissions and 62% of the readmissions were related to suicide risk. Substance use disorders, personality disorders, prior psychiatric hospitalization, unemployment, and receipt of social benefits were significant predictors of any readmissions and readmissions because of suicide risk. At index admission suicidal ideation or suicide plans significantly predicted readmission because of suicide risk. A small subgroup of patients contributed disproportionately to the number of readmissions. A higher number of readmissions per individual patient was associated with greater tendency of admission because of suicide risk.

Conclusions: The acute ward played an important role for patients with suicidal behavior. Care providers and clinicians should focus on staff training and supervision with regard to assessment and management of suicidal patients. Collaboration with referring physicians and aftercare providers is also important to help patients gain constructive coping strategies and break patterns of suicidal behavior and readmission.

Seasonality of suicide attempts: association with gender

Mergl R, Havers I, Althaus D, Rihmer Z, Schmidtke A, Lehfeld H, Niklewski G, Hegerl U (Germany)

European Archives of Psychiatry and Clinical Neuroscience. Published online: 15 November 2009. doi: 10.1007/s00406-009-0086-1, 2009

Some studies suggest seasonality of suicide attempts in females, but not in males. The reasons for this gender difference remain unclear. Only few studies addressed the question whether gender differences in seasonality of suicide attempts reflect gender differences in the choice of method for suicide attempts, with inconsistent results. So, this study aimed to analyze the association of gender with seasonality in suicide attempts by persons living in two Northern Bavarian regions [city of Nuremberg (480,000 inhabitants) and region of Wuerzburg (270,000 inhabitants)] between 2000 and 2004. We addressed this question by focussing on the frequency of suicide attempts in relation to the seasons. The sample consisted of 2,269 suicide attempters (882 males and 1,387 females). The overall seasonality was assessed using the chi(2) test for multinomials. Moreover, the ratio of observed to expected number of suicide attempts (OER) with 95% confidence intervals within each season was calculated. As a result, overall distribution of suicide attempts differed significantly between seasons for women (chi(2) = 9.19, *df* = 3, *P* = .03), but not for

men. Female suicide attempts showed a trough in the spring (decline compared to the expected value by 10%; OER = 0.9, 95% CI = 0.8-1.0). This trough was restricted to female low-risk suicide attempts (decline by 13%; OER = 0.87, 95% CI = 0.77-0.98). No seasonality was found for men. Seasonality of high-risk methods was more pronounced than that of low-risk methods; however, no significant gender differences were found concerning this aspect. The overall distribution of the sub-types of suicidal acts (parasuicidal gestures, suicidal pauses, suicide attempts in the strict sense) showed seasonality neither for males nor for females. Whereas seasonality was absent in male suicide attempters, the frequency of low-risk suicide attempts in females was 13.1% lower than expected in the spring.

The influence of a major disaster on suicide risk in the population

Mezuk B, Larkin GL, Prescott MR, Tracy M, Vlahov D, Tardiff K, Galea S (USA)
Journal of Trauma & Stress 22, 481-488, 2010

The authors investigated the relationship between the September 11, 2001 terrorist attacks and suicide risk in New York City from 1990 to 2006. The average monthly suicide rate over the study period was 0.56 per 100,000 people. The monthly rate after September 2001 was 0.11 per 100,000 people lower as compared to the rate in the period before. However, the rate of change in suicide was not significantly different before and after the disaster, and regression discontinuity analysis indicated no change at this date. There was no net change in the suicide rate in New York City attributable to this disaster, suggesting that factors other than exposure to traumatic events (e.g., cultural norms, availability of lethal methods) may be key drivers of suicide risk in this context.

Pattern of pesticide storage before pesticide self-poisoning in rural Sri Lanka

Mohamed F, Manuweera G, Gunnell D, Azher S, Eddleston M, Dawson A, Konradsen F (Sri Lanka)
BMC Public Health 9, 405, 2009

Background: Deliberate self-poisoning with agricultural pesticides is the commonest means of suicide in rural Asia. It is mostly impulsive and facilitated by easy access to pesticides. The aim of this large observational study was to investigate the immediate source of pesticides used for self-harm to help inform suicide prevention strategies such as reducing domestic access to pesticides.

Methods: The study was conducted in a district hospital serving an agricultural region of Sri Lanka. Patients who had self-poisoned with pesticides and were admitted to the adult medical wards were interviewed by study doctors

following initial resuscitation to identify the source of pesticides they have ingested.

Results: Of the 669 patients included in the analysis, 425 (63.5%) were male; the median age was 26 (IQR 20-36). In 511 (76%) cases, the pesticides had been stored either inside or immediately outside the house; among this group only eight patients obtained pesticides that were kept in a locked container. Ten percent ($n = 67$) of the patients used pesticides stored in the field while 14% ($n = 91$) purchased pesticides from shops within a few hours of the episode. The most common reasons for choosing the particular pesticide for self-harm were its easy accessibility ($n = 311$, 46%) or its popularity as a suicide agent in their village ($n = 290$, 43%).

Conclusions: Three quarters of people who ingested pesticides in acts of self-harm used products that were available within the home or in close proximity; relatively few patients purchased the pesticide for the act. The study highlights the importance of reducing the accessibility of toxic pesticides in the domestic environment.

To be or not to be: an economic shock, stress and suicidal ideation

Noh Y-H (Korea)

Applied Economics Letters 17, 55-60, 2010

The probit estimation using a large individual data set associated with the Korean economic crisis in 1997 shows that the suicidal ideation demonstrates strong response to economic crisis, depression and stress. The elasticity of income on suicide risk is greater for males than females and greater for youths and adults than olds.

Suicide attempts in bipolar I and bipolar II disorder: a review and meta-analysis of the evidence

Novick DM, Swartz HA, Frank E

Bipolar Disorders 12, 1-9, 2010

Objective: The prevalence of suicide attempts (SA) in bipolar II disorder (BPII), particularly in comparison to the prevalence in bipolar I disorder (BPI), is an understudied and controversial issue with mixed results. To date, there has been no comprehensive review of the published prevalence data for attempted suicide in BPII.

Methods: We conducted a literature review and meta-analysis of published reports that specified the proportion of individuals with BPII in their presentation of SA data. Systematic searching yielded 24 reports providing rates of SA in BPII and 21 reports including rates of SA in both BPI and BPII. We

estimated the prevalence of SA in BPII by combining data across reports of similar designs. To compare rates of SA in BPII and BPI, we calculated a pooled odds ratio (OR) and 95% confidence interval (CI) with random-effect meta-analytic techniques with retrospective data from 15 reports that detailed rates of SA in both BPI and BPII.

Results: Among the 24 reports with any BPII data, 32.4% (356/1099) of individuals retrospectively reported a lifetime history of SA, 19.8% (93/469) prospectively reported attempted suicide, and 20.5% (55/268) of index attempters were diagnosed with BPII. In 15 retrospective studies suitable for meta-analysis, the prevalence of attempted suicide in BPII and BPI was not significantly different: 32.4% and 36.3%, respectively (OR = 1.21, 95% CI: 0.98-1.48, $p = .07$).

