

Volume 1

SUICIDE RESEARCH: SELECTED READINGS

K. Andersen, J. Svetlicic, D. De Leo

November 2008–April 2009

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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Contents

Foreword	v
Acknowledgments	vi
Introduction	
Context	1
Methodology	2
Key articles	
Aseltine et al, 2009. Age variability in the association between heavy episodic drinking and adolescent suicide attempts: findings from a large-scale, school-based screening program	8
Bakst et al, 2009. Antecedents and patterns of suicide behavior in first-admission psychosis.....	10
Belik et al, 2009. Relation between traumatic events and suicide attempts in Canadian military personnel	12
Cougnaud et al, 2008. Impact of antidepressants on the risk of suicide in patients with depression in real-life conditions: a decision analysis model	14
Fazel et al, 2008. Suicide in prisoners: a systematic review of risk factors	16
Hedstrom et al, 2008. Interaction domains and suicide: a population-based panel study of suicides in Stockholm, 1991–1999	18
Hintikka et al, 2009. Are factors associated with suicidal ideation true risk factors? A 3-year prospective follow-up study in a general population	20
Hunt et al, 2009. Suicide in recently discharged psychiatric patients: a case-control study.....	22
Janofsky JS, 2009. Reducing inpatient suicide risk: using human factors analysis to improve observation practices	24
Johannessen et al, 2009. Changes in institutional psychiatric care and suicidal behaviour: a follow-up study of inpatient suicide attempters in Baerum, Norway.....	26
Klomek et al, 2009. Childhood bullying behaviors as a risk for suicide attempts and completed suicides: a population-based birth cohort study	28
Klonsky, 2009. The functions of self-injury in young adults who cut themselves: clarifying the evidence for affect-regulation.....	30
Kposowa, 2009. Psychiatrist availability, social disintegration, and suicide deaths in US counties, 1990–1995	32

Lauterbach et al, 2008. Adjunctive lithium treatment in the prevention of suicidal behaviour in depressive disorders: a randomised, placebo-controlled, 1-year trial	34
Lawrence, 2008. What is lost when searching only one literature database for articles relevant to injury prevention and safety promotion?	36
Lin et al, 2009. Risk factors for suicide following hospital discharge among cancer patients	38
Scott et al, 2009. School-based screening to identify at-risk students not already known to school professionals: the Columbia Suicide Screen	40
Smith et al, 2009. Association between consistent purchase of anticonvulsants or Lithium and suicide risk: a longitudinal cohort study from Denmark, 1995-2001	42
Taylor et al, 2009. Attitudes towards clinical services among people who self-harm: systematic review.....	44
Thompson et al, 2009. Transitions in suicide risk in a nationally representative sample of adolescents	46
Thorlindsson et al, 2009. Community structural instability, anomie, imitation and adolescent suicidal behavior	48
Valenstein et al, 2009. Service implications of providing intensive monitoring during high-risk periods for suicide among VA patients with depression.....	50
Wang et al, 2009. Migraine and suicidal ideation in adolescents aged 13 to 15 years	52
Wilcox et al, 2009. Posttraumatic stress disorder and suicide attempts in a community sample of urban American young adults ..	54
Witte et al, 2009. Do major depressive disorder and dysthymic disorder confer differential risk for suicide?	56
Recommended readings	59
Citation list	
Fatal suicidal behaviour:	
Epidemiology	140
Risk and protective factors	147
Prevention	153
Postvention and bereavement	157
Non-fatal suicidal behaviour:	
Epidemiology	159
Risk and protective factors	161
Prevention	174
Care and support	175
Case reports	178
Miscellaneous.....	181

Foreword

This volume contains quotations from internationally peer-reviewed suicide research published during the semester November 2008–April 2009; it is meant to be the first 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; their abstracts are reported *in extenso*, underlining our invitation to read those papers in full text: they represent a remarkable advancement of suicide research knowledge.

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

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

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

Diego De Leo, DSc

Director, Australian Institute for Suicide Research and Prevention

Acknowledgments

This report has been produced by the Australian Institute for Suicide Research and Prevention, WHO Collaborating Centre for Research and Training in Suicide Prevention and National Centre of Excellence in Suicide Prevention. The assistance of the Commonwealth Department of Health and Aging in the funding of this report is gratefully acknowledged.

Introduction

Context

Suicide places a substantial burden on individuals, communities and society in terms of emotional, economic and health care costs. In Australia, about 2000 people die from suicide every year, a death rate well in excess of transport-related mortality. At the time of preparing this volume, the latest available statistics released by the Australian Bureau of Statistics¹ indicated that in 2007 1,881 deaths by suicide were registered in Australia, representing an age-standardized rate of 8.9 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, 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)
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 2008 and April 2009; 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 2008 to April 2009. 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).

A determination of the sources to be selected and included was made according to the following criteria:

- Timeliness: the article was published (either electronically or in hard-copy) between November 2008 and April 2009.
- 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.
- The article was published in an international, peer-reviewed journal.

Articles regarding euthanasia, assisted suicide, suicide terrorist attacks, and/or book reviews, abstracts and conference presentations were excluded.

Phase 2

Following an initial reading of the abstracts (retrieved in Phase One), the list of articles was refined down to the most relevant literature.

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 Public Health Resource Unit, England (2006) *Critical Appraisal Skills Programme (CASP) Appraisal Tools*. 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 which is both evidence-based and of potential relevance to the Australian context. Thus, the final stage of Phase 2 of the literature search focused on research conducted in countries with populations or health systems sufficiently comparable to Australia. 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). For this review, 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 ('Recommended readings' for the considered timeframe), a written comment was produced for each article detailing:

- methodological strengths and weaknesses (e.g., sample size, validity of measurement instruments, appropriateness of analysis performed)
- practical implications of the research results to the Australian context
- suggestions for integrating research findings within the domains of the LIFE framework suicide prevention activities.

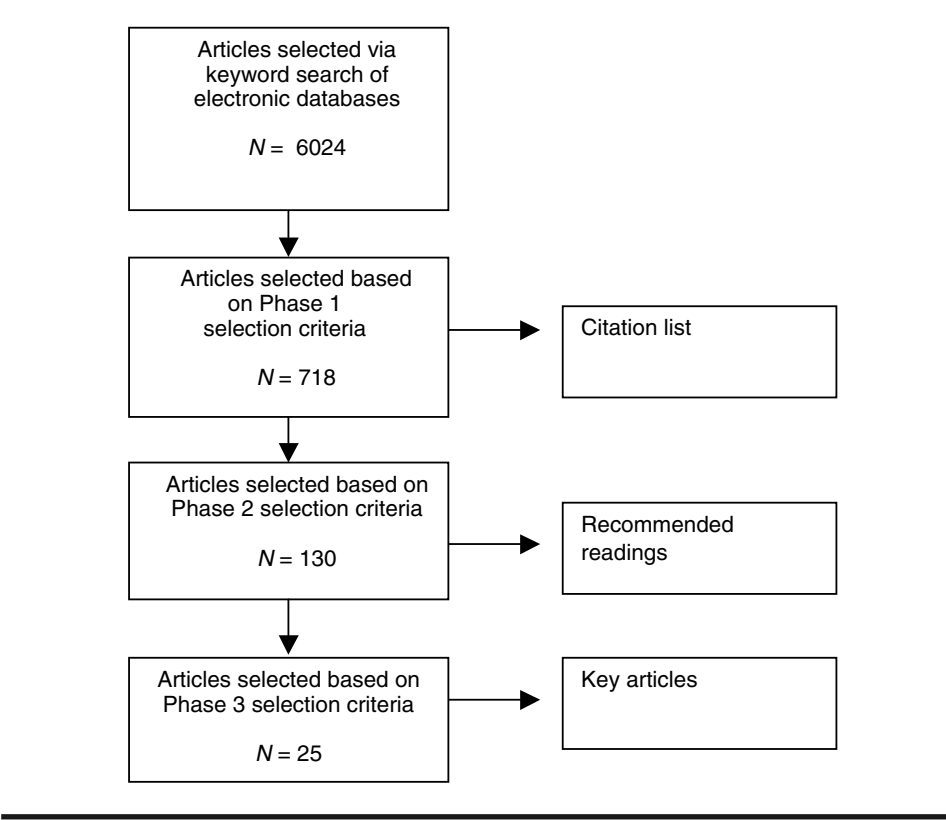


Figure 1 Flowchart of process.

Phase 4

In the final phase of the search procedure all articles were divided into the following classifications: Fatal Suicidal Behaviour (epidemiology, risk and protective factors, prevention, bereavement and post-vention, care and support) and Non-Fatal Suicidal/Self-Harming Behaviours (epidemiology, risk and protective factors, prevention, bereavement and post-vention, care and support). An additional category of Case Reports includes reports of fatal and non-fatal suicidal behaviours. 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.

Endnotes

- 1 Australian Bureau of Statistics. (2009a). *Causes of death, Australia, 2007*, suicides (Cat. No. 3303.0). Canberra, Australia..
- 2 Page A, Tobias M, Glover J, Wright C, Hetzel D, Fisher E (2006). *Australian and New Zealand atlas of avoidable mortality*. Adelaide, Australia: Public Health Information Development Unit, University of Adelaide.
- 4 Australian Bureau of Statistics. (2009b). *Causes of death, Australia, 2007*, technical note 1 (Cat. No. 3303.0). Canberra, Australia.
- 5 Australian Bureau of Statistics. (2009c). *Causes of death, Australia, 2007*, explanatory notes (Cat. No. 3303.0). Canberra, Australia.
- 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.

Key Articles

Age variability in the association between heavy episodic drinking and adolescent suicide attempts: findings from a large-scale, school-based screening program

RH Aseltine, EA Schilling, A James, J. Glanovsky, D Jacobs (USA)

Journal of the American Academy of Child and Adolescent Psychiatry 48, 263–271, 2009

Objective: Alcohol use is a risk factor for suicidal behavior among adolescents, but it is not clear whether this association is consistent during the adolescent period. This study examined the age-specific associations between heavy episodic drinking (HED) and self-reported suicide attempts in a large and diverse sample of adolescents.

Method: Screening data from 32,217 students, between the ages of 11 and 19 years, in 225 schools were analysed. Logistic regression analyses estimating the impact of HED on self-reported suicide attempts in the past year were performed.

Results: Heavy episodic drinking was significantly associated with self-reported suicide attempts (odds ratio 1.78, $p < .05$) controlling for depressive symptoms. However, there was substantial age variability in this association, with the association between HED and self-reported attempts stronger among younger adolescents. Among youths aged 13 years and younger, those who reported an episode of HED during the past year were roughly 2.6 times more likely to report an attempt than those who did not report HED in the past year, in contrast to 1.2 times among youths aged 18 years and older.

Conclusions: Heavy episodic drinking is a clear risk factor for suicidal behavior among younger adolescents, beyond the risk conveyed by depressive symptoms. Further research investigating the bases for increased suicide risk among younger adolescents engaging in HED is warranted. Results provide support to AACAP's practice parameters calling for attention to substance abuse in the assessment of suicide risk and suggest that routine screening for HED by physicians may improve the detection of adolescent suicide risk, particularly among younger adolescents.

Comment

Main findings: Binge drinking is an issue of increasing concern in Australia and internationally and a well-recognized factor associated with increased risk for suicidal behaviour. The most striking finding of this study was evidence that younger binge drinking adolescents (under age 13) were at highest risk for suicide attempt (more than twofold that of the risk in the 18+ age group) compared to non-binge drinking peers.

Implications: Recent research from Australia showed that a fifth of young Australians engage in regular (at least monthly) high-risk drinking.¹ In 2009, NHMRC released Australian alcohol guidelines to reduce health risks from drinking alcohol, which aim to assist State and Commonwealth Health Authorities in developing community awareness campaigns. This study is therefore timely and the findings suggest that routine screening for alcohol use would improve detection of adolescents at risk for suicide attempts. Since the motives for young people engaging in binge drinking are complex and varied, further exploration of biological basis and socio-developmental factors are still needed to assure effective prevention, early intervention and treatment programs.

Endnote

- 1 Livingstone M, Laslett AM, Dietze P (2008). Individual and community correlates of young people's high-risk drinking in Victoria, Australia. *Drug and Alcohol Dependence*, 98, 241–248.

Antecedents and patterns of suicide behavior in first-admission psychosis

S Bakst, J Rabinowitz, EJ Bromet (UK)

Schizophrenia Bulletin Published online: 9 March 2009. doi: 10.1093/schbul/sbp001, 2009

Background: Persons with psychotic illnesses have an increased risk for suicide, especially early in the illness. Sufficient knowledge allowing for early recognition is lacking.

Objectives: To describe suicide behaviors before and during the 4 years following first psychiatric hospitalisation, examine associations of demographic and psychiatric risk factors, and develop a suicide risk index.

Method: Data came from the Suffolk County Mental Health Project, a first-admission cohort ($n = 529$). Cox regression was used to study associations of risk factors to suicide behaviors; a summary suicide behavior risk index was also tested.

Results: Prior to first admission, 28.0% ($n = 148$) of the cohort had attempted suicide. During the 4-year follow-up, 13.6% ($n = 72$) of the cohort attempted suicide (29.7% of those with previous attempts and 7.3% making their first attempt) and 3 respondents died of suicide. The significant predictors at index admission of subsequent attempts were prior attempts or ideation, severity of depressive symptoms and thought disorder, lifetime substance abuse, and younger age. Suicide ideation was predicted by the same variables with the addition of insight into illness and with the exception of age at admission. A 3-category risk index was created; 61.1% of those who made a suicide attempt were in the highest risk group ($n = 44/72$).

Conclusion: The current study confirms and extends previous research showing that risk factors early in the course of illness are predictive of subsequent ideation and attempts. The risk index may be a useful adjunct in identifying individuals likely to benefit from preventive interventions.

Comment

Methodological issues: An increased risk for suicidal behaviour in patients with psychotic disorders, has been well documented, yet literature on suicide risk factors in first-admission psychosis to date has been scarce. This article presents important findings on risk factors associated with subsequent non-fatal suicidal behaviour in this vulnerable population, combining assessments at the time of admission with a prospective study of predictors of suicide ideation and attempts during the 4-year period following admission. A history of suicide attempts was found to be the most significant predictor of subsequent suicide ideation and/or suicide attempt after release from the hospital (increasing the risk four- and sevenfold, respectively). Results were drawn from a robust sample of participating subjects, covering a wide range of demographic and illness-related variables. A further advantage of the study was the longitudinal design, enabling exploration of causal pathways in suicidal behaviour.

Implications: Incidence of lifetime suicide attempts remains the most significant predictor of later suicide attempt, even in patients admitted with a first episode of psychosis. Identification of these high-risk patients has the potential to reduce suicide rates in psychosis sufferers. Based on the presence or absence of identified risk factors the authors presented a Summary Risk Index, placing patients into 'high-', 'intermediate-' or 'low-risk' groups. While the presence of no more than two of the identified risk factors means the patient has a low probability of future suicidal behaviour, presence of a past suicide attempt automatically places them in a high-risk category. The proposed risk index may have potential in guiding clinicians in recognising high-risk patients; however, predictive values of this measure will need to be evaluated in additional cohorts.

Relation between traumatic events and suicide attempts in Canadian military personnel

SL Belik, MB Stein, GJ Asmundson, J Sareen (Canada)

Canadian Journal of Psychiatry 54, 93–104, 2009

Objective: To determine whether exposure to particular types of traumatic events was differentially associated with suicide attempts in a representative sample of active military personnel.

Method: Data came from the Canadian Community Health Survey: Mental Health and Well-Being Canadian Forces Supplement (CCHS-CFS), a cross-sectional survey that provided a comprehensive examination of mental disorders, health, and the well-being of currently active Canadian military personnel ($n = 8441$; aged 16 to 54 years; response rate 81.1%). Respondents were asked about exposure to 28 traumatic events that occurred during their lifetime. Suicide attempts were measured using a question about whether the person ever ‘attempted suicide or tried to take [his or her] own life’.

Results: The prevalence of lifetime suicide attempts for currently active Canadian military men and women was 2.2% and 5.6%, respectively. Sexual and other interpersonal traumas (for example, rape, sexual assault, spousal abuse, child abuse) were significantly associated with suicide attempts in both men (adjusted odds ratios [AORs] ranging from 2.31 to 4.43) and women (AORs ranging from 1.73 to 3.71), even after adjusting for sociodemographics and mental disorders. Additionally, the number of traumatic events experienced was positively associated with increased risk of suicide attempts, indicating a dose-response effect of exposure to trauma.

Conclusions: The current study is the first to demonstrate that sexual and other interpersonal traumatic events are associated with suicide attempts in a representative sample of active Canadian military men and women.

Comment

Main findings: This is the first study investigating the association between traumatic life events and suicide attempts in a sample of active military personnel. The article provides an effective representation of the link between suicide and sexual abuse (both within and outside the military context). The authors found that sexual and other interpersonal traumas are highly associated with suicide attempts in both genders, even after taking into account the influence of mental disorders. Despite several methodological limitations arising from the cross-sectional research design, in particular an incapacity to explore the sequencing of exposure to each life event with the onset of suicidal behaviour (e.g. when did the event occur relative to the development of suicidal behaviour), the study contributes to the knowledge of risk factors in this, to date neglected, population.

Implications: The research findings suggest that a history of traumatic events (particularly multiple exposures) should be considered a warning sign of future suicide attempts in military personnel. As such it seems advantageous to assess and address lifetime history of trauma when implementing suicide prevention interventions within military contexts. Interestingly, trauma related to deployment does not appear to increase suicide risk, except perhaps through the development of psychiatric illness. Therefore, it seems of benefit to place greater emphasis on the identification and treatment of interpersonal traumas (sexual abuse etc).

Impact of antidepressants on the risk of suicide in patients with depression in real-life conditions: a decision analysis model

A Cougnard, H Verdoux, A Grolleau, Y Moride, B Begaud, M Tournier (France)

Psychological Medicine. Published online: 9 December 2009. doi:10.1017/S003329170800473X, 2008

Background: The impact of antidepressant drug treatment (ADT) on the risk of suicide is uncertain. The aim of this study was to determine in a real-life setting whether ADT is associated with an increased or a reduced risk of suicide compared to absence of ADT (no-ADT) in patients with depression.

Method: A decision analysis method was used to estimate the number of suicides prevented or induced by ADT in children and adolescents (10–19 years old), adults (20–64 years old) and the elderly (65 years) diagnosed with major depression. The impact of gender and parasuicide history on the findings was explored within each age group. Sensitivity analyses were used to assess the robustness of the models.

Results: Prescribing ADT to all patients diagnosed with depression would prevent more than one out of three suicide deaths compared to the no-ADT strategy, irrespective of age, gender or parasuicide history. Sensitivity analyses showed that persistence in taking ADT would be the main characteristic influencing the effectiveness of ADT on suicide risk.

Conclusions: Public health decisions that contribute directly or indirectly to reducing the number of patients with depression who are effectively administered ADT may paradoxically induce a rise in the number of suicides.

Comment

Main findings: Depression has long been recognized in the literature as a risk factor for suicidal behaviour, and thus much effort has been expended towards treating the disease. However, recently several studies have suggested that there may be an increased risk of suicide associated with antidepressant drugs, in particular in children and adolescents. To date, no research has approached the question by applying a decision analysis model; therefore this article is unique in its approach, demonstrating that antidepressant drug treatment has the potential to prevent more than a third of suicides. The most remarkable and practically applicable finding is the role of patients' compliance in treatment outcome. Still, results should be interpreted with care, as the analysis was based on probability estimates for risk of suicide in various therapeutic options.

Implications: Cougnard and colleagues suggest that under-treatment of depression carries the risk of inducing more suicides. Potentially, under-treatment of depression could be minimized by strategies such as providing clinicians with appropriate depression screening tools, educating clinicians on appropriate dosages of psychotropic medication, and addressing community stigma associated with mental illness. Despite some evidence from prior literature that antidepressants may be associated with suicidality in children and adolescents, this study demonstrates that the benefits of antidepressant treatment in this population outweigh the potential risk (one out of five suicide deaths avoided). Furthermore, as the authors attest, it may be beneficial to devote increased attention to monitoring patients' adherence to anti-depressant treatment, by providing information on the potential risks involved with premature discontinuation.

Suicide in prisoners: a systematic review of risk factors

S Fazel, J Cartwright, A Norman-Nott, K Hawton (USA, UK)

Journal of Clinical Psychiatry 69, 1721–1731, 2008

Objective: To examine factors associated with suicide in prisoners. Data Sources: Studies were identified through electronic searches of MEDLINE (1950–February 2007), PsycINFO (1806–February 2007), EMBASE (1974–February 2007), and CINAHL (1982–February 2007) without language restriction using the search terms prison, jail, felon, detainee, penal, and custody combined with suicide.

Study selection: Included studies were investigations that reported on prisoners dying by suicide who were compared with prisoners in control groups (which were randomly selected or matched, or consisted of the total or average prison population). Subgroup analysis and meta-regression were used to explore sources of heterogeneity.

Data synthesis: Thirty-four studies (comprising 4780 cases of prison suicide) were identified for inclusion in the review, of which 12 were based in the United States. Demographic factors associated with suicide included white race/ethnicity (OR = 1.9, 95% CI = 1.7 to 2.2), being male (OR = 1.9, 95% CI = 1.4 to 2.5), and being married (OR = 1.5, 95% CI = 1.3 to 1.7). Criminological factors included occupation of a single cell (OR = 9.1, 95% CI = 6.1 to 13.5), detainee/remand status (OR = 4.1, 95% CI = 3.5 to 4.8), and serving a life sentence (OR = 3.9, 95% CI = 1.1 to 13.3). Clinical factors were recent suicidal ideation (OR = 15.2, 95% CI = 8.5 to 27.2), history of attempted suicide (OR = 8.4, 95% CI = 6.2 to 11.4), having a current psychiatric diagnosis (OR = 5.9, 95% CI = 2.3 to 15.4), receiving psychotropic medication (OR = 4.2, 95% CI = 2.9 to 6.0), and having a history of alcohol use problems (OR = 3.0, 95% CI = 1.9 to 4.6). Black race/ethnicity was inversely associated with suicide (OR = 0.4, 95% CI = 0.3 to 0.4). Few differences were found in risk estimates when compared by study design or publication type.

Conclusions: Several demographic, criminological, and clinical factors were found to be associated with suicide in prisoners, the most important being occupation of a single cell, recent suicidal ideation, a history of attempted suicide, and having a psychiatric diagnosis or history of alcohol use problems. As some of these associations included potentially modifiable environmental and clinical factors, there is scope for targeting these factors in suicide prevention strategies for individuals in custody.

Comment

Main findings: Suicide in correctional facilities is more prevalent than in the general population, and constitutes the leading cause of death for those in custody. International literature on suicide risk factors has so far yielded some contradictory results, and consequently there has been a need for synthesis and critical evaluation of these data. This meta-analysis of research articles covered a wide time-frame and was inclusive of gray literature (often not included in meta-analyses). Despite methodological issues arising from limitations inherent in particular to meta-analysis (e.g. inconsistency in diagnostic measures and heterogeneity in risk estimates associated with some risk factors), this study represents an important contribution to the existing literature.

Implications: In Australia, the number of individuals housed in correctional institutions has been increasing over the last two decades, reaching an imprisonment rate of 169 prisoners per 100,000 adult persons in 2008¹. The last comprehensive evaluation of the incidence of suicide in Australian prisons, which was conducted in 1999², showed that suicides accounted for 47% of all deaths in custody. The high rate of suicide in Australian correctional institutions suggests the need for identification and a closer examination of suicide risk factors specific to the prison context, and as such this meta-analysis is timely. Although almost half the studies included in the meta-analysis originated in the United States, many practical implications were identified which could be adapted to the Australian context. First, it was found that the prison population shares many of the same risk factors as the general population. As in the general population, a history of suicide attempts or the presence of suicidal ideation should constitute warning signs for suicide risk. Likewise, it may be beneficial to place greater emphasis on the identification and treatment of mental illness and alcohol abuse among prisoners, both recognized as major risk factors for suicide in prisoners and in the general population. In addition, the article highlighted potentially modifiable institutional factors — for example, it appears that placing high-risk prisoners in single cell accommodation significantly increases the likelihood of a suicide attempt. Prisoners on remand also appear to be at increased risk of suicide. The impacts of other environmental factors and a better understanding of precipitating, psychological and motivating factors for suicidal behaviour in Australian prisons is still needed.

Endnotes

- 1 Australian Bureau of Statistics (2008). *Prisoners in Australia*. Cat No. 4517.0. ABS: Canberra, Australia.
- 2 Dalton V (1999). Death and dying in prison in Australia: national overview, 1980–1998. *Journal of Law, Medicine & Ethics* 27, 269–274.

Interaction domains and suicide: a population-based panel study of suicides in Stockholm, 1991–1999

P Hedstrom, KY Liu, MK Nordvik (Sweden)

Social Forces 87, 713–740, 2008

This article examines how suicides influence suicide risks of others within two interaction domains: the family and the workplace. A distinction is made between dyad-based social-interaction effects and degree-based exposure effects. A unique database including till individuals who ever lived in Stockholm during the 1990s is analysed. For about 5.6 years on average, 1.2 million individuals are observed, and 1,116 of them commit suicide. Controlling for other risk factors, men exposed to a suicide in the family (at work) are 8.3 (3.5) times more likely to commit suicide than non-exposed men. The social-interaction effect thus is larger within the family domain; yet work-domain exposure is more important for the suicide rate because individuals are more often exposed to suicides of co-workers than family members.

Comment

Main findings: The association between exposure to suicide in the family and suicide completions in exposed individuals has long been supported in the literature. However, this study represents the first investigation of the effect of the suicide of a colleague at work on suicide figures. This would support existing literature¹, which suggests that a suicide outside the family may be equally or more important than a suicide occurring within the family domain. This is particularly evident in men, exposed to suicide of a colleague in workplaces with less than 100 employees. Whilst this rate is lower than the 8 times greater risk of suicide for males exposed to a suicide within the family, it is logical to assume that individuals are more likely to be exposed to the suicide of a colleague due to the fact that there is a greater number of people in the work environment compared to the family.

Access to a unique and comprehensive source of data (comprising the entire adult population of Stockholm across a 9-year period) meant that this study overcome many of the common limitations of suicide research (i.e. small sample size, low incidence of suicide, missing data, attrition), resulting in conclusions which are highly credible. A limitation of the study was the inability to control for possibly influential factors such as levels of workplace stress, implying that suicide risk may fluctuate between work environments.

Implications: The results of this study suggest that there may be some benefit in incorporating debriefing sessions into workplaces in which there has been a suicide. Such sessions could address issues such as traumatic reactions in exposed colleagues, recognition of suicide risk factors, and information regarding crisis and mental health support services. Further, there may be the potential for developing suicide prevention and postvention strategies specifically targeting the work environment. Examples may include deployment of crisis response teams to affected places of employment, in order to provide information regarding recognition of suicide risk factors, appropriate methods of responding to suicide risk, and available mental health support services.

Endnote

- 1 De Leo D, Heller T (2008). Social modeling in the transmission of suicidality. *Crisis* 29, 11–19.