Conclusion: The contribution of BPII to suicidal behavior is considerable. Our findings suggest that there is no significant effect of bipolar subtype on rate of SA. Our findings are particularly alarming in concert with other evidence, including (i) the well-documented predictive role of SA for completed suicide and (ii) the evidence suggesting that individuals with BPII use significantly more violent and lethal methods than do individuals with BPI. To reduce suicide-related morbidity and mortality, routine clinical care for BPII must include ongoing risk assessment and interventions targeted at risk factors

Predicting depression, anxiety and self-harm in adolescents: the role of perfectionism and acute life stress

O'Connor RC, Rasmussen S, Hawton K (Scotland)

Behaviour Research and Therapy 48, 52-59, 2010

Despite the growing evidence that perfectionism is associated with adolescent psychological distress, few studies have investigated this relationship prospectively with measures designed for use in adolescent populations. In the present study, within a diathesis–stress framework, we investigated the extent to which perfectionism and acute life stress predict depression, anxiety and self-harm among adolescent school children ($n = 515$) over a 6 month period (Time 1–Time 2). Socially prescribed perfectionism (SPP), self-oriented perfectionism–critical (SOP-critical) and the associated interactions with acute life stress differentially predicted anxiety, depression and self-harm. Acute life stress was an independent predictor of depression, anxiety and self-harm. SPP predicted depression and interacted with acute life stress to predict self-harm. SOP-critical and the SOP-critical by acute life stress interaction predicted anxiety. Self-oriented perfectionism-striving (SOP-striving) did not predict any of the Time 2 measures of distress. The dimensions of perfectionism are differentially associated with psychological distress. Tailored clinical interventions focused on adolescent perfectionism should offer promise in tackling psychological morbidity in adolescence.

Antiepileptic drugs and risk of suicide: a nationwide study

Olesen JB, Hansen PR, Erdal J, Abildstrøm SZ, Weeke P, Fosbøl EL, Poulsen HE, Gislason GH (Denmark)

Pharmacoepidemiology and Drug Safety. Published online: 16 March 2010. doi: 10.1002/pds.1932, 2010

Purpose: Patients with epilepsy or psychiatric diseases have increased risk of suicide, but whether the risk is influenced by antiepileptic drug (AED) treatment is unclear. Studies have suggested that AEDs in general increase the risk of suicidal behaviour shortly after initiation. This study investigated possible differences in suicide risk associated with different AEDs.

Methods: The use of AEDs in the Danish population from 1997 to 2006 was determined by prescription claims. The risk of suicide associated with use of AEDs was estimated by case-crossover analyses, where each case serves as its own control during different periods. For sensitivity, the risk of suicide was estimated by a time-dependent Cox proportional-hazard analysis in AED treatment-naïve patients.

Results: There were 6780 cases committing suicide in the 10-year study period, of which 422 received AED treatment at the time of suicide. The case-crossover analysis estimated AED treatment initiation to increase the risk of suicide (odds ratio (OR): 1.84, 95% confidence interval (CI): 1.36-2.49). Clonazepam (OR: 2.01, CI: 1.25-3.25), valproate (OR: 2.08, CI: 1.04-4.16), lamotrigine (OR: 3.15, CI: 1.35-7.34) and phenobarbital (OR: 1.96, CI: 1.02-3.75) were associated with a significant increased risk, while the remaining examined AEDs did not significantly influence the risk. In the cohort comprising of 169 725 AED treatment-naïve patients, the Cox proportional-hazard analysis yielded similar results.

Conclusions: This study suggests that clonazepam, valproate, lamotrigine and phenobarbital relatively shortly after treatment initiation may increase the risk of suicide. The increased risk of suicide associated with these AEDs appears to be a consistent finding.

Attitudes towards attempted suicide: the development of a measurement tool

Ouzouni C, Nakakis K (Greece)

Health Science Journal 3, 222-231, 2009

Background: Nowadays reported global suicide attempt rates have increased dramatically and there is some evidence that failure by health care professionals to recognize and respond to the needs of a suicidal person may be a factor in the repeated suicide attempts of some people. Moreover, research evidence has indicated that unfavorable attitudes among doctors and nurses exist towards attempted suicide patients, which have a negative impact upon the quality of care they receive. The aim of the study was to develop, pilot and validate a measure of attitudes towards patients who have attempted suicide.

Method and material: A questionnaire comprising 102 items was constructed from a existing validated instrument in combination with findings from a literature review. A pilot study was carried out with a sample of 40 ($n = 40$) doctors and nurses, to assess the feasibility and acceptability of the instrument developed. Questionnaires were then distributed to a sample of 186 ($n = 186$) doctors and nurses, working in two general hospitals in Athens area. In order to establish the scale's construct validity a factor analysis was performed. In addition, a face validity of the measurement tool was assessed by a group of experts. Reliability of the questionnaire was assessed by test - retest.

Results: Preliminary analysis reduced the 102 items of the questionnaire to 80. The following eight factors were retained: 'positiveness', 'acceptability', 'religiosity', 'professional role and care', 'manipulation', 'personality traits', 'mental illness', 'discrimination'. The 8 factors yielded accounted for the 55.45% level of the total variance. The resultant 'Attitudes Towards Attempted Suicide-Questionnaire' (ATAS-Q) achieved high internal consistency, with Cronbach's alpha of 0.96 ($\alpha = 0.96$) in test and $\alpha = 0.97$ in retest assessment.

Conclusions: The construction, development and validation of the ATAS-Q will provide a useful measurement tool, enabling health care professionals to enhance their understanding of their attitudes towards patients who attempt suicide in order to enhance the provision of effective care to them.

Suicides in public places: findings from one English county

Owens C, Lloyd-Tomlins S, Emmens T, Aitken P (UK)

Journal of Public Health 19, 580-582, 2009

Little is known about where suicides take place. We collected data from coroners' files on all suicides and undetermined deaths in one large English county from 2000 to 2004. The data show that > 30% of suicides occurred in public places. A quarter of these involved jumping from a height and nearly a quarter involved car exhaust poisoning. Several sites were associated with multiple methods of suicide. Identifying and managing high-risk locations should be an important part of an overall suicide prevention strategy and is best tackled at local level.

Mental disorders and socioeconomic status: impact on population risk of attempted suicide in Australia

Page A, Taylor R, Hall W, Carter G (Australia)

Suicide and Life Threatening Behavior 39, 471-481, 2009

The population attributable risk (PAR) of mental disorders compared to indicators of socioeconomic status (SES) for attempted suicide was estimated for Australia. For mental disorders, the highest PAR% for attempted suicide was

for anxiety disorders (males 28%; females 36%). For SES, the highest PAR% for attempted suicide in males was for occupation (males 31%; females 16%) and education level (males 19%; females 8%), following adjustment for age and mental disorders. The study results suggest that one third of suicide attempts in both males and females are attributable to anxiety disorders, the same proportion attributable to low educational or occupational status.

Primary care contact prior to suicide in individuals with mental illness

Pearson A, Saini P, Da Cruz D, Miles C, While D, Swinson N, Williams A, Shaw J, Appleby L, Kapur N (UK)

British Journal of General Practice 59, 825-832, 2009

Background: Previous studies have reported differing rates of consultation with GPs prior to suicide. Patients with a psychiatric history have higher rates of consultation and consult closer to the time of their death.

Aim: To investigate the frequency and nature of general practice consultations in the year before suicide for patients in current, or recent, contact with secondary mental health services.

Design of study: Retrospective case-note study and semi-structured interviews.

Setting: General practices in the northwest of England.

Method: General practice data were obtained by a retrospective review of medical records ($n = 247$) and semi-structured interviews with GPs ($n = 159$).

Results: GP records were reviewed in 247 of the 286 cases (86%). Overall, 91% of individuals ($n = 224$) consulted their GP on at least one occasion in the year before death. The median number of consultations was 7 (interquartile range = 3-10). Interviews were carried out with GPs with regard to 159 patients. GPs reported concerns about their patient's safety in 43 (27%) cases, but only 16% of them thought that the suicide could have been prevented. Agreement between GPs and mental health teams regarding risk of suicide was poor. Both sets of clinicians rated moderate to high levels of risk in only 3% of cases for whom information was available ($n = 139$) (overall kappa = 0.024).

Conclusion: Consultation prior to suicide is common but suicide prevention in primary care is challenging. Possible strategies might include examining the potential benefits of risk assessment and collaborative working between primary and secondary care.

Suicidal ideation during treatment of depression with escitalopram and nortriptyline in Genome-Based Therapeutic Drugs for Depression (GENDEP): a clinical trial

Perroud N, Uher R, Marusic A, Rietschel M, Mors O, Henigsberg N, Hauser J, Maier W, Souery D, Placentino A, Szczepankiewicz A, Jorgensen L, Strohmaier J, Zobel A, Giovannini C, Elkin A, Gunasinghe C, Gray J, Campbell D, Gupta B, Farmer AE, McGuffin P, Aitchison KJ
BMC Medicine 7, 60, 2009

Background: Suicidal thoughts and behaviours during antidepressant treatment, especially during the first weeks of treatment, have prompted warnings by regulatory bodies. The aim of the present study is to investigate the course and predictors of emergence and worsening of suicidal ideation during tricyclic antidepressant and serotonin reuptake inhibitor treatment.

Methods: In a multicentre part-randomised open-label study, 811 adult patients with moderate to severe unipolar depression were allocated to flexible dosage of escitalopram or nortriptyline for 12 weeks. The suicidality items of three standard measures were integrated in a suicidal ideation score. Increases in this score were classified as treatment emergent suicidal ideation (TESI) or treatment worsening suicidal ideation (TWOSI) according to the absence or presence of suicidal ideation at baseline.

Results: Suicidal ideation decreased during antidepressant treatment. Rates of TESI and TWOSI peaked in the fifth week. Severity of depression predicted TESI and TWOSI. In men, nortriptyline was associated with a 9.8-fold and 2.4-fold increase in TESI and TWOSI compared to escitalopram, respectively. Retirement and history of suicide attempts predicted TWOSI.

Conclusions: Increases in suicidal ideation were associated with depression severity and decreased during antidepressant treatment. In men, treatment with escitalopram is associated with lower risk of suicidal ideation compared to nortriptyline. Clinicians should remain alert to suicidal ideation beyond the initial weeks of antidepressant treatment.

'Bad' boys and 'sad' girls? Examining internalizing and externalizing effects on parasuicides among youth

Peter T, Roberts LW (Canada)
Journal of Youth and Adolescence 39, 495-503, 2010

Suicide and parasuicides (i.e. suicidal ideation and suicidal attempt) have long been recognized as serious social problems, especially among youth. A series of logistic regression models were developed incorporating various internalizing and externalizing risk factors experienced by young people with the goal of predicting parasuicides among Canadian youth. The main objective of the research is to determine whether or not there are significant sex differences between these internalizing and externalizing influences on suicidal behavior.

Data were used from the National Longitudinal Study of Children and Youth — Waves 3 through 6, for a total sample of 2,499 15-year-olds (48.9% male). Results show that both suicidal ideation and attempt are more frequent for girls compared to boys. Contrary to expectations, externalizing problems had a greater impact on girls and internalizing problems had a marginally greater impact on boys. This casts doubt on the notion that ‘bad boys’ and ‘sad girls’ are at greater risk for suicidal behavior. These results are discussed in light of their substantive importance, policy implications, and suggestions for future research.

Risk and protective factors associated with suicidal ideation in veterans of Operations Enduring Freedom and Iraqi Freedom

Pietrzak RH, Goldstein MB, Malley JC, Rivers AJ, Johnson DC, Southwick SM (USA)
Journal of Affective Disorders. Published online: 19 October 2009. doi: 10.1016/j.jad.2009.08.001, 2009

Background: Little is known about variables associated with suicidality in veterans of Operations Enduring Freedom and Iraqi Freedom (OEF/OIF).

Methods: A total of 272 OEF/OIF veterans completed a survey containing measures of psychopathology, resilience, and social support. Thirty-four respondents (12.5%) reported contemplating suicide in the two weeks prior to completing the survey.

Results: Suicide contemplators were more likely to screen positive for post-traumatic stress disorder (PTSD), depression, and an alcohol problem, and scored higher on measures of psychosocial difficulties, stigma, and barriers to care, and lower on measures of resilience and social support. Logistic regression analysis revealed that positive PTSD and depression screens, and increased psychosocial difficulties were associated with suicidal ideation, and that increased post-deployment social support and sense of purpose and control were negatively associated with suicidal ideation.

Conclusions: Interventions for PTSD, depression, and psychosocial difficulties, and to bolster post-deployment social support and resilience may be helpful in preventing suicidal ideation in OEF/OIF veterans.

No cathartic effect in suicide attempters admitted to the emergency department

Pompili M, Innamorati M, Del Casale A, Serafini G, Forte A, Lester D, Raja M, Amore M, Tatarelli R, Girardi P (USA)
Journal of Psychiatric Practice 15, 433-441, 2009

The goal of the present study was to test the hypothesis that suicide attempts have a cathartic effect. We retrospectively investigated sociodemographic and clinical characteristics of suicide attempters admitted to the emergency

department of a university hospital who were referred for a psychiatric assessment. The participants were 158 consecutive patients admitted to the emergency department because of a suicide attempt between January, 2006, and February, 2007; controls were 360 consecutive psychiatric referrals who did not report suicidal behavior. More than 70% of suicide attempters were coded on the triage classification system as critical/urgent. Loglinear analysis indicated that the risk of suicidal ideation was 9 times higher ($p < .001$) and the risk of depressive mood was twice as high ($p < .001$) among the attempters as in the control group of nonattempters, while their risk of anxiety ($p < .05$) and agitation ($p < .05$) was approximately half that of the nonattempters. The attempters also had a 5 times greater risk of being diagnosed with bipolar disorder ($p < .001$) than the nonattempters. However, despite the fact that bipolar disorders were overrepresented in the group of attempters, suicidal ideation in the few hours after a suicide attempt was associated only with depressive mood. Based on these findings, it is recommended that psychiatric evaluation of suicide attempters in the emergency department should ideally include the use of psychometric instruments evaluating suicide ideation and suicide risk.

Elaborating the cry of pain model of suicidality: testing a psychological model in a sample of first-time and repeat self-harm patients

Rasmussen SA, Fraser L, Gotz M, MacHale S, Mackie R, Masterton G, McConachie S, O'Connor RC (Scotland)

British Journal of Clinical Psychology 49, 15-30, 2010

Objectives: Few studies have specifically tested the Cry of Pain model (CoP model; Williams, 2001). This model conceptualizes suicidal behaviour as a behavioural response to a stressful situation which has three components: defeat, no escape potential, and no rescue. In addition, the model specifies a mediating role for entrapment on the defeat-suicidal ideation relationship, and a moderating role for rescue factors on the entrapment-suicidal ideation relationship. This is the first study to investigate the utility of this psychological model in a sample of first-time and repeat self-harm (SH) patients.