Are factors associated with suicidal ideation true risk factors? A 3-year prospective follow-up study in a general population

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Social Psychiatry & Psychiatric Epidemiology 44, 29–33, 2009

Adverse life events or the commencement of adverse lifestyles associate with suicidal ideation, but most associations only have been identified in cross-sectional studies. More information is needed about whether they are true risk factors and independently predict the development of suicidal ideation. A sample of the general population from Eastern Finland ($n = 1,339$) was followed up for 3 years with baseline and two follow-up assessments using postal questionnaires. The main adverse life events and changes in lifestyles were screened at baseline and on 1- and 3-year follow-up. The Beck Depression Inventory was used to assess the level of depression and the presence of suicidal ideation. Suicidal ideation was common in the sample (annual incidence 4.3%). At baseline it associated with a cluster of adverse life events and lifestyles, as well as depression. Nevertheless, only the Beck Depression Inventory score on 3-year follow-up (OR 1.33, 95% CI 1.22–1.45) and the onset of daily smoking during the follow-up period (OR 5.38, 95% CI 1.41–20.62) independently predicted the presence of suicidal ideation on 3-year follow-up among those who had been non-suicidal at baseline and on 1-year follow-up. Depressive mood appears to be a necessary precondition for the occurrence of suicidal ideation even after adverse life events.

Comment

Main findings: Mental disorders have long been recognized as a major contributor to development of suicidal behaviour. This research, which formed part of a larger study on depression, was conducted over 3 years and aimed at differentiating the effect of depression from adverse life events (such as alcohol consumption, marital status, financial adversity) in suicidality. The study tried to clarify if the various risk factors considered occur prior to or as a result of the development of suicidal ideation. After controlling for other factors, depression was found to independently predict suicidal ideation.

Implications: The presence of depressive symptoms should be considered a potential marker for suicidality, particularly in individuals who have suffered adverse life events. Study results also indicate that although adverse socio-demographic factors and life events may contribute to suicidality, these factors alone may not be able to predict suicidal behaviour. Rather, the presence of depression (either overt or underlying) seems necessary for the development of suicidal behaviours. Consequently, it may be of benefit to include depression screening in suicide assessment of individuals presenting to clinicians with adverse life events.

Suicide in recently discharged psychiatric patients: a case-control study

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Psychological Medicine 39, 443–449, 2009

Background: Few controlled studies have specifically investigated aspects of mental health care in relation to suicide risk among recently discharged psychiatric patients. We aimed to identify risk factors, including variation in healthcare received, for suicide within 3 months of discharge.

Method: We conducted a national population-based case-control study of 238 psychiatric patients dying by suicide within 3 months of hospital discharge, matched on date of discharge to 238 living controls.

Results: Forty-three per cent of suicides occurred within a month of discharge, 47% of whom died before their first follow-up appointment. The first week and the first day after discharge were particular high-risk periods. Risk factors for suicide included a history of self-harm, a primary diagnosis of affective disorder, recent last contact with services and expressing clinical symptoms at last contact with staff. Suicide cases were more likely to have initiated their own discharge and to have missed their last appointment with services. Patients who were detained for compulsory treatment at last admission, or who were subject to enhanced levels of aftercare, were less likely to die by suicide.

Conclusions: The weeks after discharge from psychiatric care represent a critical period for suicide risk. Measures that could reduce risk include intensive and early community follow-up. Assessment of risk should include established risk factors as well as current mental state and there should be clear follow-up procedures for those who have self-discharged. Recent detention under the *Mental Health Act* and current use of enhanced levels of aftercare may be protective.

Comment

Main findings: Results from this case-control study, conducted on a large national sample of psychiatric patients recently released from in-patient care in England add valuable knowledge to the existing literature on increased suicide risk in psychiatric patients. Consistent with prior research on the topic, the main finding indicated a higher risk for suicide within the first month after discharge, with half of those occurring before the first out-patient appointment. Of further interest were several identified risk factors specific to suicide in the post-discharge period (e.g. discharge against medical advice), demonstrating that specific strategies need to be designed to address the issue of suicide among these individuals.

Implications: The findings of this study suggest a need for improvements in monitoring recently released psychiatric patients in their transitions into the community. In particular, attention should focus on patients with shorter length stays and those who self-discharge from institutional care. Several beneficial approaches to post-discharge care have been reported in international literature; for example ,regular letter or telephone based contacts with patients after discharge, and one Australian study has demonstrated some benefit to these interventions¹ (e.g. in terms of increasing compliance to treatment, reducing stigma etc). Further exploration of key contributors to increased risk are needed, focusing not only on clinical characteristics but also broader social environmental difficulties (e.g. stigma), faced by patients in their transition back into community.

Endnote

- 1 De Leo D, Heller T (2007). Intensive Case Management in suicide attempters following discharge from inpatient psychiatric care. *Australian Journal of Primary Health* 13, 49–58.

Reducing inpatient suicide risk: using human factors analysis to improve observation practices

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Journal of the American Academy of Psychiatry and the Law 37, 15–24, 2009

In 1995, the Joint Commission began requiring that hospitals report reviewable sentinel events as a condition of maintaining accreditation. Since then, inpatient suicide has been the second most common sentinel event reported to the Joint Commission. The Joint Commission emphasizes the need for around-the-clock observation for inpatients assessed as at high risk for suicide. However, there is sparse literature on the observation of psychiatric patients and no systematic studies or recommendations for best practices. Medical errors can best be reduced by focusing on systems improvements rather than individual provider mistakes. The author describes how failure modes and effects analysis (FMEA) was used proactively by an inpatient psychiatric treatment team to improve psychiatric observation practices by identifying and correcting potential observation process failures. Collection and implementation of observation risk reduction strategies across health care systems is needed to identify best practices and to reduce inpatient suicides.

Comment

Main findings: Scant literature exists documenting the possible association between observation of psychiatric inpatients and reduction in suicidal behaviors. This article is thus noteworthy in its investigation of this neglected topic. In essence, the author provides a detailed description of the use of one particular practice assessment model (human factors analysis) to identify issues and enhance observation practices in an American inpatient treatment facility. Improved communication between staff within facilities and between individual hospitals appears to be the key feature of effective observation strategies.

Implications: It is reasonable to assume that improved observation of inpatients may reduce the incidence of suicidal behaviors in inpatient care facilities. This study indicated that the majority of errors in patient care are the result of miscommunication between staff members, thus implementation of specific practices designed to improve staff communication could lead to the reduction of suicidal behaviour in inpatient facilities. Specifically, it was recommended that definitions of observation status be clearly defined in order that staff members share an understanding of a) what practices are involved in each level of patient observation (e.g. should the patient's door be left open or closed, when a doctor should be contacted, what medications are required by individual patients), and b) at which level of observation each patient remains. Changes to the observation status of individual patients (e.g. upgrading from intermittent to continual) should also be clearly documented and communicated between staff members. Additionally, it appears that the sharing of information between inpatient facilities regarding strengths and weaknesses of specific observation practices (e.g. what works and what doesn't) may assist in identifying and reducing reported errors in care that may result in patient suicidal behaviour or mortality.

Changes in institutional psychiatric care and suicidal behaviour: a follow-up study of inpatient suicide attempters in Baerum, Norway

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Social Psychiatry & Psychiatric Epidemiology. Published online: 27 February 2009.

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Background: During the past decades, extensive reformatory changes in institutional psychiatric care have been implemented in Norway.

Aims: The objective of the present study was to investigate whether these changes have resulted in shortened length of psychiatric hospital stays for suicide attempters. Further, to examine if length of hospital stay and time period in which the patients received treatment were related to the risk of a repeated suicide attempt and/or committing suicide.

Methods: All cases of suicide attempters hospitalized between 1984 and 2006 in the municipality of Baerum, a suburb outside Oslo, were examined. The period of observation was further subdivided in two time intervals on the basis of the de-institutionalisation of psychiatric care, which started to plateau in 1996.

Results: Among 1,574 patients consecutively admitted to the local general hospital after a suicide attempt, 330 were admitted to inpatient psychiatric care. Patients admitted in the period 1996–2006 had significantly shorter hospital stays than patients in the preceding period 1984–1995 (Log Rank $P < .001$). Neither the time period of treatment variable nor the length of hospital stay variable was significantly associated with the risk of a repeated suicide attempt or suicide.

Conclusions: Psychiatric de-institutionalisation appears as not having affected suicide attempt repetition. It is possible that reduced length of hospital stay has been compensated by improved mental health care in general and extended outpatient services in particular.

Comment

Main findings: Following the de-institutionalisation of psychiatric care in Australia, a process which began in the 1960's, there has been much debate as to whether the closure of psychiatric institutions has resulted in an increase in suicide rates. This comparative investigation of suicide rates, before and after implementation of Norwegian reformatory changes in psychiatric care, demonstrated that there was no increase in suicide attempts associated with de-institutionalisation despite reductions in length of hospital treatments and the closure of psychiatric hospitals. Analyses were performed by linking medical records of local psychiatric hospitals with national registry of deaths and, while limited to only one municipality, carry potential of generalizability to other milieus.

Implications: It may be argued that the more precise, focused and effective modern psychiatric treatments have reduced the need for long-term psychiatric hospitalisation (and the subsequent cost of such intensive treatment). Additionally, a main argument of this study is that adequate outpatient mental health services can compensate for a decrease in numbers of beds in psychiatric hospitals and subsequently shorter hospital stays. In order to achieve this, attention is needed on addressing the transition of patients from inpatient into community based care. In particular, attention should be given to establishing coordinated linkages between hospital and community care options, especially in the three months immediately post-discharge, which has been identified as a period of high suicide risk in psychiatric patients.

Childhood bullying behaviors as a risk for suicide attempts and completed suicides: a population-based birth cohort study

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Journal of the American Academy of Child & Adolescent Psychiatry 48, 254–261, 2009

Objective: There are no previous studies about the association of childhood bullying behavior with later suicide attempts and completed suicides among both sexes. The aim was to study associations between childhood bullying behaviors at age 8 years and suicide attempts and completed suicides up to age 25 years in a large representative population-based birth cohort.

Method: The sample includes 5,302 Finnish children born in 1981. Information about bullying was gathered at age 8 years from self-report, as well as parent and teacher reports. Information about suicide attempts requiring hospital admission and completed suicides was gathered from three different Finnish registries until the study participants were 25 years old. Regression analyses were conducted to determine whether children who experience childhood bullying behaviors are at risk for later suicide attempts and completed suicides after controlling for baseline conduct and depression symptoms.

Results: The association between bullying behavior at age 8 years and later suicide attempts and completed suicides varies by sex. Among boys, frequent bullying and victimization are associated with later suicide attempts and completed suicides but not after controlling for conduct and depression symptoms; frequent victimization among girls is associated with later suicide attempts and completed suicides, even after controlling for conduct and depression symptoms.

Conclusions: When examining childhood bullying behavior as a risk factor for later suicide attempts and completed suicides, each sex has a different risk profile.

Comment

Main findings: Childhood bullying is associated with later suicidal behaviour (attempts and completions) but only in females, according to this landmark Finnish study. This association remained significant even after taking into account the impact of depressive symptoms and conduct issues. This study is distinctive in that it is the first research to use a prospective population-based study design to specifically examine the association between bullying and suicidal behaviors. Furthermore, the large sample, followed over 16 years sustained an attrition rate of less than 10%, allowing researchers the rare opportunity (in research) to utilize an almost complete dataset of information about the participants.

Implications: This study provides evidence for the existence of a previously neglected suicide risk factor, especially for females. As the authors suggest, it may be advantageous to incorporate screening for bullying behaviors into primary school curriculums in order to identify children who may be at later risk of suicide. It may also be worth considering encouraging children (particularly females) who are identified as victims of bullying into school programs aimed at increasing resilience (e.g. teaching stress coping strategies and social skills, enhancing self-esteem) and addressing trauma symptoms. Additionally, educational packages designed to inform parents, care-givers, education staff and children about bullying (e.g. what constitutes bullying, how to respond to bullying) and incentives given to encourage schools to initiate anti-bullying programs may be of benefit.

The functions of self-injury in young adults who cut themselves: clarifying the evidence for affect-regulation

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Psychiatry Research 166, 260–268, 2009

The functions of non-suicidal self-injury were examined in 39 young adults with a history of skin-cutting and other self-injurious behaviors including banging, burning, and severe scratching. Consequences, affect-states, and reasons associated with self-injury were assessed by a structured interview. Results indicate that self-injury is associated with improvements in affective valence and decreases in affective arousal. Specifically, participants tended to feel overwhelmed, sad, and frustrated before self-injury, and relieved and calm after self-injury. Further, these affective changes predict lifetime frequency of self-injury, suggesting that they reinforce the behavior. Finally, although reasons for self-injury related to both affect-regulation (e.g. to release emotional pressure that builds up inside of me) and self-punishment (e.g., to express anger at myself) were endorsed by a majority of participants, affect-regulation reasons were overwhelmingly rated as primary and self-punishment reasons as secondary.

Comment

Main findings: It is known that the prevalence of self-harm in the general population is far greater than that of suicide. Contrary to popular belief that self-harm is an attention-seeking behaviour, past research has identified the most common motivations behind self-injurious behaviours as a) attempts to regulate negative affects and, b) as a means of self-punishment. While confirming the existence of these motivations, the research by Klonsky fills a gap in existing literature by specifically focusing on the changes in arousal and affective emotional states associated with self-cutting. Results show that the act of self-harm itself reduces negative emotional states (such as anxiety), while enhancing feelings of calm and relief. Such affective benefits then reinforce and increase the frequency of acts, increasing the likelihood that an individual will continue to engage in self-harming behaviours.

Implications: Findings of this study indicate that it may be beneficial for Australian clinicians to regularly assess not only frequency and intensity, but also the functions of patients' self-injurious behaviour. Equally, focusing treatment on encouraging patients in learning alternative strategies to cope with negative emotional states may prove to be an effective method of addressing self-harming behaviours.