Method: One hundred and thirteen patients who had been admitted to hospital following an episode of SH (36 first-time, 67 repeat) and 37 hospital controls completed measures of defeat, entrapment/escape potential, rescue (social support and positive future thinking), as well as depression, anxiety, and suicidal ideation.

Results: Analyses highlighted differences between the three participant groups on all of the CoP variables. Hierarchical regression analysis confirmed that total entrapment and internal entrapment mediated the relationship between defeat and suicidal ideation, whilst impaired ability to think positively about the future (but not social support) moderated the relationship between total and internal entrapment and suicidal ideation.

Conclusions: The findings provide further empirical support for the CoP Model. The findings are discussed in relation to theory and practice and we recommend that the findings are replicated within a prospective design.

Sexual orientation and gender identity in youth suicide victims: an exploratory study

MRenaud J, Berlim MT, Begolli M, McGirr A, Turecki G (Canada)

SCanadian Journal of Psychiatry 55, 29-34, 2010

Objective: Our study was designed to explore additional outcome variables of a suicide case-control study to determine the association between sexual orientation and gender identity in suicide completion in children and adolescents.

Method: Fifty-five child and adolescent suicide victims and 55 community control subjects were assessed using semi-structured, proxy-based interviews and questionnaires regarding sexual orientation and gender issues, psychopathological diagnoses, and service use.

Results: In our sample, no significant differences between suicide victims and control subjects were found regarding same-sex sexual orientation nor intimidation related to same-sex sexual orientation. Suicide victims with same-sex sexual orientation were more likely than suicide victims without same-sex sexual orientation, to meet criteria for anxiety disorders. Within the month preceding their deaths, these youth were more likely to have consulted a health professional, a psychiatrist, as well as having been hospitalized, and were more likely to have consulted a psychiatrist in the last year.

Conclusions: In our sample, same-sex sexual orientation and gender identity issues do not appear to be more prevalent among youth who die by suicide, compared with youth recruited from the general population, nor for same-sex sexual-related intimidation. While exhibiting comparable levels of general psychopathological diagnoses associated with suicide, suicide victims with same-sex sexual orientation were more likely to meet criteria for anxiety disorders and to have consulted mental health professionals before their deaths.

Suicide among young Middle Eastern Muslim females

Rezaeian M

Crisis 31, 36-42, 2010

Background: Recent epidemiological studies highlight that within Muslim-dominated Middle Eastern countries suicide rates are high or are increasing among young females. This paper discusses the most important reasons behind this trend.

Methods: The literature review started using the PubMed (<http://www.ncbi.nlm.nih.gov>) search engine, applying four keywords: suicide, young females, Middle East, and Muslim. The search strategy was complemented by hand-searching selected journals or by looking at the reference list of the retrieved papers.

Results: All retrieved papers confirm a higher rate of suicide or attempted suicide among young Muslim females in the Middle East. Furthermore, the method chosen for suicide, psychiatric disorders, marriage, and masculine role are among the most important interrelated reasons that increase the likelihood of a young female being a victim of suicide.

Conclusions: Higher suicide rates among young Middle Eastern Muslim females must be considered an important issue, and their root causes should be dealt with properly and without delay.

Suicide attempt in first-episode psychosis: a 7.4 year follow-up study

Robinson J, Harris MG, Harrigan SM, Henry LP, Farrelly S, Prosser A, Schwartz O, Jackson H, McGorry PD (Australia)

Schizophrenia Research 116, 1-8, 2010

Background: Individuals with first-episode psychosis demonstrate high rates of suicide attempt (SA).

Aims: (1) To examine the prevalence of, and risk factors for, SA in a first-episode psychosis (FEP) cohort over a 7.4year follow-up period; (2) To investigate differences between single versus multiple suicide attempters.

Methods: This study reports baseline and follow-up data from a naturalistic, prospective follow-up of 413 FEP patients treated at a specialist early psychosis centre. Assessments were conducted at treatment entry, initial symptom remission or stabilization, and long term follow-up. Binary logistic regression models were used to assess unadjusted and adjusted associations between early illness and sociodemographic characteristics and two outcome measures: any SA during follow-up; and multiple SAs.

Results: Follow-up data were available for 282 participants. Sixty-one (21.6%) made a suicide attempt over the follow-up period, including 12 successful suicides. The following baseline risk factors increased the risk of any SA: history of self-harm (OR = 4.27; $p < .001$), suicidal tendencies (OR = 2.30; $p = .022$), being depressed for > 50% of the initial psychotic episode (OR = 2.49; $p = .045$), and hopelessness (OR = 2.03; $p = .030$). History of problem alcohol use increased the risk of multiple SAs (OR = 4.43; 95% CI (1.05-18.7); $p = .043$).

Discussion: The prevalence of suicide attempt in this study exceeds reports from short-term FEP studies but is comparable to longer term follow-up studies, indicating that risk remains elevated for at least 7 years following commencement of treatment. The key predictor of future suicide attempt was previous self-harm, indicating that interventions for self-harm are required.

Early life circumstances and male suicide: a 30-year follow-up of a Stockholm cohort born in 1953

Rojas Y, Stenberg SA (Sweden)

Social Science and Medicine 70, 420-427, 2010

This study analyses the relationship between early life circumstances and suicide during adolescence and young adulthood among men in a Stockholm birth cohort born in 1953. Relevant variables were derived from Durkheim's proposition of social integration and suicide and Merton's strain theory of deviance. The links between our background variables and suicide were estimated with rare events logistic regression, a statistical method specially developed for situations in which rare events are endemic to the data. We found that self-rated loneliness at age 12-13 as an indicator of social isolation, school absenteeism at the same age as an indicator of school integration, and growing up in a family which received means-tested social assistance at least once during the period 1953-1965 as an indicator of childhood poverty, were statistically related to subsequent suicide risk between 1970 and 1984. Furthermore, following Bourdieu's rereading of Durkheim's *Suicide*, we argue that social isolation and school integration can be seen as important forms of deprivation, since 'social integration' can also be understood in terms of 'social recognition'. This view emphasises the importance of taking the emotional and social poverty of children just as seriously as their material poverty when it comes to suicide.

Cannabis use and deliberate self-harm in adolescence: a comparative analysis of associations in England and Norway

Rossow I, Hawton K, Ystgaard M (UK, Norway)

Archives of Suicide Research 13, 340-348, 2009

The objective of this study was to test hypotheses on causality and selection regarding associations between cannabis use and deliberate self-harm (DSH) among adolescents. School surveys were conducted among 9,800 adolescents in England and Norway applying identical measures on deliberate self-harm, suicidal thoughts, cannabis use, and various potential confounders. Cannabis use was more prevalent in England than in Norway. It was associated with DSH, suicidal thoughts and various risk factors for DSH. However, these associations were stronger in Norway than in England. The adjusted associations between cannabis use and suicidal thoughts were non-significant in both countries. The adjusted cannabis-DSH association was non-significant in England but significant in Norway. Elevated risk of DSH in adolescent cannabis users seems to be mainly due to selection mechanisms. Thus the association is not likely to be direct but due to other shared contributory factors.

Management of schizophrenia with suicide risk

Roy A, Pompili M (USA)

Psychiatric Clinics of North America 32, 863-883, 2009

Suicidal behavior remains a major source of morbidity and mortality among schizophrenics. The National Institute of Mental Health Longitudinal Study of Chronic Schizophrenia found that over a mean of 6 years, 38% of the patients had at least one suicide attempt and 57% admitted to substantial suicidal ideation. Suicide is also a major issue among inpatients, with serious implications for clinical practice and patient-doctor relationships. The management of schizophrenic patients with suicide risk remains a difficult area for clinicians despite attempts to better understand it by gathering experts in the field. This article discusses the frequency of suicidal behavior in schizophrenia, offers a model for understanding it, and discusses various aspects of the management of the at-risk schizophrenic patient.

Suicidal thoughts and depressive feelings amongst Estonian school children: effect of family relationship and family structure

Samm A, Tooding LM, Sisask M, Kolves K, Aasvee K, Varnik A (Estonia)

European Child and Adolescent Psychiatry. Published online: 28 November 2009. doi: 10.1007/s00787-009-0079-7, 2009

Depressive feelings and suicidal ideation in a non-clinical sample of adolescents in Estonia were analysed in the context of family structure, mutual relationships amongst family members and schoolchildren's preferences regarding intimate personal contacts with particular family members. Data from the WHO collaborative study 'Health Behaviour in School-aged Children 2005/2006' (HBSC) were used. A representative sample of schoolchildren aged 11, 13 and 15 years completed the semi-structured questionnaire. The analyses included only adolescents living in households with at least one birth parent. The subjects were 4,389 schoolchildren (2,178 boys and 2,211 girls), who were divided into three groups based on: (1) suicidal thoughts, with or without depressive feelings; (2) depressive feelings; and (3) neither suicidal thoughts nor depressive feelings. Multinomial logistic regression was used. The proportion of depressive feelings increased with age for both boys and girls. Girls expressed depressive feelings more frequently than boys from ages 13 and 15 years, and suicidal thoughts from age 15 years. Self-reported satisfaction with relationships in the family reduced the likelihood of depressive feelings and suicidal thoughts. Good communication with the parents reduced the likelihood of suicidal thoughts in all age groups. Adolescents who were satisfied with their family relationships suffered less frequently from depressive feelings and suicidal thoughts. The best environment for an adolescent was a family with both birth parents. Of the adolescents in 'non-intact' families,

those with a step-parent in the family showed suicidal thoughts more frequently than those in single-parent families. Associations between family-related variables and suicidal thoughts were significant even after adjusting for family economic deprivation score.

The duty of care owed by police to a person at risk of suicide

Scott R (Australia)

Psychiatry, Psychology and Law 17, 1-24, 2010

In *Stuart v Kirkland-Veenstra* [2009] HCA 15, the High Court of Australia considered the duty of care owed by police to a person at risk of suicide in the community where the duty was alleged to arise in common law or as a consequence of a power conferred on police by the *Mental Health Act 1986* (Vic) to detain and arrange for a psychiatric examination of the person. The High Court considered the principles relevant to determining the legislative intention of the specific provisions of the *Mental Health Act* and whether the existence of a discretion to exercise a power was inconsistent with existence of a statutory duty. The High Court also examined whether a person who appears to have been contemplating suicide was 'mentally ill'. Concerns arise from the decision in the context of the difficulties in assessing suicidal intent and satisfying the statutory requirement of 'mental illness' to enable a person who is at risk to be detained for the purposes of an assessment.

Is religiosity a protective factor against attempted suicide? A cross-cultural case-control study

Sisask M, Varnik A, Kolves K, Bertolote JM, Bolhari J, Botega NJ, Fleischmann A, Vijayakumar L, Wasserman D

Archives of Suicide Research 14, 44-55, 2010

This cross-cultural study investigates whether religiosity assessed in three dimensions has a protective effect against attempted suicide. Community controls ($n = 5484$) were more likely than suicide attempters ($n = 2819$) to report religious denomination in Estonia (OR = 0.5) and subjective religiosity in four countries: Brazil (OR = 0.2), Estonia (OR = 0.5), Islamic Republic of Iran (OR = 0.6), and Sri Lanka (OR = 0.4). In South Africa, the effect was exceptional both for religious denomination (OR = 5.9) and subjective religiosity (OR = 2.7). No effects were found in India and Vietnam. Organizational religiosity gave controversial results. In particular, subjective religiosity (considering him/herself as religious person) may serve as a protective factor against non-fatal suicidal behavior in some cultures.

Persistent nightmares are associated with repeat suicide attempt: a prospective study

Sjostrom N, Hetta J, Waern M (Sweden)

Psychiatry Research 170, 208-211, 2010

The aim of this prospective study was to determine if sleep disturbances and nightmares are associated with increased risk of repeat suicide attempt. Patients ($n = 165$) aged 18-68 years who were admitted to medical or psychiatric wards after a suicide attempt completed an initial interview; 98 of these took part in a 2-month follow-up interview. The Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) and two self-report instruments, the Uppsala Sleep Inventory and the Comprehensive Psychopathological Rating Scale (CPRS) Self-Rating Scale for Affective Syndromes, were administered both at baseline and follow-up. Data concerning repeat suicide attempts within 2 years were obtained from hospital records. Analyses were performed using Student's t test, chi-square test, and logistic regression. In total 42 patients (26%) made at least one repeat suicide attempt within 2 years. While neither difficulties initiating/maintaining sleep nor early morning awakening at baseline predicted repeat attempt, having frequent nightmares did (OR = 3.15). The risk was further heightened when nightmares were reported at both baseline and 2-month follow-up (OR = 5.20). These associations remained after adjusting for sex, axis-I DSM-IV diagnoses, and self-reported depression and anxiety symptom intensity. Our findings suggest that nightmares might constitute a marker for increased risk of suicidal behavior.

Suicide and firearm means restriction: can training make a difference?

Slovak K, Brewer TW (USA)

Suicide and Life-Threatening Behavior 40, 63-73, 2010

Along with physician education in depression recognition and treatment, restricting lethal methods is an effective suicide prevention strategy. The present study surveyed a random sample ($N = 697$) of Ohio licensed social workers regarding client firearm assessment and safety counseling. Analyses sought to determine what independent factors would predict the probability that a social worker would hold positive attitudes regarding firearm risk assessment and counseling. Findings indicated that prior training and reporting from an urban area significantly increased the odds ($p < .05$) of registering more positive attitudes toward firearm assessment and safety counseling by 91.1% and 44.7%, respectively. Training mental health professionals in firearm assessment and safety counseling is an important aspect in addressing the reduction of suicide by this means.

Cognitive-behavioral therapy for suicide prevention (CBT-SP): treatment model, feasibility, and acceptability

Stanley B, Brown G, Brent DA, Wells K, Poling K, Curry J, Kennard BD, Wagner A, Cwik MF, Klomek AB, Goldstein T, Vitiello B, Barnett S, Daniel S, Hughes J (USA)

Journal of the American Academy of Child & Adolescent Psychiatry 48, 1005-1013, 2009

Objective: To describe the elements of a manual-based cognitive-behavioral therapy for suicide prevention (CBT-SP) and to report its feasibility in preventing the recurrence of suicidal behavior in adolescents who have recently attempted suicide.

Method: The CBT-SP was developed using a risk reduction and relapse prevention approach and theoretically grounded in principles of cognitive-behavioral therapy, dialectical behavioral therapy, and targeted therapies for suicidal youths with depression. The CBT-SP consists of acute and continuation phases, each lasting about 12 sessions, and includes a chain analysis of the suicidal event, safety plan development, skill building, psychoeducation, family intervention, and relapse prevention.