Psychiatrist availability, social disintegration, and suicide deaths in U.S. counties, 1990–1995

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Journal of Community Psychology 37, 73–87, 2009

Previous studies have found that primary care resources are associated with various health outcomes. The primary purpose of the study was to test for associations between psychiatrist availability, social disintegration and suicide rates. Data utilized were from the 2002 Area Resource File on U.S. counties ($N = 3080$). Suicide rates were averaged over 6 years covering 1990 through 1995. Poisson and Negative binomial regression models were used to assess the association of psychiatrist availability and suicide rate ratios. Availability of psychiatrists was significantly related to suicide. Counties with greater availability of psychiatrists per 10,000 experienced a 0.12% reduction in their suicide rates ($\beta^2 = -0.0012$, incidence density ratio [IDR] = 0.9988, 95% CI = 0.9984–0.9992). Divorce strongly elevated suicide rates ($\beta = 0.0724$, IDR = 1.0751, 95% CI=1.0664–1.0858). Counties with a high percentage of men 65 years or older had significantly high suicide rates. An increase in the White population between 1980 and 1990 was also associated with a significant increase in suicide. Increases in psychiatrists reduced suicide rates, but the association was small. Psychiatrist availability may also partially reduce the effects of social disintegration at the county level. Primary care was not associated with suicide once other variables, including hospital beds were taken into account. Results provide evidence to suggest that greater mental health promotion might reduce area inequalities in suicide rates.

Comment

Main findings: Greater access to psychiatric care may reduce suicide rates according to this analysis of data, obtained from a comprehensive US database of health indices. This study, attempts to answer a long-lasting question: is the density of health services instrumental to reducing suicidal behavior or is it irrelevant? Results indicated that a 0.12% reduction in suicide was associated with areas in which there were a greater number of practicing psychiatrists. Scant literature exists investigating the associations between psychiatrist availability and suicide rates. This study is distinctive not only due to addressing a neglected issue but also because of the use of a large sample drawn from a comprehensive database.

Implications: The research findings suggest that increasing the availability of psychiatrists may result in a reduction in suicide rates. Although this study only considered psychiatric care rather than other forms of mental health care, it may be reasonable to assume that increased access to other mental health professionals, such as psychologists, may exert a similar protective influence on suicide. However, this necessitates further research. Equally, further investigation is needed into what aspect of psychiatric care enhances patient outcome (e.g. is it the type of therapy administered?). One limitation of this study was the impossibility to determine if lower suicide rates were the result of the number of available psychiatrists or the quality of the provided care. Hence it is possible that it may be more cost-effective to enhance the standard of existing psychiatric services, especially in low socio-economic areas, and also to reduce barriers to psychiatric care (such as cost to the patient and stigma associated with mental health treatment). This may be especially applicable to rural areas, which are traditionally locations where it is difficult to attract medical staff.

Adjunctive lithium treatment in the prevention of suicidal behaviour in depressive disorders: a randomized, placebo-controlled, 1-year trial

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Acta Psychiatrica Scandinavica 118, 469–479, 2008

Objective: Evidence based on controlled studies is still limited for treatment strategies that prevent recurrence of suicide attempts. Findings from observational as well as meta-analytic studies strongly suggest that lithium may have suicide-protective properties.

Method: Patients with a recent suicide attempt in the context of an affective spectrum disorder ($n = 167$) were treated with either lithium or placebo during a 12-month period.

Results: Survival analysis showed no significant difference of suicidal acts between lithium and placebo-treated individuals (adjusted hazard ratio 0.517; 95% CI 0.18–1.43). However, post hoc analysis revealed that all completed suicides had occurred in the placebo group accounting for a significant difference in incidence rates ($P = .049$).

Conclusion: Results indicate that lithium treatment might be effective in reducing the risk of completed suicide in adult patients with affective disorders. Our findings contribute to the growing body of evidence suggesting a specific antisuicidal effect of lithium.

Comment

Main findings: Decades of research have confirmed the suicide protective properties of lithium; however, continuing advances in the development of psychotropic medications has meant that the use of this medication has markedly declined in recent years. Adding to this already conspicuous body of evidence, results from this study confirm a lower risk for suicide attempts and completions in lithium users with affective disorders compared to patients given placebo. The research was limited by several methodological weaknesses (e.g. high attrition rates, small number of suicide events included in analysis) but, nonetheless, results may be influential in future suicide prevention measures.

Implications: Lithium represents a cost-effective, easily obtainable and effective suicide prevention intervention, particularly in patients identified as at high risk for suicide attempt. As the authors suggest, it may be of benefit to consider implementing lithium as an adjunct treatment (i.e. in combination with anti-depressants or other forms of therapy such as CBT) in the treatment of suicidal individuals. Moreover, the evidence that the anti-suicidal effect of lithium is independent of its mood-stabilising outcome, suggests that similar results might be obtained in future research on patients without a diagnosable affective disorder.

What is lost when searching only one literature database for articles relevant to injury prevention and safety promotion?

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Injury Prevention 14, 401–404, 2008

Objective: To assess what is lost if only one literature database is searched for articles relevant to injury prevention and safety promotion (IPSP) topics.

Method: Serial textword (keyword, free-text) searches using multiple synonym terms for five key IPSP topics (bicycle-related brain injuries, ethanol-impaired driving, house fires, road rage, and suicidal behaviors among adolescents) were conducted in four of the bibliographic databases that are most used by IPSP professionals: EMBASE, MEDLINE, PsycINFO, and Web of Science. Through a systematic procedure, an inventory of articles on each topic in each database was conducted to identify the total unduplicated count of all articles on each topic, the number of articles unique to each database, and the articles available if only one database is searched.

Results: No single database included all of the relevant articles on any topic, and the database with the broadest coverage differed by topic. A search of only one literature database will return 16.7–81.5% (median 43.4%) of the available articles on any of five key IPSP topics. Each database contributed unique articles to the total bibliography for each topic.

Conclusion: A literature search performed in only one database will, on average, lead to a loss of more than half of the available literature on a topic.

Comment

Main findings: A thorough and systematic database search of available literature published on the investigated topic is a crucial step not only in suicidology, but in all scientific domains. While the majority of systematic reviews employ searches of multiple databases and additional sources by citation tracking of individual original articles, professionals working in the injury prevention field usually search only one database. So far no study has compared the number of studies retrieved by keyword searches between several bibliographical databases; therefore this article is unique in its approach.

Implications: Researchers, practitioners and policy makers working in the field of suicide prevention rely on the continuous monitoring of international literature to inform the development of research and policy directions. Therefore an understanding of optimal techniques for performing online searches is of tremendous importance. An interdisciplinary tool for searching literature is currently being developed by SafetyLit with the primary purposes of identifying and clarifying important concepts within injury prevention and assisting researchers in achieving satisfactory coverage of relevant literature¹. Yet, until it is available, researchers should be aware that inclusion of more than one database is likely to maximize the potential for locating all relevant material on the topic under investigation.

Endnote

- 1 Lawrence DW, Guard A, Meier A, Laflamme L (2006). Developing the injury prevention and safety promotion thesaurus, international English edition: an interdisciplinary tool for indexing and searching for research literature. Progress report 1. *Safety Science* 44, 279–96.

Risk factors for suicide following hospital discharge among cancer patients

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Psychooncology. Published 20 January 2009. doi: 10.1002/pon.1483, 2009

Objectives: This study aims to examine risk factors associated with 3-month post-discharge suicide among cancer patients using Taiwan's nationwide, population-based datasets.

Methods: The study cohort comprised all cancer patients discharged from hospitals from 2002 to 2004, inclusive, who committed suicide within 90 days of discharge ($n = 311$). The control group consisted of 1555 cancer patients who did not commit suicide within 90 days of discharge. The dependent variable was whether or not a patient committed suicide within 90 days of discharge, while the independent variables included patient, hospital and physician characteristics at index hospitalization. Cox proportional hazard regression was carried out to compute the 90-day survival rate, adjusting for possible confounding factors.

Results: The mean interval from discharge to suicide was 39.7 days (± 95.2) and almost half (46.3%) of the 3-month post-discharge suicides occurred within 14 days after discharge. The adjusted hazard of committing suicide for patients who were not hospitalized in the preceding year was 1.68 ($p = .009$), 1.61 ($p = .033$), and 2.51 ($p < .001$) times greater, respectively, than patients who were hospitalized once, twice and more than twice within the year before index hospitalization. The hazard of committing suicide among patients who were unemployed was 1.71 ($p < .001$) times that of their employed counterparts.

Conclusions: We conclude that, while our study was limited to suicides among cancer patients within 90 days of discharge, around 60% of deaths occurred within the first month after discharge. The relevant risk factors include the number of hospitalizations within 1 year and employment status.

Comment

Main findings: Cancer patients may be at high risk of suicide after discharge from hospital, according to this study. Heightened suicide risk was observed particularly in patients who were unemployed or who had endured fewer hospitalizations in the previous year. This research develops attention on suicidality in cancer patients.

Use of a large (nation-wide) comprehensive and detailed database and a case-control design improve the reliability and plausibility of the research results. It should be noted, however, that as the study involved only Asian patients, research findings may not be easily transferable to an Australian context.

Implications: Cancer is a major cause of death in the Australian population and as such this article presents an important investigation into what factors might influence the development of suicidality in cancer patients. The low rate of detected depression in the sample indicates that adequate and regular screening for suicidality conducted as an assessment separate from mental illness screening may be important to the identification of those cancer patients who may be more likely to commit suicide. As the majority of the suicides in this study occurred within a month post-discharge, it could be of benefit to offer intensive support to patients within the first three months of discharge with priority given to those faced with additional adverse life circumstances and those who have not endured many hospitalizations in the previous 12 months. Previous studies^{1,2} have demonstrated some benefit in telephone outreach and intensive case-management approaches to the management of discharged psychiatric patients and these may be options that could be easily adapted for use in cancer patients.

Endnotes

- 1 De Leo D, Heller T (2007). Intensive case management in suicide attempters following discharge from inpatient psychiatric care. *Australian Journal of Primary Health* 13, 49–59.
- 2 Vaiva G, Vaiva G, Ducrocq F, Meyer P, Mathieu D, Philippe A, Libersa C, Goudemand M (2006). Effect of telephone contact on further suicide attempts in patients discharged from an emergency department: randomized controlled study. *BMJ* 332, 1241–1245.

School-based screening to identify at-risk students not already known to school professionals: the Columbia Suicide Screen

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American Journal of Public Health 99, 334–339, 2009

Background: We sought to determine the degree of overlap between students identified through school-based suicide screening and those thought to be at risk by school administrative and clinical professionals.

Methods: Students from 7 high schools in the New York metropolitan area completed the Columbia Suicide Screen; 489 of the 1729 students screened had positive results. The clinical status of 641 students (73% of those who had screened positive and 23% of those who had screened negative) was assessed with modules from the Diagnostic Interview Schedule for Children. School professionals nominated by their principal and unaware of students' screening and diagnostic status were asked to indicate whether they were concerned about the emotional well-being of each participating student.

Results: Approximately 34% of students with significant mental health problems were identified only through screening, 13.0% were identified only by school professionals, 34.9% were identified both through screening and by school professionals, and 18.3% were identified neither through screening nor by school professionals. The corresponding percentages among students without mental health problems were 9.1%, 24.0%, 5.5%, and 61.3%.

Conclusions: School-based screening can identify suicidal and emotionally troubled students not recognized by school professionals.

Comment

Main findings: This study found that school-based screening was more effective in identifying students with a history of suicidal ideation or attempt compared to identification by school professionals. Although the study highlights some disappointing results in that over 18% of suicidal students were not identified by either the screening instrument or school professionals, the findings provide evidence for the value of screening instruments in suicide risk assessment within the school context.

The main strength of the study concerned the large sample of students recruited from seven New York schools. It is important to note that only a small number of students reported a history of suicide attempts, resulting in a loss of statistical power and difficulty in analyzing results. However, this study is a useful addition to the literature on the reliability and use of screening instruments in schools.

Implications: Overall, this study provides useful information that has been obtained in a 'real world' context rather than in a clinical setting. Teaching staff often lack training in the identification of suicidality and may not know how to appropriately assess and respond to at-risk students. For these reasons the use of the Colombia Suicide Screen (and/or other validated assessment instruments) may make assessment of large groups of students more feasible than relying on school professionals and school counselors to recognize potential suicidality. It may be of benefit to incorporate regular suicide screening into Australian school curricula (particularly at secondary and tertiary level).

Association between consistent purchase of anticonvulsants or Lithium and suicide risk: a longitudinal cohort study from Denmark, 1995–2001

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Journal of Affective Disorders. Published online: 24 February 2009. doi: 10.1016/j.jad.2009.01.013, 2009

Background: Prior studies suggest anticonvulsants purchasers may be at greater risk of suicide than lithium purchasers.

Methods: Longitudinal, retrospective cohort study of all individuals in Denmark purchasing anticonvulsants (valproic acid, carbamazepine, oxcarbazepine or lamotrigine; $n = 9952$) or lithium ($n = 6693$) from 1995–2001 who also purchased antipsychotics at least once (to select out nonpsychiatric anticonvulsant use). Poisson regression of suicides by medication purchased (anticonvulsants or lithium) was conducted, controlling for age, sex, and calendar year. Confounding by indication was addressed by restricting the comparison to individuals prescribed the same medication: individuals with minimal medication exposure (e.g. who purchased only a single prescription of anticonvulsants) were compared to those individuals with more consistent medication exposure (i.e., purchasing ≥ 6 prescriptions of anticonvulsants).

Results: Demographics and frequency of anticonvulsant, lithium, or antipsychotic use were similar between lithium and anticonvulsant purchasers. Among patients who also purchased antipsychotic at least once during the study period, purchasing anticonvulsants more consistently (≥ 6 prescriptions) was associated with a substantial reduction in the risk of suicide ($RR = 0.22$, 95% CI = 0.11–0.42, $p < .0001$), similar to patients consistently purchasing lithium ($RR = 0.27$, 95% CI = 0.12–0.62, $p = .006$). Absolute suicide risks of consistent anticonvulsant and consistent lithium purchasers were similar.

Limitations: Lack of information about diagnoses and potential confounders, as well as other covariates that may differ between minimal and consistent medication purchasers, are limitations to this study.

Conclusions: In this longitudinal study of anticonvulsant purchasers likely to have psychiatric disorders, consistent anticonvulsant treatment was associated with decreased risk of completed suicide.

Comment

Main findings: Advances in psychiatric care have made pharmaceutical treatments an increasingly attractive option in treating all types of mental illness. However, clinicians looking to take advantage of pharmaceutical treatments need evidence that patients are not adversely affected (e.g. the suicide risk is not increased or side-effects do not negatively affect quality of life) through use of these medications. This study is the first to identify that the anticonvulsants appear to be as effective in reducing risk of completed suicide as lithium. This article is, therefore, topical in investigating the associations between anticonvulsants and risk of suicide and presented convincing evidence to support the use of any type of anticonvulsant medication as a suicide preventative measure. Further research in the area is justified especially in terms of identifying causal pathways, treatment compliancy and influential protective and risk factors in anticonvulsant users.

Implications: Anticonvulsant medications are tolerable, non-addictive and relatively inexpensive medications that have been shown over decades of research to be safe for long-term use. An obvious benefit of patient-tolerable treatments is the increased patient compliance and retention in treatment which in turn optimizes recovery. These research findings suggest a potential future role of anticonvulsants in the treatment of suicidal patients. In particular this study points to the benefit of continued versus single use of anticonvulsants suggesting that continual users may be a sub-group at lower risk of suicide completion.

Attitudes towards clinical services among people who self-harm: systematic review

TL Taylor, K Hawton, S Fortune, N Kapur (UK)

British Journal of Psychiatry 194, 104–110, 2009

Background: Self-harm is increasingly common in many countries, is often repeated and may have other negative outcomes.

Aims: To systematically review people's attitudes towards clinical services following self-harm in order to inform service design and improvement.

Method: A search of electronic databases was conducted and experts in the field were contacted in order to identify relevant worldwide qualitative or quantitative studies. Data were extracted independently by two reviewers with more weight given to studies of greater quality and relevance.

Results: Thirty-one studies met the inclusion criteria. Despite variations in healthcare systems and setting, participants' experiences were remarkably similar. Poor communication between patients and staff and a perceived lack of staff knowledge with regard to self-harm were common themes. Many participants suggested that psychosocial assessments and access to after-care needed to be improved.

Conclusions: Specific aspects of care that might increase service user satisfaction and treatment adherence include staff knowledge, communication and better after-care arrangements. A standard protocol could aid regular audits of users' experiences of services.

Comment

Main findings: Treatment compliance and positive outcomes in individuals who self-harm may be increased through: 1) increasing health services workers' understanding of and competency in the treatment of self-harm and, 2) improving consumer access to services according to this review. This was a well-reported systematic exercise that attempted to answer an important question in the management of non-fatal suicidal behaviour: how can clinical services be improved to enhance outcomes after self-harm episodes? This analysis revealed multiple similarities in service needs across countries and services, suggesting the existence of a range of important 'generic' consumer needs. These include accessibility of services and understanding from medical staff of the stigma inherent in self-harm. Although the review was based on a relatively small number of studies (31), it provided convincing evidence of the need for: 1) improvements in staff-patient communication, 2) increased education for staff in managing and understanding self-harming behaviors, and 3) enhanced post-discharge care (e.g. streamlining of services to reduce the time between discharge and follow-up appointments). More research is necessary on the perceptions of specific sub-groups of self-harmers, as this is likely to influence the impact of treatment in the future.

Implications: A strength of the review was the fact that it synthesized the results of studies involving many different countries and modes of treatment, making the findings highly generalisable to the multi-cultural Australian context. Specifically, the authors suggest that improving knowledge of and access to services (e.g. reducing costs to patients, advertising of services) may lead to improved outcomes such as retaining individuals in treatment longer. This may in turn reduce the likelihood of continued self-harm. Additionally, it is probable that involving patients in treatment decisions, establishing a therapeutic relationship between clinicians and patients, and providing a wide range of after-care options for those who have just been discharged from inpatient care (e.g. psychology services, support groups, employment assistance) would enhance treatment compliance. Furthermore, the review suggests targeting self-harming subgroups, such as adolescents or the aged, with age-specific programs in order to increase the quality and relevance of care options. For instance, home visits may be a more realistic care option for the elderly. Additionally, it may be beneficial for staff working with adolescents to receive regular training in issues specific to this group such as drug use, confidentiality and peer influence.

Transitions in suicide risk in a nationally representative sample of adolescents

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Journal of Adolescent Health. Published online: 4 January 2009. doi:10.1016/j.jadohealth.2008.10.138, 2009

Purpose: Suicide is the third leading cause of death among older adolescents, and represents a significant public health problem. Preventing suicidal behavior depends on an understanding of the developmental transitions in suicide risk and whether the likelihood of a suicide attempt can be predicted prospectively.

Methods: Data from the National Longitudinal Study of Adolescent Health were used for the study. The sample is nationally representative, and includes 10,424 youth assessed over three time points spanning 7 years. MPLUS was used to analyze the data.

Results: Latent class analysis showed that youth could be classified into three latent classes representing degree of suicide risk. Indicators of risk included depressive symptoms, hopelessness, suicidal ideation, having a family history of suicidal behavior, and having a friend history of suicidal behavior. Latent transition analyses showed that youth in the low-risk group remained at low risk both 1 and 7 years later. Although some youth who were classified as high-risk transitioned to a lower risk group 7 years later, a significant proportion remained at high risk. Analyses also revealed that the probability of making a suicide attempt was higher for youth in the high-risk latent class 1 and 7 years earlier.

Conclusions: Findings indicate that suicide prevention efforts should be targeted primarily at youth at high risk for suicide; most youth classified as 'low risk' remained at low risk as they transitioned to young adulthood.

Comment

Main findings: Youth represent a traditionally high risk group for suicide; however, it is often difficult to determine which individuals are most likely to engage in suicide attempts or completions. This paper demonstrates that youth identified as at high risk for suicidal behavior remain at high risk (and low-risk adolescents remain at low risk) up to 7 years after identification. An innovation of this study was the fact that suicide risk was measured over time allowing the authors to isolate and describe a subgroup of young people at high risk. The large nationally representative sample, longitudinal design and number of influential factors examined (e.g. suicide ideation, depression, hopelessness, exposure to suicide) further increases the reliability and generalisability of the results.

Implications: These research results may have important implications for future Australian suicide prevention initiatives. High suicide risk status in youth is possibly an important risk marker for future suicide attempts (i.e. a 'red-flag'). As suggested by the authors, it may be more feasible and cost effective to target the prevention and subsequent intervention strategies at high-risk youth (a group predicted to remain at high-risk), rather than deliver universal strategies to large groups of young people, the majority of whom will not transition to high-risk status.

Community structural instability, anomie, imitation and adolescent suicidal behavior

T Thorlindsson, JG Bernburg (Iceland)

Journal of Adolescence 32, 233–245, 2009

The current study examines the contextual effects of community structural characteristics, as well as the mediating role of key social mechanisms, on youth suicidal behavior in Iceland. We argue that the contextual influence of community structural instability on youth suicidal behavior should be mediated by weak attachment to social norms and values (anomie), and contact with suicidal others (suggestion-imitation). The data comes from a national survey of 14- to 16-year-old adolescents. Valid questionnaires were obtained from 7018 students (response rate about 87%). The findings show that the community level of residential mobility has a positive, contextual effect on adolescent suicidal behavior. The findings also indicate that the contextual effect of residential mobility is mediated by both anomie and suggestion-imitation. The findings offer the possibility to identify communities that carry a substantial risk for adolescent suicide as well as the mechanisms that mediate the influence of community structural characteristics on adolescent risk behavior.

Comment

Main findings: Prior research has identified several individual-level and broader social risk factors for suicide in individuals, however this study is the first to investigate the effect of complex social and community interrelationships on suicidal behaviour (ideation and attempts). The study demonstrated that communities in which there is a large degree of residential movement or 'mobility' are associated with youth suicidal behavior (possibly partially due to the loss of relationships inherent in moving between locations and the stress of having to re-establish a social support network). Use of a large nationally representative study sample and inclusion of a number of potentially influential factors (such as suicidal ideation and parental education) lend credibility to the findings.

Implications: It may be important to identify and provide support to communities in which structural instability increases the risk of suicidal behaviour. For example, in Australia potential groups to consider may include military bases, and areas in which there are high numbers of transitions in the population (i.e. fruit picking areas, cities in which there are a large proportion of itinerant individuals). Preventative interventions for these 'high risk' groups may include suicide screening programs and structured supervised recreational programs and clubs (e.g. sporting teams, designated areas and activities for youth) to encourage community cohesion and enhance protective factors. Additionally, outreach services (such as a 'buddy' system) could be provided to young people who have recently moved to the area in order to assist in the establishment of social support networks. Such a system would entail introducing new students (perhaps within the school context) to a peer or an older student who would introduce them to other youth, assist in the orientation process and provide social support. Future research is needed to determine exactly how factors within the structure of a community influence risk in order to develop early and directed preventative initiatives.

Service implications of providing intensive monitoring during high-risk periods for suicide among VA patients with depression

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Psychiatric Services 60, 439–444, 2009

Objectives: Department of Veterans Affairs (VA) patients in depression treatment have high suicide rates after psychiatric hospitalization, antidepressant starts, and dosage changes. Policy makers have recommended closer monitoring during these periods to reduce suicide. This study assessed the frequency of high-risk periods in clinical settings, the levels of monitoring provided during these periods, and the estimated costs of providing monitoring consistent with the most stringent Food and Drug Administration recommendation for treatment periods after antidepressant change (seven visits in the first 12 weeks).

Methods: Monitoring visits were identified in the 12-week period after antidepressant starts and dosage changes and after discharge from psychiatric hospitalization for 100,000 randomly selected VA patients in depression treatment between April 1, 1999, and September 30, 2004. Incremental costs of providing intensive monitoring were estimated by using VA Health Economics Resource Center average cost data.

Results: Patients averaged less than one high-risk period each year. They completed an average of 2.4 monitoring visits during the 12-week period after antidepressant treatment events and 4.9 visits after psychiatric hospitalization. Providing intensive monitoring would cost an additional \$408–\$537 for each high-risk period after psychiatric hospitalization. During fiscal year 2004 providing intensive monitoring during all high-risk periods would have cost an additional \$183–\$270 million. Providing intensive monitoring only after psychiatric hospitalizations would have cost an additional \$15–\$17 million.

Conclusions: Providing intensive monitoring for VA patients in depression treatment during all high-risk periods for suicide would require substantial services reorganization and incremental expenditures. Modest expenditures would support intensive monitoring during the highest-risk period that follows psychiatric hospitalization.

Comment

Main findings: Past studies have reported increased suicide risk after discharge from psychiatric care. The main contribution of this investigation to the literature is an estimation of the costs of providing intensive care to individuals with a diagnosis of depression during different high-risk periods. Valenstein and colleagues reported that the average number of follow-up monitoring visits in the first 12 weeks after commencement of antidepressants were less than half the recommended 7 visits, with a similar result found in patients after release from psychiatric hospitals. Whilst restructuring of current mental health services is unavoidably associated with substantial additional expenditures, findings indicated that it may be more economically advantageous to focus intensive treatment on patients in the immediate post-discharge period, rather than attempt to extend the service to include individuals who have changed or started psychiatric medications after discharge. Generalisability of results may be limited due to the fact that patients treated within the Department of Veterans Affairs may signify a sub-group who are already at heightened risk of suicide and psychological distress due to occupation-related trauma.

Implications: Results suggest incorporating alternate forms of patient-clinician contact into intensive follow-up services, in particular in the first three months after psychiatric discharge. For example, telephone outreach has been previously recognized as an effective way of improving outcomes of treatment in the post-discharge period. For a better understanding of the possible beneficial outcomes of a strategy such as telephone outreach, it would be necessary to compare these costs with the impact of the burden of disease on the national economy, due to either premature mortality or utilization of medical services associated with depression and suicide risk. Hence, there is still an urgent need for further research in (a) evaluating the efficacy of existing patient monitoring interventions in preventing suicidal behavior, and (b) identifying which specific components of interventions may be beneficial to targeted groups of patients.

Migraine and suicidal ideation in adolescents aged 13 to 15 years

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Neurology 72, 1146–1152, 2009

Background: Awareness is growing among clinicians of the importance of suicidal ideation in adolescents.

Objectives: To investigate the relationship between migraine and suicidal ideation in a nonreferred sample of adolescents. **Methods:** This study surveyed migraine and depression in three middle schools in Taitung County, Taiwan. All students completed the questionnaires, including demographics, a validated headache questionnaire, the Adolescent Depression Inventory (ADI), and the Pediatric Migraine Disability Assessment (PedMIDAS) questionnaire. This study used the presence or absence of suicidal ideation as indicated by the ADI for the analysis.

Results: A total of 3,963 (2,040 male and 1,923 female; mean age 14.0 ± 0.9 years) adolescents (93% of the target cohort) completed this study. Suicidal ideation was reported in 8.5% of the study group. Compared with nonmigraine subjects (6.2%), subjects with migraine displayed a higher frequency of suicidal ideation (16.1%; odds ratio [OR] = 2.9, 95% confidence interval [CI] 2.3–3.6; $p < .001$), especially those with migraine with aura (23.9%; OR = 4.6 [95% CI 3.0–7.0]; $p < .001$). Suicidal ideation was associated with higher headache frequency and headache-related disability as measured by the PedMIDAS. After controlling for depression score and sociodemographic characteristics, the association remained only for migraine with aura (adjusted OR = 1.79 [95% CI 1.07–2.99]; $p = .025$) and high headache frequency (> 7 days/month; adjusted OR = 1.69 [95% CI 1.12–2.56]; $p = .013$) but not for migraine without aura or probable migraine or PedMIDAS score.