Results: The CBT-SP was administered to 110 recent suicide attempters with depression aged 13 to 19 years (mean 15.8 years, SD 1.6) across five academic sites. Twelve or more sessions were completed by 72.4% of the sample.

Conclusions: A specific intervention for adolescents at high risk for repeated suicide attempts has been developed and manual based, and further testing of its efficacy seems feasible.

Psychiatric comorbidity and suicidal behavior in epilepsy: a community-based case-control study

Stefanello S, Marín-Léon L, Fernandes PT, Li LM, Botega NJ (Brazil)

Epilepsia. Published online: 3 November 2009. doi: 10.1111/j.1528-1167.2009.02386.x, 2009

Purpose: To provide information about psychiatric comorbidity and suicidal behavior in people with epilepsy compared to those without epilepsy from a community sample in Brazil.

Methods: An attempt was made to evaluate all 174 subjects with epilepsy (cases) identified in a previous survey. For every case identified, an individual without epilepsy (control) matched by sex and age was selected in the same neighborhood. A structured interview with validated psychiatric scales was performed. One hundred and fifty-three cases and 154 controls were enrolled in the study.

Results: People with epilepsy had anxiety more frequently [39.4% vs. 23.8%, odds ratio (OR) 2.1, 95% confidence interval (CI) 1.2-3.5; $p = .006$], depression (24.4% vs. 14.7%, OR 1.9, 95% CI 1.01-3.5; $p = .04$), and anger (55.6% vs. 39.7%, OR 1.9, 95% CI 1.2-3.1; $p = .008$). They also reported more suicidal

thoughts [36.7% vs. 23.8%, OR 1.8, 95% CI 1.1-3.1; $p = .02$], plans (18.2% vs. 3.3%, OR 2.0, 95% CI 1.0-4.0; $p = 0.04$), and attempts (12.1% vs. 5.3%, OR 2.4, 95% CI 1.1-3.2, $p = .04$) during life than controls.

Conclusions: These findings call attention to psychiatric comorbidity and suicidal behavior associated with epilepsy. Suicide risk assessment, mental evaluation, and treatment may improve quality of life in epilepsy and ultimately prevent suicide.

Outcome of patients with major depressive disorder after serious suicide attempt

Suominen K, Haukka J, Valtonen HM, Lonnqvist J (Finland)

Journal of Clinical Psychiatry 79, 1372-1378, 2009

Objective: To investigate the outcome of subjects with major depressive disorder after serious suicide attempt and to examine the effect of psychotic symptoms on their outcome.

Method: The study population included all individuals aged 16 years or older in Finland who were hospitalized with ICD-10 diagnoses of major depressive disorder and attempted suicide from 1996 to 2003 ($N = 1,820$). The main outcome measures were completed suicides, overall mortality, and repeated suicide attempts during drug treatment versus no treatment.

Results: During the 4-year follow-up period, 13% of patients died, 6% completed suicide, and 31% made a repeat suicide attempt. Subjects with major depression with psychotic features completed suicide more often than subjects without psychotic features during the follow-up (hazard ratio [HR] 3.32; 95% CI, 1.95-5.67). Antidepressant treatment reduced all-cause mortality by 24% (HR 0.74; 95% CI, 0.56-0.97) but did not reduce suicide mortality (HR 1.06; 95% CI, 0.71-1.58).

Conclusions: Psychotic symptoms during major depressive episode increase the risk of completed suicide after serious suicide attempt. The quality of treatment for major depression with psychotic features after attempted suicide should be improved to prevent suicide.

Incidence and course of suicidal ideation and suicide attempts in the general population

Ten Have M, de Graaf R, Van Dorsselaer S, Verdurmen J, van Land H, Vollebergh W, Beekman A (The Netherlands)

Canadian Journal of Psychiatry 54, 824-833, 2010

Objective: Suicidal ideation and suicide attempts are important indicators of extreme emotional distress. However, little is known about predictors of onset and course of suicidality in the general population. Our study tried to fill this gap by analyzing data from a prospectively followed community sample.

Method: Data were derived from the Netherlands Mental Health Survey and Incidence Study (NEMESIS), a 3-wave cohort study in a representative sample ($n = 4848$) of the Dutch adult general population.

Results: The 3-year incidence of suicidal ideation and suicide attempts was 2.7% and 0.9%, respectively. Predictors of first-onset suicidal ideation and suicide attempts were sociodemographic variables (especially the negative change in situation variables), life events, personal vulnerability indicators, and emotional (mood and anxiety) disorders. Comparison of the corresponding odds ratios and confidence intervals revealed that predictors for first-onset suicidal ideation and suicide attempts did not differ significantly. One of the strongest predictors of incident suicide attempts was previous suicidal ideation. Regarding the course of suicidal ideation, it was found that 31.3% still endorsed these thoughts and 7.4% reported having made a suicide attempt 2 years later.

Conclusions: Similar predictors were found for first-onset suicidal ideation and suicide attempts. This suggests that suicidal behaviours may be ordered on a continuum and have shared risk factors. While suicidal thoughts may be necessary for, they are not sufficient predictors of, suicidal acts. The course of suicidality in the general population can be characterized by a minority of people having suicidal experiences that develop over time with progressively increasing severity.

The effects of the suicide awareness program in enhancing community volunteers' awareness of suicide warning signs

Tsai WP, Lin LY, Chang WL, Chang HC, Chou MC (Taiwan)

Archives of Psychiatric Nursing 24, 63-68, 2010

The purpose of this study was to evaluate the effects of the suicide awareness program (SAP) in enhancing community volunteers' awareness of suicide warning signs (SWSs). Seventy-six participants were recruited in this study to complete the Awareness of Suicide Warning Signs Questionnaire before and after they received a 90-minute SAP. After the educational intervention, the mean score of the participants on awareness of SWSs was elevated from 3.97 to 4.53. The percentage of SWSs perceived increased from 46.88% to 84.38%. This shows that the SAP for community volunteers is effective in promoting suicide awareness.

The invisible family: a qualitative study of suicide survivors in Taiwan

Tzeng WC, Su PY, Chiang HH, Kuan PY, Lee JF (Taiwan)

Western Journal of Nursing Research 32, 185-198, 2009

The purpose of this interpretive phenomenological study is to describe the commonality of the lived experience of suicide survivors and how it influences their family relationships in Taiwan from a sociocultural perspective. Thirteen suicide survivors have participated in this study. Study results reveal that some survivors blame themselves, some blame others, and some are blamed by their family as part of their need to find a reason for the death. Consequently, family members ignore each other and treat each other as if they are invisible. These Chinese suicide survivors, unlike Western survivors, maintain their strained family connections because of strong cultural influences. Therefore, health professionals should acknowledge the experiences of living with an invisible family when supporting Chinese suicide survivors.