Conclusions: This study identified a higher frequency of suicidal ideation in younger adolescents with migraine with aura or high headache frequency. These associations were independent of depressive symptoms. ADI = Adolescent Depression Inventory; AOR = adjusted odds ratio; CI = confidence interval; 5-HT = serotonin; ICHD-2 = International Classification of Headache Disorders, Second Edition; MINI-Kid = Mini-International Neuropsychiatric Interview-Kid; OR = odds ratio; PedMIDAS = Pediatric Migraine Disability Assessment.

Comment

Main findings: Although prior research has suggested an association between chronic pain conditions (including migraine) and suicidal behavior, there has been little literature investigating the mediating pathways between these factors. The most remarkable finding of this study was evidence that headache frequency (7+ times per month) and type of headache (migraine with aura) are associated with suicidal ideation in one quarter of adolescents. It should be noted that the study only measured recent suicidal ideation (in the past month) rather than over the lifespan. The fact that the study sample consisted of Asian adolescents may limit the generalisability of results to the Australian context.

Implications: Identification of risk factors for suicidal behavior is a crucial element in the development and implementation of effective suicide prevention strategies. The results of this study indicate that the presence of frequent and/or severe headaches in adolescents should be regarded as a potential risk indicator for current or recent suicide ideation. As the authors suggest, it may be beneficial to conduct more rigorous suicide risk assessments on this subgroup of adolescents. Furthermore, the fact that the association between headache and suicidal ideation remained significant even after controlling for the influence of depression, indicates a benefit in conducting suicide risk assessments independently from psychiatric assessments (i.e. even in adolescents who do not exhibit psychiatric symptoms).

Posttraumatic stress disorder and suicide attempts in a community sample of urban American young adults

HC Wilcox, CL Storr, N Breslau (USA)

Archives of General Psychiatry 66, 305–311, 2009

Context: Previous research has shown that exposure to traumatic events, especially sexual trauma during childhood, is associated with an increased risk of attempted suicide. However, no information is available as to whether the increased risk of attempted suicide is related primarily to posttraumatic stress disorder (PTSD) following traumatic experiences or applies also to persons who experienced trauma but did not develop PTSD.

Objective: We examine the association between exposure to traumatic events with and without resulting PTSD and the risk of a subsequent suicide attempt in a community sample of urban young adults.

Design: A cohort study followed young adults who had participated in a randomized trial of all first-grade students entering 19 public schools.

Setting: Baltimore, Maryland, an urban setting.

Participants: A total of 1698 young adults (mean age, 21; 47% male; 71% African American) who represented 75% of the original cohort of 2311 persons. Main Outcome Measure Relative risk of a subsequent suicide attempt associated with PTSD and with exposure to assaultive and nonassaultive traumas (no PTSD), as estimated using discrete time survival analysis.

Results: Posttraumatic stress disorder was associated with increased risk of a subsequent suicide attempt. The PTSD-suicide attempt association was robust, even after adjustment for a prior major depressive episode, alcohol abuse or dependence, and drug abuse or dependence (adjusted relative risk, 2.7; 95% confidence interval, 1.3–5.5; $P < .01$). In contrast, exposure to traumatic events without PTSD was not associated with an increased risk of attempted suicide.

Conclusions: Posttraumatic stress disorder is an independent predictor of attempted suicide. Exposure to traumatic events without PTSD is not associated with a later suicide attempt.

Comment

Main findings: This research represents an important contribution to the literature on the relationship between trauma and suicide. While researchers have long known that exposure to trauma increases the risk of suicidal behaviour, this study is the first to describe a potentially fundamental mechanism for this process. The most remarkable finding of the research was that the presence of a diagnosis of PTSD, and not of the trauma per se is a necessary precipitator for the development of suicidality. In other words, traumatized persons who did not develop PTSD were not at increased risk of suicide attempt. Study results were supported by a large sample and a methodologically sound research design (e.g. assessment of a large number of traumatic events, controlling for psychiatric disorders, longitudinal dimension). However, results of the study should anyway be interpreted with caution, as a high proportion of the sample consisted of African–American urban youth, and thus Australian studies would be needed to determine the generalizability of the research findings in Australia.

Implications: The research findings are important in pinpointing a necessary factor in the development of suicidality in traumatized individuals. It may be beneficial to take the psychological reactions of individuals to trauma into account when assessing risk of suicide attempt. Additionally, in Australia it may be worthwhile to consider screening certain sub-groups who have been exposed to trauma (such as members of the military, child abuse survivors, victims of natural disasters) for PTSD symptoms in order to identify individuals who are likely to attempt suicide.

Do major depressive disorder and dysthymic disorder confer differential risk for suicide?

TK Witte, KA Timmons, E Fink, AR Smith, TE Joiner (USA)

Journal of Affective Disorders 115, 69–78, 2009

Background: Although there has been a tremendous amount of research examining the risk conferred for suicide by depression in general, relatively little research examines the risk conferred by specific forms of depressive illness (e.g. dysthymic disorder, single episode versus recurrent major depressive disorder [MDD]). The purpose of the current study was to examine differences in suicidal ideation, clinician-rated suicide risk, suicide attempts, and family history of suicide in a sample of outpatients diagnosed with various forms of depressive illness.

Methods: To accomplish this aim, we conducted a cluster analysis using the aforementioned suicide-related variables in a sample of 494 outpatients seen between January 2001 and July 2007 at the Florida State University Psychology Clinic. Patients were diagnosed using DSM-IV criteria.

Results: Two distinct clusters emerged that were indicative of lower and higher risk for suicide. After controlling for the number of comorbid Axis I and Axis II diagnoses, the only depressive illness that significantly predicted cluster membership was recurrent MDD, which tripled an individual's likelihood of being assigned to the higher risk cluster.

Limitations: The use of a cross-sectional design; the relatively low suicide risk in our sample; the relatively small number of individuals with double depression.

Conclusions: Our results demonstrate the importance of both chronicity and severity of depression in terms of predicting increased suicide risk. Among the various forms of depressive illness examined, only recurrent MDD appeared to confer greater risk for suicide.

Comment

Main findings: A large volume of research has been published on the association between depression and fatal and non fatal suicidal behaviour, however to date there have been limited efforts at identifying the specific risks associated with different types of depression. This study, conducted on a large sample of outpatients, is therefore unique in exploring the risks for suicide ideation and attempt in patients with different forms of depressive disorder (dysthymic disorder, single or recurrent episode depression and double depression). Research results suggest that only recurrent Major Depressive Disorder confers elevated suicide risk. Despite a few methodological limitations (e.g. possible overlapping of diagnoses or misdiagnosis of depression in the studied individuals), the findings are highly credible and potentially generalizable to the Australian context.

Implications: Results of this study have important implications for clinicians treating individuals with depressive disorders and point to the importance of accurate diagnosis. For example, the authors offer a categorization of patients into high or low suicide risk based on a psychiatric assessment of the type and severity of depression. Only the presence of MDD was found to predict membership in a group with elevated risk, indicating a need for the close monitoring and regular assessment of this subgroup. However, it is important to remember that patients with other forms of depression also carry a greater risk for suicide than persons with no psychiatric diagnosis. Additionally, it is suggested that other risk factors such as previous suicide attempts and current suicidal ideation/plans should be taken into account when assigning high or low suicide risk status to patients.

Recommended Readings

In-patient suicide: a 13-year assessment

V Ajdacic-Gross, C Lauber, M Baumgartner, T Malti, W Rossler (Switzerland)

Acta Psychiatrica Scandinavica. Published online: 8 March 2009. doi: 10.1111/j.1600-0447.2009.01380.x, 2009

Objective: To describe the suicide rates of psychiatric in-patients in the canton of Zurich for the period 1992–2004, and to determine putative risk factors.

Method: The data were derived from the psychiatric case register of the canton Zurich. The analyses were based on person-years calculations and standardized mortality ratios. Additional information was assessed via case records.

Results: During the 13-year period the standardized mortality ratio was 48.9. The risk of suicide was particularly high in patients with personality and affective disorders. Most suicides occurred during regular leave periods, despite the fact that clinical assessment had indicated there was no suicide risk for the patient.

Conclusion: The suicide risk of in-patients is distinctly higher than in the general population. A better assessment of suicide risk before regular leave periods could lead to a decrease of suicides in in-patient settings, as well as a more rigorous treatment of borderline cases, and of affective and psychotic symptoms.

Electroconvulsive therapy for bipolar depressive and mixed episode with high suicide risk after epilepsy surgery

C Aksoy-Poyraz, A Ozdemir, M Ozmen, K Arikan, C Ozkara (Turkey)

Epilepsy & Behavior 13, 707–709, 2008

Mood disturbance is a common comorbid condition of temporal lobe epilepsy before and after surgery. Suicide is more frequent in patients with epilepsy than in the general population. As suicide is a major issue in both epileptic and depressive patients, it is critical to treat aggressively any psychiatric illness with suicidal ideation. We describe two patients who, after temporal lobe surgery, developed a serious bipolar disorder that necessitated electroconvulsive therapy (ECT), despite better seizure control. Unfortunately they were not able to commit to a regular treatment plan with their psychiatrists to prevent a suicide. These patients underwent a course of ECT treatments. After the ECT regimen, acute suicidal intent remitted and was replaced by chronic suicidal ideation without active intent or plan. The patients were then able to commit to a treatment plan regarding their medications and control visits. These cases represent the safe utilization of ECT as a rapid and effective treatment option for bipolar disorder with suicide ideation following epilepsy Surgery. Patients and parents should be advised about possible psychiatric disturbances and suicide risk after epilepsy surgery, especially in the presence of a temporal lobe epilepsy, even when seizure control is achieved postoperatively.

Cause-specific excess mortality in suicidal patients: gender differences in mortality patterns

E Antretter, D Dunkel, C Haring (Austria)

General Hospital Psychiatry 31, 67–74, 2009

Objective: Few studies have investigated gender-specific excess mortality in suicidal patients. The objective of this study was to examine the risk of dying from all causes of death in male and female suicidal patients.

Method: This study included 4140 patients who received psychiatric treatment in two Austrian hospitals after non-fatal suicidal behavior between 1989 and 2001. Mortality was prospectively assessed for a maximum follow-up period of 17 years (1989–2005). Gender-specific standardized mortality ratios were calculated for all causes of death. Rate ratios were used to assess gender differences.

Results: Males but not females had an elevated risk to die from ‘natural’ causes of death. Mortality from ‘unnatural’ causes of death, particularly suicide, was elevated in both genders. The female suicide risk markedly exceeded the risk for males. In both genders, mortality caused by substance use disorders was considerably elevated.

Conclusion: Significant gender differences in the excess mortality of suicidal patients underline the need for gender-specific research in psychiatry.

Suicidality and trait aggression related to childhood victimization in patients with alcoholism

E Bacskaï, P Czobor, J Gerevich (Hungary)

Psychiatry Research 165, 103–110, 2009

The relationship between physical abuse in childhood and suicide attempts in adulthood has long been known. However, the phenomenon has not been examined in patients who are undergoing treatment for alcoholism. In this study we seek an answer to the questions of whether exposure to physical abuse in childhood predisposes to violence, which in turn increases the likelihood of suicidal behavior in adulthood. The sample studied comprised 172 patients with alcohol dependence and with data for childhood physical abuse, trait aggression and lifetime suicide attempts. The measuring instruments used for the investigation were the European Addiction Severity Index, the Buss and Perry Aggression Questionnaire and the Janus Questionnaire. Generalized Linear Model analysis revealed a significant gender-dependent association between physical abuse by the parents suffered in childhood and later suicide attempts. In females, childhood victimization by parents increased the likelihood of suicide attempts by approximately 15 times; in males, the increase was about twofold. Association of suicide attempts with the overall level of trait aggression also significantly interacted with gender. In females, the increase in the level of total scores of the trait aggression from 0 to 50 points (approximately

the mean level in the study population) elevated the likelihood of the suicide attempts by almost ninefold, whereas the analogous increase in males was about threefold. The results draw attention to the importance of preventing suicide in clinical populations of alcohol-dependent patients.

Selective serotonin reuptake inhibitors and risk of suicide: a systematic review of observational studies

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Canadian Medical Association Journal 180, 291–297, 2009

Background: It is unclear whether the use of selective serotonin reuptake inhibitors (SSRIs) and other antidepressant drugs reduce the risk of suicide in people with depression. We explored the association between exposure to SSRIs and risk of suicide completion or attempt.

Methods: We conducted a systematic review of observational studies that reported completed or attempted suicide in depressed individuals who were exposed to SSRIs compared with those who were not exposed to antidepressants. We assessed the overall risk of completed or attempted suicide.

Results: Eight studies involving more than 200 000 patients with moderate or severe depression were included in the meta-analysis. Although exposure to SSRIs increased the risk of completed or attempted suicide among adolescents (odds ratio [OR] 1.92, 95% confidence interval [CI] 1.51–2.44), the risk was decreased among adults (OR 0.57, 95% CI 0.47–0.70). Among people aged 65 or more years, exposure to SSRIs had a protective effect (OR 0.46, 95% CI 0.27–0.79). Sensitivity analyses did not change these findings. In particular, for studies that used completed suicide as an outcome, exposure to SSRIs was associated with increased risk among adolescents (OR 5.81, 95% CI 1.57–21.51) and decreased risk among adults (OR 0.66, 95% CI 0.52–0.83) and older people (OR 0.53, 95% CI 0.26–1.06).

Interpretation: Based on data from observational studies, use of SSRIs may be associated with a reduced risk of suicide in adults with depression. Among adolescents, use of SSRIs may increase suicidality.

Time trends in suicide mortality vary in choice of methods: an analysis of 145,865 fatal suicide cases in Germany 1991–2002

J Baumert, N Erazo, E Ruf, K Ladwig (Germany)

Social Psychiatry & Psychiatric Epidemiology 43, 913–919, 2008

Background: Overall, decreasing suicide mortality rates were observed in the last decades in most Western populations. However, it remains unclear, whether these favourable trends occurred uniformly in particular suicide

methods. Therefore, the present study evaluated time trends of suicide mortality by method in Germany over the period 1991–2002.

Methods: A total of 145,865 fatal suicide cases of men and women aged ≥ 15 years and with available suicide method were recorded by the Federal Statistical Office of Germany (suicides coded “death following a suicide attempt” were excluded). Based on these data, seven different suicide methods were defined. Poisson regression was used to estimate the age-adjusted annual percentage change (AAPC) of the number of each suicide method.

Results: The most frequently used suicide methods in both sexes were hanging, strangling or suffocation (HSS) with 55.8% in men and 39.9% in women, followed by self-poisoning. Statistically significant declines of the number of suicides were observed, in descending order, for self-poisoning, drowning and HSS in both sexes. In contrast, methods using firearm discharges or stab with a sharp object remained in roughly constant level. Modifications of time trends were observed for several methods by age classes.

Conclusions: The present study demonstrates different time trends for suicide methods. Further examinations are recommended in particular concerning possible reasons for the choice of a suicidal method.

Reducing potential risk factors for suicide-related behavior with a group intervention for clients with recurrent suicide-related behaviour

Y Bergmans, PS Links (Canada)

Annals of Clinical Psychiatry 21, 17–25, 2009

Background: This paper reports the results of a pilot study of a 20-week outpatient Psychosocial/Psychoeducational Intervention for Persons with Recurrent Suicide Attempts (PISA) targeting potential risk factors and areas of deficit, including cognitive, affective, and impulsivity known to characterize persons with recurrent suicide-related behavior.

Methods: One hundred sixty-three persons completed the 20-week intervention. Self-report questionnaires related to psychological deficits and risk factors associated with suicide-related behavior were given to participants before and after the intervention. Descriptive and paired *t* tests were performed using SPSS 15.

Results: This pilot study demonstrated that a 20-week group intervention led to significant pregroup and postgroup reductions in the risk factors associated with suicide-related behavior. Risk factors included cognitive factors: Beck Hopelessness Scale ($P = .006$), Satisfaction With Life Scale ($P = .001$), Problem Solving Inventory ($P = .008$); affective factors: Beck Depression Inventory ($P = .018$), Toronto Alexithymia Scale ($P = .001$); and impulsivity factors: Barratt Impulsivity Scale ($P = .034$).

Conclusions: Findings in this pilot study suggest that participants in this short-term intervention report changes in identified risk factors and psychological deficits. These modest changes may be an important first step that facilitates persons at high-risk for suicide to access additional mental health services.

The spreading of suicidal behavior: the contextual effect of community household poverty on adolescent suicidal behavior and the mediating role of suicide suggestion

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Social Science & Medicine 68, 380–389, 2009

Despite the longstanding interest of social researchers in the social factors that influence suicide and suicidal behavior, multilevel research on this topic has been limited. Using nested survey data on 5331 Icelandic adolescents (born in 1990 and 1991) in 83 school-communities, the current study examines the contextual effect of community household poverty on adolescent suicidal behavior (suicide ideation and suicide attempt). The findings show that the concentration of household poverty in the school-community has a significant, contextual effect on adolescent suicidal behavior. Furthermore, we test an ‘epidemic’ explanation for this effect, examining the mediating role of suicide suggestion (contact with suicidal others). We find that suicide suggestion mediates a substantial part of the contextual effect of community household poverty on suicide attempt, while mediation is modest in the case of suicide ideation. The findings indicate that community household poverty increases the risk of adolescent suicidal behavior in part because communities in which household poverty is common entail a higher risk for adolescents of associating with suicidal others. The study demonstrates how the concentration of individual problems can have macrolevel implications, creating social mechanisms that cannot be reduced to the circumstances or characteristics of individuals.

Severity of personality disorders and suicide attempt

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Acta Psychiatrica Scandinavica 119, 149–155, 2009

Background: Severity of personality disorders (PDs) may be more useful in estimating suicide risk than the diagnosis of specific PDs. We hypothesized that suicide attempters with severe PD would present more attempts and attempts of greater severity/lethality.

Method: Four hundred and forty-six suicide attempters were assessed. PD diagnosis was made using the International Personality Disorder Questionnaire — Screening Questionnaire. PDs were classified using Tyrer and Johnson’s classification of severity (no PD, simple PD, diffuse PD). Severity/lethality of attempts

was measured with the Suicide Intent Scale, Risk-Rescue Rating Scale and Lethality Rating Scale.

Results: Attempters with severe (diffuse) PD had more attempts than the other groups. After controlling for age and gender, this difference remained significant only for the younger age group and women. There was no relationship between severity of PDs and severity/lethality of attempts.

Conclusion: Younger female attempters with severe PD are prone to repeated attempts. However, the severity of PD was not related to the severity/lethality of suicide attempts.

Comparison of clinical and research assessments of diagnosis, suicide attempt history and suicidal ideation in major depression

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Journal of Affective Disorders 115, 183–188, 2009

A number of studies have compared clinical diagnostic and suicide assessments to standardized schedules to determine the level of agreement. At best there is only moderate diagnostic agreement, but most often it is fair. There are only a few reports comparing clinical assessments for suicidal behavior with standardized schedules. We present the data from 201 inpatient admissions for major depression that had both clinical diagnostic and suicide evaluations by PGYII resident physicians under supervision from an attending psychiatrist and research evaluations using standardized schedules for diagnosis and suicide by at least masters' level clinicians. There was moderate agreement for diagnosis and suicide attempt history but only fair agreement for the presence of suicidal ideation using Cohen's kappa statistic. In regards to suicide attempt history a cross-tabulation demonstrated that 18.7% of those patients identified by a research schedule as having a past suicide attempt were not identified as such by the clinicians. A cross-tabulation demonstrated that 29.7% of those patients identified by structured interview as having suicidal ideation were not identified as such by the clinician. There was a statistically significant difference in the level of agreement for suicide attempt history between clinical and research assessments for attempts within a year of admission and those beyond a year. These findings suggest the importance of adding a structured diagnostic and suicide assessment to routine clinical care to improve the reliability and validity of clinical evaluations and to inform treatment planning to benefit our patients.

Relationship between service ecology, special observation and self-harm during acute in-patient care: City-128 Study

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British Journal of Psychiatry 193, 395–401, 2008

Background: Special observation (the allocation of nurses to watch over nominated patients) is one means by which psychiatric services endeavour to keep in-patients safe from harm. The practice is both contentious and of unknown efficacy.

Aims: To assess the relationship between special observation and self-harm rates, by ward, while controlling for potential confounding variables.

Method: A multivariate cross-sectional study collecting data on self-harm, special observation, other conflict and containment, physical environment, patient and staff factors for a 6-month period on 136 acute-admission psychiatric wards.

Results: Constant special observation was not associated with self-harm rates, but intermittent observation was associated with reduced self-harm, as were levels of qualified nursing staff and more intense programmes of patient activities.

Conclusions: Certain features of nursing deployment and activity may serve to protect patients. The efficacy of constant special observation remains open to question.

Who enrolls in college death education courses? A longitudinal study

S Brabant, D Kalich (USA)

Omega 58, 1–18, 2008/2009

A major concern for the pioneers in death education at the college level was the need to recognize those students who enrolled in the course in order to get help with death related issues, primarily suicidal thoughts and unresolved grief. Despite anecdotal evidence of these at-risk students, this concern has yet to be addressed adequately. This may be due in part to the paucity of empirical evidence. The authors bring over 30 combined years of experience in teaching death education at the university level. They have their own anecdotal stories. They also have empirical evidence. This article addresses the question of why students take death education courses in college by examining data collected from death education classes over a span of 20 years and 3 decades (1985–2004). The results document the magnitude and consistency of the at-risk student. The authors discuss the precautionary steps they take and call for a renewed discourse on ethical considerations in death education.

Suicidal thoughts and behavior among adults with self-reported pain conditions in the National Comorbidity Survey replication

JB Braden, MD Sullivan (USA)

Journal of Pain 9, 1106–1115, 2008

We sought to examine whether the presence of a noncancer pain condition is independently associated with an increased risk for suicidal ideation, plan, or attempt after adjusting for sociodemographic and psychiatric risk factors for suicide and whether risk differs by specific type of pain. We analyzed data from the National Comorbidity Survey Replication, a household survey of US civilian adults age 18 years and older ($n = 5692$ respondents). Pain conditions, nonpain medical conditions, and suicidal history were obtained by self-report. DSM-IV mood, anxiety, and substance use disorders were assessed using the World Health Organization's Composite International Diagnostic Interview. Antisocial and borderline personality traits were assessed with the International Personality Disorder Examination screening questionnaire. In unadjusted logistic regression analyses, the presence of any pain condition was associated with lifetime and 12-month suicidal ideation, plan, and attempt. After controlling for demographic, medical, and mental health covariates, the presence of any pain condition remained significantly associated with lifetime suicidal ideation (odds ratio, 1.4; 95% confidence interval, 1.1–1.8) and plan. Among pain subtypes, severe or frequent headaches and 'other' chronic pain remained significantly associated with lifetime suicidal ideation and plan; 'other' chronic pain was also associated with attempt.

Perspective: The risk for suicidal thoughts and behaviors that may accompany back, neck, and joint pain can be accounted for by comorbid mental health disorders. There may be additional risk accompanying frequent headaches and 'other' chronic pain that is secondary to psychosocial processes not captured by the mental disorders assessed.

The role of body image and disordered eating as risk factors for depression and suicidal ideation in adolescents

AM Brausch, PM Gutierrez (USA)

Suicide & Life-Threatening Behavior 39, 58–71, 2009

There is much empirical literature on factors for adolescent suicide risk, but body image and disordered eating are rarely included in these models. In the current study, disordered eating and body image were examined as risk factors for suicide ideation since these factors are prevalent in adolescence, particularly for females. It was hypothesized that disordered eating and body image, in addition to depressive symptoms, would contribute to suicide ideation. It was also hypothesized that these relationships would be stronger for females

than for males. Structural equation modeling was used to test a model of risk for suicide ideation incorporating the above factors in a sample of 392 high school students. Results indicated that disordered eating contributed to both suicide ideation and depressive symptoms, while body image only contributed to depressive symptoms. Depressive symptoms contributed to suicide ideation. The model was found to be cross-validated with males and females, and no gender differences emerged. Implications of these findings and their importance in constructing future models of adolescent suicide risk are discussed.

Childhood trajectories of anxiousness and disruptiveness as predictors of suicide attempts

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Archives of Pediatrics & Adolescent Medicine 162, 1015–1021, 2008

Objective: To investigate the association of childhood trajectories of anxiousness and disruptiveness with suicide attempts in early adulthood.

Design: Prospective cohort study.

Setting: Public francophone schools in Quebec, Canada, from the 1986 to 1988 school years.

Participants: Of 4488 French Canadian children attending kindergarten, a representative group of 1001 boys and 999 girls was chosen for follow-up. Of these, 1144 individuals participated in the study during early adulthood.

Main outcome measures: Suicide attempt histories by early adulthood, adjusted odds ratios (ORs) associated with membership in high- vs low-risk trajectories of anxiousness and disruptiveness, moderation (by sex), and mediation (by adolescent Axis I disorders).

Results: We observed 4 distinct developmental profiles of anxiousness and disruptiveness and a frequent cooccurrence of similar levels of these traits. In contrast to anxiousness trajectories (OR = 1.60; 95% confidence interval, 1.00–2.65), disruptiveness (OR = 1.80; 95% confidence interval, 1.03–3.13) and joint (OR = 1.88; 95% confidence interval, 1.05–3.37) trajectories made statistically significant contributions to suicide attempts. We found no support for mediation by adolescent anxiety/mood or disruptive disorders. Sex, however, moderated the effect of joint trajectories, increasing the risk of suicide attempts in women (OR = 3.60; Wald $\chi^2 = 10.93$; $P < .001$) but not men (OR = 0.80; Wald $\chi^2 = 0.23$; $P = .64$) displaying both anxious and disruptive traits as children.

Conclusions: Anxious-disruptive girls and disruptive boys appear to be more likely than their peers to attempt suicide by early adulthood. Preventive efforts will require more research into the possible mechanisms behind this early sex difference, that is, gene–environment interplays and nonpsychiatric mediators.

Improving identification of suicidal patients in primary care through routine screening

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Primary Care & Community Psychiatry 13, 143–147, 2008

Aim: To compare patients' rates of endorsement of suicidal ideation during routine medical appointments with their primary care provider (PCP) versus rates of endorsement on a self-report symptom screening measure.

Methods: PCPs referred 338 patients with identified psychosocial health-related issues to a behavioral health consultant (BHC) service fully integrated in a family medicine clinic. All referred patients completed the Behavioral Health Measure-20 (BHM) as part of routine clinical practice.

Results: Of the 338 patients referred to the BHC service, 42 (12.4%) screened positive for suicidal ideation, of which only 7 (2.1%) disclosed suicidal ideation to their PCP during the medical appointment immediately preceding referral to the BHC. Use of the BHM to screen primary care patients referred to the BHC improved detection of patients with suicidal ideation by 600%.