Future oriented group training for suicidal patients: a randomized clinical trial

Van Beek W, Kerkhof A, Beekman A (The Netherlands)

BMC Psychiatry 9, 65, 2009

Background: In routine psychiatric treatment most clinicians inquire about indicators of suicide risk, but once the risk is assessed not many clinicians systematically focus on suicidal thoughts. This may reflect a commonly held opinion that once the depressive or anxious symptoms are effectively treated the suicidal symptoms will wane. Consequently, many clients with suicidal thoughts do not receive systematic treatment of their suicidal thinking. There are many indications that specific attention to suicidal thinking is necessary to effectively decrease the intensity and recurrence of suicidal thinking. We therefore developed a group training for patients with suicidal thoughts that is easy to apply in clinical settings as an addition to regular treatment and that explicitly focuses on suicidal thinking. We hypothesize that such an additional training will decrease the frequency and intensity of suicidal thinking. We based the training on cognitive behavioural approaches of hopelessness, worrying, and future perspectives, given the theories of Beck, McLeod and others, concerning the lack of positive expectations characteristic for many suicidal patients. In collaboration with each participant in the training individual positive future possibilities and goals were challenged.

Methods: We evaluate the effects of our program on suicide ideation (primary outcome measure). The study is conducted in a regular treatment setting with regular inpatients and outpatients representative for Dutch psychiatric treatment settings. The design is a RCT with two arms: TAU (Treatment as Usual) versus

TAU plus the training. Follow up measurements are taken 12 months after the first assessment.

Discussion: There is a need for research on the effectiveness of interventions in suicidology, especially RCT's. In our treatment program we combine aspects and interventions that have been proven to be useful in the treatment of suicidal thinking and behavior. Trial registration: ISRCTN56421759.

The effectiveness of a web-based self-help intervention to reduce suicidal thoughts: a randomized controlled trial

Van Spijker BA, van Straten A, Kerkhof AJ (The Netherlands)

Trials 11, 25, 2010

Background: Suicide, attempted suicide and suicidal thoughts are major public health problems worldwide. Effective face-to-face treatments are Cognitive Behavioural Therapy (CBT), Dialectical Behavioural Therapy (DBT) and Problem Solving Treatment (PST). However, about two-thirds of persons who die by suicide have not been in contact with mental health care services in the preceding year, and many have never been treated. Furthermore, many patients do not disclose their suicidal thoughts to their care provider. This may be out of shame, due to fear of stigma or due to lack of trust in (mental) health care. Since many suicidal individuals seek information online, the internet provides an opportunity to reach suicidal individuals who would not be contacted otherwise. By providing a self-help intervention online, persons can anonymously learn to gain control over their suicidal thoughts. There is convincing evidence that self-help is effective for a number of mental disorders. In this study the effectiveness for suicidal thoughts is examined.

Methods: In this study, a recently developed self-help intervention will be evaluated in a Randomized Controlled Trial. The intervention is based on Cognitive Behavioural Therapy and is aimed at subjects who experience mild to moderate suicidal thoughts. This is defined as a score between 1 and 26 on the Beck Scale for Suicidal Ideation (BSS). Higher and lower scores are excluded. In addition, severely depressed subjects are excluded. In total, 260 subjects will be randomly allocated to the intervention-condition ($N = 130$) or to the information-control condition ($N = 130$). Self-report questionnaires will be filled out at baseline, 6 weeks after baseline and 18 weeks after baseline. Primary outcome measure is the reduction in frequency and intensity of suicidal thoughts. Secondary outcome measures are the reduction of hopelessness, anxiety and depression, sleeplessness, worry and quality of life measures.

Discussion: This study is the first to evaluate the effectiveness of a web-based self-help intervention for suicidal thoughts. Several limitations and strengths of the design are discussed.

Weight status, psychological health, suicidal thoughts, and suicide attempts in Dutch adolescents: results from the 2003 E-MOVO project

Van Wijnen LG, Boluijt PR, Hoeven-Mulder HB, Bemelmans WJ, Wendel-Vos GC
(The Netherlands)

Obesity. Published online: 8 October 2009. doi: 10.1038/oby.2009.334, 2009

This study describes the association between weight status and psychological health, suicidal thoughts and suicide attempts in adolescents from a population-based study of 21,730 adolescents who responded to a classroom-based internet questionnaire. It demonstrated clear associations between weight status in adolescents and poor psychological health, suicidal thoughts and suicide attempts, especially in obese individuals. Obese boys and girls were more likely to be classified as 'psychologically unhealthy' than were normal weight subjects. They also reported more suicidal thoughts and suicide attempts.

Massive increase in injury deaths of undetermined intent in ex-USSR Baltic and Slavic countries: hidden suicides?

Värnik P, Sisask M, Varnik A, Yur'yev A, Kolves K, Leppik L, Nemtsov A, Wasserman D
Scandinavian Journal of Public Health. Published online: 19 November 2009. doi:

10.1177/1403494809354360, 2009

Aims: Observed changes in subcategories of injury death were used to test the hypothesis that a sizeable proportion of 'injury deaths of undetermined intent' (Y10-Y34 in ICD 10) in the Baltic and Slavic countries after the USSR dissolved in 1991 were hidden suicides.

Methods: Using male age-adjusted suicide rates for two distinctly different periods, 1981-90 and 1992-2005, changes, ratios and correlations were calculated. The data were compared with the EU average.

Results: After the USSR broke up, the obligation to make a definitive diagnosis became less strict. A massive increase in 'injury deaths of undetermined intent' resulted. The mean rate for the second period reached 52.8 per 100,000 males in Russia (the highest rate) and 12.9 in Lithuania (the lowest), against 3.2 in EU-15. The rise from the first to the second period was highest in Belarus (56%) and Russia (44%). The number of injury deaths of undetermined intent was almost equal to that of suicides in Russia in 2005 (ratio 1.0) and Ukraine in 2002 (1.1). In all the countries, especially the Slavic ones, prevalence trends of injury-death subcategories were uniform, i.e. strongly correlated over time. No direct substitution of one diagnosis for another was evident.

Conclusions: There is no evidence that the category of 'injury deaths of undetermined intent' in the Baltic and Slavic countries hides suicides alone. Aggregate level analysis indicates that accidents and homicides could sometimes be diagnosed as undetermined.

Self-harm among UK female prisoners: a cross-sectional study

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Journal of Forensic Psychiatry & Psychology 20, 741-751, 2009

Psychiatric morbidity and suicide rates in prisoners are high. The detection of mental illness and its associated risks in prison are low. The aim of this study was to ascertain the prevalence of psychiatric symptomatology, needs and self-harming behaviour among UK female prisoners and to identify differences between individuals with and without a history of self-harm. We conducted a cross-sectional study including 638 female prisoners from two prisons in the North-West of England. Outcome measures used were the Prison Screening Questionnaire (PriSnQuest), a questionnaire on self-harming behaviour and suicidal ideation and the Camberwell Assessment of Need — Forensic Version (CANFOR). 241 women (37.8%) screened positive on the PriSnQuest; 281 women (45.9%) had a history of self-harm. An average of 8.5 needs was identified with more than half of those needs classified as unmet. Differences between women with and without history of self-harm were identified on offending history, PriSnQuest scores and the CANFOR total and unmet needs. Previous contact with a psychiatrist, total and symptoms of depression on the PriSnQuest were independently associated with a history of self-harm. This study confirmed that the prevalence of psychiatric symptomatology and self-harm in female UK prisoners is high. Individuals at risk of self-harming behaviour may be identified using screening questionnaires.

Assessing and managing suicidal behaviour in the primary care setting: a model for an integrated regional suicide prevention strategy

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International Journal of Psychiatry in Clinical Practice 13, 307-311, 2009

Although suicide rates are decreasing in most countries, suicide is still a major health concern. Our aim was to introduce a complex, integrative, regional suicide prevention strategy. Based on reviewing the literature and on our previous studies we developed a suicide prevention model, which includes recognition, risk assessment and intervention. The main steps of the model are the recognition of warning signs (communicative or behavioural), exploration of crisis situation and/or psychopathologic symptoms, assessment of protective and risk factors, estimation of suicide risk and a plan for management of suicidal patients through different levels of interventions. In the management of suicidal behaviour, the complex stress-diathesis model has to be adjusted by considering biological markers and psycho-social factors. Only after the assessment of these factors can primary care professionals, as gatekeepers, manage suicidal patients effectively by using adequate psychopharmacotherapeutic

and psychotherapeutic interventions in the recognition, treatment and prevention of suicidal behaviour.

Adolescents' suicidal thinking and reluctance to consult general medical practitioners

Wilson CJ, Deane FP, Marshall KL, Dalley A (Australia)

Journal of Youth and Adolescence 39, 343-356, 2010

Appropriate help-seeking is widely recognized as a protective factor, and vital for early treatment and prevention of mental health problems during adolescence. General medical practitioners (GPs), that is, family doctors, provide a vital role in the identification of adolescents with mental health problems and the provision of treatment as well as access to other specialists in mental health care services. The current study examined the association between suicidal ideation and intentions to seek help from a GP for suicidal thoughts, emotional problems and physical health problems, using a sample of 590 Australian high school students that was 56.7% female and aged 13-18 years ($M = 15.56$ years, $SD = .66$ years). Higher levels of suicidal ideation and general psychological distress were related to lower intentions to seek help from a GP for suicidal and physical problems. The results suggest that even at subclinical levels, increases in suicidal ideation or psychological distress may lead to help avoidance. School personnel and other gatekeepers need to be aware of this trend in order to be more assertive in encouraging and supporting appropriate help-seeking for mental health problems. School health promotion programs should consider including information to explicitly address the help-negation process.

Mental health service use among suicidal adolescents: findings from a U.S. national community survey

Wu P, Katic BJ, Liu X, Fan B, Fuller CJ (USA)

Psychiatric Services 61, 17-24, 2010

Objective: This study assessed patterns of mental health service use among adolescents who had attempted suicide and examined factors associated with their service use at individual, family, and community levels.

Methods: Bivariate and multiple logistic regression analyses were conducted with data from 877 adolescents aged 12-17 who had attempted suicide in the past 12 months and who participated in the 2000 National Household Survey on Drug Abuse.

Results: Of the 877 adolescents, less than half (45%) reported that they had used mental health services in the past 12 months. Adolescents from racial-ethnic minority groups were less likely than whites to receive inpatient or outpatient mental health treatment, even when the analyses controlled for other

demographic, individual, and family and community characteristics. Poor self-perceived health and living in a single-parent family were associated with use of inpatient services. Female gender, higher family income, participation in extracurricular activities, and the presence of symptoms of anxiety or disruptive disorders were associated with use of outpatient services. Use of school-based mental health services was associated only with participation in extracurricular activities.

Conclusions: The mental health service needs of suicidal adolescents, especially those from ethnic minority groups and lower-income families, too frequently remain unmet. Larger racial-ethnic disparities were found in use of inpatient and outpatient mental health services than in use of school-based services. Mental health services offered within school settings can reach suicidal adolescents who need services but may experience barriers to standard types of care.

The evolution of depression and suicidality in first episode psychosis

Upthegrove R, Birchwood M, Ross K, Brunett K, McCollum R, Jones L (UK)
Acta Psychiatrica Scandinavica. Published online: 18 November 2009. doi: 10.1111/j.1600-0447.2009.01506.x, 2009

Objective: To have a clearer understanding of the ebb and flow of depression and suicidal thinking in the early phase of psychosis, whether these events are predictable and how they relate to the early course of psychotic symptoms.

Method: Ninety-two patients with first episode psychosis (FEP) completed measures of depression, including prodromal depression, self-harm and duration of untreated psychosis. Follow-up took place over 12 months.

Results: Depression occurred in 80% of patients at one or more phases of FEP; a combination of depression and suicidal thinking was present in 63%. Depression in the prodromal phase was the most significant predictor of future depression and acts of self-harm.

Conclusion: Depression early in the emergence of a psychosis is fundamental to the development of future depression and suicidal thinking. Efforts to predict and reduce depression and deliberate self-harm in psychosis may need to target this early phase to reduce later risk.

Association between parity and risk of suicide among parous women

Yang CY (Taiwan)
Canadian Medical Association Journal 182, 569-672, 2010

Background: There are limited empirical data to support the theory of a protective effect of parenthood against suicide, as proposed by Durkheim in 1897.

I conducted this study to examine whether there is an association between parity and risk of death from suicide among women.

Methods: The study cohort consisted of 1,292,462 women in Taiwan who had a first live birth between Jan. 1, 1978, and Dec. 31, 1987. The women were followed up from the date of their first birth to Dec. 31, 2007. Their vital status was ascertained by means of linking records with data from a computerized mortality database. Cox proportional hazard regression models were used to estimate hazard ratios of death from suicide associated with parity.

Results: There were 2252 deaths from suicide during 32,464,187 person-years of follow-up. Suicide-related mortality was 6.94 per 100,000 person-years. After adjustment for age at first birth, marital status, years of schooling and place of delivery, the adjusted hazard ratio was 0.61 (95% confidence interval [CI] 0.54-0.68) among women with two live births and 0.40 (95% CI 0.35-0.45) among those with three or more live births, compared with women who had one live birth. I observed a significantly decreasing trend in adjusted hazard ratios of suicide with increasing parity.

Interpretation: This study provides evidence to support Durkheim's hypothesis that parenthood confers a protective effect against suicide.

Restricting the means of suicide by charcoal burning

Yip PS, Law CK, Fu KW, Law YW, Wong PW, Xu Y (Hong Kong)

British Journal of Psychiatry 196, 241-242, 2010

We conducted an exploratory controlled trial to examine the efficacy of restricting access to charcoal in preventing suicides from carbon monoxide poisoning by charcoal burning in Hong Kong. All charcoal packs were removed from the open shelves of major retail outlets in the intervention region for 12 months; in the control region, charcoal packs were displayed as usual. The suicide rate from charcoal burning was reduced by a statistically significant margin in the intervention region ($P < 0.05$) but not in the control region. We observed no significant change in the suicide rate using other methods in either location.

Economic growth and suicide rate changes: a case in China from 1982 to 2005

Zhang J, Ma J, Jia C, Sun J, Guo X, Xu A, Li W (China)

European Psychiatry 25, 159-163, 2010

Objectives: It is to estimate the trend of suicide rate changes during the past three decades in China and try to identify its social and economic correlates.

Methods: Official data of suicide rates and economic indexes during 1982-2005 from Shandong Province of China were analyzed. The suicide data were categorized for the rural / urban location and gender, and the economic indexes include GDP, GDP per capita, rural income, and urban income, all adjusted for inflation.

Results: We found a significant increase of economic development and decrease of suicide rates over the past decades under study. The suicide rate decrease is correlated with the tremendous growth of economy.

Conclusion: The unusual decrease of Chinese suicide rates in the past decades is accounted for within the Chinese cultural contexts and maybe by the Strain Theory of Suicide.

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NON-FATAL SUICIDAL BEHAVIOUR

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