Conclusions: Routine suicide screening of primary care patients using a brief self-report measure can substantially improve the ability to identify at-risk patients in primary care, which can contribute to early detection and enhanced clinical decision-making.

Adolescent suicide

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Current Opinion in Psychiatry 22, 1–6, 2009

Purpose of review: The present review summarizes the updated literature on adolescent suicide.

Recent findings: Reductions in youth suicide rates are probably related to use of selective serotonin reuptake inhibitors since the mid 1990s as well as restrictions in means and enhanced pesticide control. The serotonin theory of suicide has received more empirical support. Familial transmission of suicidal behavior may be mediated by transmission of impulsive aggression from parent to child and early detection of precursors of suicidal behavior can help identify families at high risk of having a suicidal child. A newly investigated social risk factor of bullying adolescents and the novel psychological construct of autobiographical memory all help to advance our understanding and treatment of suicidal youths. Much effort is needed in establishing more solid empirical evidence for suicide prevention programs and treatment, while assessment tools are still in desperate need of further development.

Summary: Suicidal behavior remains an important clinical problem and a major cause of death in youth. There are key issues that need to be solved for better prediction of suicidality, prevention and treatment of youth suicide.

Suicide prevention: is more demographic information the answer?

M Caley, T Fowler (UK)

Journal of Public Health 31, 95–97, 2009

Suicide is an important health issue and its prevention is prioritized in government targets. PCTs in England and Wales are also required to carry out audits of suicide deaths by the Healthcare Commission (HCC). We present findings of a 6-year analysis of suicide deaths between 2002 and 2008 in Birmingham and Solihull, the second largest urban conurbation in the UK. After extensive analysis, no demographic group was shown to have a significantly greater risk of suicide and no geographical area had significantly higher rates than another. Despite the large population examined (c.1.3 million), these findings are likely to be due to the rarity of suicides as an outcome. We discuss the practical implications of these findings for local health organizations charged with reducing suicide rates, the value to local suicide audits and the use of a new suicide audit tool developed for use by PCTs. We conclude that ever increasing collection of information surrounding suicide deaths is unlikely to result in the discovery of local groups amenable to targeted suicide prevention interventions and that the HCC may want to reconsider its performance indicator around suicide audits to allow valuable resources to be used more effectively elsewhere.

Antidepressant use and suicide prevention: a prescription database study in the region Friuli Venezia Giulia, Italy

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Acta Psychiatrica Scandinavica 118, 382–388, 2008

Background: To investigate the possible impact of the increased use of antidepressants on suicide rates in the Italian region of Friuli Venezia Giulia (FVG).

Method: Individual-based data on antidepressants in FVG from 1997 to 2006 were obtained from the regional prescription database, and linked to data on suicide for the same period obtained from the regional health information system. Age and sex were considered.

Results: The number of users of antidepressants increased almost fivefold during the study period. Selective serotonin reuptake inhibitors accounted for 71% of the individual users in 2006. The number of defined daily doses (DDD) per patient increased almost sevenfold. In parallel, the suicide rate decreased by one-third in men as well as in women, and in subjects under and over the age of 60 years.

Conclusion: Suicide rates in FVG have declined in agreement with the hypothesis that the use of antidepressants may prevent suicide.

Risk of mortality among depressed younger patients: a 5-year follow-up study

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Journal of Affective Disorders 113, 255–262, 2009

Background: Young adults aged from 18 to 44 years comprise a large portion of the population suffering from depression. Yet few studies have compared the likelihood of dying of natural causes or by suicide among depressed patients. This study uses a case-control approach to compare the likelihood of dying of natural causes and by suicide for depressed and non-depressed patients based on a representative national sample in Taiwan.

Method: A retrospective case-control study design was used to analyze two nationwide population-based datasets: the National Health Insurance Research Database (NHIRD) and the official Cause of Death data file in Taiwan. The study cohort consisted of 827 patients from 18 to 44 years old who were hospitalized with a primary diagnosis of depressive disorder from 1998–2003. A comparison cohort of patients hospitalized for appendectomies was matched with the study sample in terms of age and gender ($N = 2481$).

Results: After adjusting for the age and comorbid medical disorders, the hazard of dying during the 5-year follow-up period was 1.72 times greater for depressed patients than for appendectomy patients. Depressed patients were more likely to die by suicide during the follow-up period, as no significant difference in odds of dying from natural causes was observed between these two cohorts.

Conclusion: Further studies should be initiated to identify specific risk factors for suicide among younger adults, while prevention strategies might focus on stresses associated with particular life stages, taking age and gender patterns into account.

Was the economic crisis 1997–1998 responsible for rising suicide rates in East/Southeast Asia? A time-trend analysis for Japan, Hong Kong, South Korea, Taiwan, Singapore and Thailand

SS Chang, D Gunnell, JA Sterne, TH Lu, AT Cheng (UK, Taiwan)

Social Science & Medicine 68, 1322–1331, 2009

In 1997–1998 a widespread economic crisis hit the economies of many East/Southeast Asian countries; its impact on suicide rates across the region has not been systematically documented. We investigated the impact of the Asian economic crisis (1997–1998) on suicide in Japan, Hong Kong, South Korea, Taiwan, Singapore and Thailand. Suicide and population data for the

period 1985–2006 were extracted from the World Health Organization's mortality database and Taiwanese mortality statistics. Sex-specific age-standardised suicide rates for people aged 15 years or above were analysed using joinpoint regression. Trends in divorce, marriage, unemployment, gross domestic product (GDP) per capita and alcohol consumption were compared with trends in suicide rates graphically and using time-series analysis. Suicide mortality decreased in the late 1980s and early 1990s but subsequently increased markedly in all countries except Singapore, which had steadily declining suicide rates throughout the study period. Compared to 1997, male rates in 1998 rose by 39% in Japan, 44% in Hong Kong and 45% in Korea; rises in female rates were less marked. Male rates also rose in Thailand, but accurate data were incomplete. The economic crisis was associated with 10,400 more suicides in 1998 compared to 1997 in Japan, Hong Kong and Korea. Similar increases in suicide rates were not seen in Taiwan and Singapore, the two countries where the economic crisis had a smaller impact on GDP and unemployment. Time-series analyses indicated that some of the crisis's impact on male suicides was attributable to increases in unemployment. These findings suggest an association of the Asian economic crisis with a sharp increase in suicide mortality in some, but not all, East/Southeast Asian countries, and that these increases were most closely associated with rises in unemployment.

Those who are left behind: an estimate of the number of family members of suicide victims in Japan

J Chen, YJ Choi, K Mori, Y Sawada, S Sugano (Japan)

Social Indicators Research. Published online: 10 February 2009. doi: 10.1007/s11205-009-9448-3, 2009

This paper contributes to the literature of suicide studies by presenting procedures and its estimates of the number of family members who lose their loved ones to suicide. Using Japanese aggregate level data, three main findings emerge: first, there are approximately five bereaved family members per suicide; second, in 2006, there were about 90,000 children who had lost a parent to suicide; and third, in 2006, there were about three million living family members who had lost a loved one to suicide. The direct production loss of bereaved family members in 2006 alone is estimated at approximately 197 million USD. These results are valuable in evaluating the cost-effectiveness of suicide prevention programs and in designing appropriate policy instruments. Contributes to the literature of suicide studies by presenting procedures and its estimates of the number of family members who lose their loved ones to suicide.

Descriptive epidemiological study of sites of suicide jumps in Taipei, Taiwan

YY Chen, D Gunnell, TH Lu (Taiwan)

Injury Prevention 15, 41–44, 2009

Objective: To identify locations to target for suicide preventive measures to reduce suicide by jumping in Taipei city, Taiwan.

Method: A descriptive study of suicide by jumping from a height was conducted in Taipei, 2002–2005. Information on sites from which suicide jumps occurred was obtained from death certificates as well as ambulance, medical and newspaper records.

Results: Of the 210 jumping suicide deaths with sufficient information on the site of the jump, private residential buildings comprised the highest proportion (67%) of all jumping sites, followed by business office buildings (13%), hospitals (8%) and shopping malls (5%). However, the number of jumping suicides per 1000 sites was highest for hospitals (307 per 1000 hospitals) and shopping malls (275 per 1000 shopping malls) compared with 2 per 1000 for residential buildings. Women and older people who died by jumping were more likely to have jumped from buildings where they lived, compared with men and other age groups.

Conclusion: Although two-thirds of suicides occurred from residential buildings, the sites with the greatest number of jumps per location were hospitals and shopping malls, making them the most cost-effective focus for preventive efforts.

Suicide risk assessment with Asian–American college students: a culturally informed perspective

JL Choi, JR Rogers, JL Werth Jr (USA)

Counseling Psychologist 37, 186–218, 2009

Scholars have based their understanding of college-student suicide in the United States largely on the study of European Americans, and therefore, its relevance to making culturally informed decisions with suicidal Asian American college students is unclear. This article explores aspects of suicide assessment potentially unique to Asian American college students and discusses possible ways to handle the process of breaking confidentiality that are more sensitive to Asian American needs. First, the authors briefly review issues of confidentiality, informed consent, and standards of care. Second, they examine several aspects of Asian American college students' experiences in the United States and of Asian cultural values. Specifically, the authors review acculturation and the experience of immigration, intergenerational relationships, collectivistic cultural values, the myth of the 'model minority', and perfectionism. Third, they offer culturally informed considerations for assessing suicidal risk and ways to manage breaking confidentiality. Finally, they

suggest the Collaborative Assessment and Management of Suicidality model and the Suicide Intervention Response Inventory-2 as potentially useful tools for culturally sensitive work with Asian American college students.

Do geographic regions with higher suicide rates also have higher rates of nonfatal intentional self-harm?

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Suicide & Life Threatening Behavior 38, 637–649, 2008

Fatal and nonfatal intentional self-harm events in eight U.S. states were compared using emergency department, hospital, and vital statistics data. Nonfatal event rates increased by an estimated 24.20% over 6 years. Case fatality ratios varied widely, but two north-eastern states' total event rates (fatal plus nonfatal) were very high (New Hampshire 206.5/100,000 person years; Massachusetts 166.7/100,000). Geographic context did not uniformly impact the likelihood of self-harm across event types. The state-level public health burden posed by such acts cannot, therefore, be accurately estimated from either mortality or morbidity data alone.

Socioeconomic status and anxiety as predictors of antidepressant treatment response and suicidal ideation in older adults

A Cohen, SE Gilman, PR Houck, K Szanto, CF Reynolds (UK)

Social Psychiatry & Psychiatric Epidemiology 44, 272–277, 2009

Background: Separate reports from the maintenance treatment for late-life depression (MTLD) trials have shown that low socioeconomic status (SES) and anxiety symptoms at the time of treatment initiation predict lower levels of response to antidepressant treatment and higher levels of suicidal ideation in older adults.

Aim: To determine whether SES and anxiety independently contribute to worse treatment outcomes, as indicated by persistence of depressive symptoms during treatment and the persistence of suicidal ideation. Consistent with prior evidence that sociodemographic factors and clinical history are both prognostic of depression treatment efficacy, we hypothesized that SES and pre-existing anxiety symptoms will both predict lower levels of response to treatment and higher levels of suicidal ideation.

Method: Secondary analyses of data from the MTLD trials.

Results: Regression analyses which controlled for comorbid anxiety indicated that residents of middle- and high-income census tracts were more likely to respond to treatment (HR, 1.63; 95%CI, 1.08–2.46) and less likely to report suicidal ideation during treatment (OR, 0.51; 95%CI, 0.28–0.90) than residents of low income census tracts. The same regression models indicated that pre-exist-

ing anxiety symptoms were independently related to lower treatment response (HR, 0.73; 95%CI, 0.60–0.89) and higher risk of suicidal ideation (OR, 1.45; 95%CI, 0.98–2.14).

Conclusion: These findings demonstrate the importance of treating anxiety symptoms during the course of treatment for late-life depression and, at the same time, addressing barriers to treatment response related to low SES.

Psychiatric risk factors for suicide in the alcohol-dependent patient

KR Conner, MS McCloskey, PR Duberstein (USA)

Psychiatric Annals 38, 742–748, 2008

Suicide is a serious public health concern. In 2004, more than 32,000 individuals died by suicide in the United States, exceeding the number of deaths by homicide that year. This number represents only a small portion (about 5%) of suicide attempts, many of which result in hospitalization and/or disability. Overall, suicide is the 11th leading cause of death in the United States and is the second leading cause of death among young adults. Thus, the need for improved efforts at suicide prevention is clear. Effective suicide prevention requires risk-identification and intervention strategies specifically tailored to high-risk populations. A wealth of data indicates that individuals with alcohol dependence are such a population. A meta-analysis concluded that individuals with alcohol dependence identified through treatment venues are at 9.8 (9.0–10.7) times greater risk for suicide compared to the general population. Furthermore, U.S. national survey data shows that alcohol dependence confers 6.5 (3.6–11.5) times greater risk for attempted suicide compared to individuals without alcohol dependence. Unequivocally, suicide prevention efforts must focus on alcoholism.

Anxiety disorders and suicidality in the National Comorbidity Survey replication

JR Cougle, ME Keough, CJ Riccardi, N Sachs-Ericsson (USA)

Journal of Psychiatric Research. Published online: 14 January 2009. doi:10.1016/j.jpsychires.2008.12.004, 2009

Background: The current study sought to examine the unique associations between anxiety disorders and suicidality using a large nationally representative sample and controlling for a number of established risk factors for suicide.

Method: Data from the National Comorbidity Survey-Replication were used for analyses. Lifetime diagnostic history and demographics were obtained in this survey through a structured interview. Lifetime suicidal ideation and attempts were also assessed.

Results: Multivariate analyses covarying for psychiatric comorbidity and demographic variables found social anxiety disorder (SAD), posttraumatic stress dis-

order (PTSD), generalized anxiety disorder (GAD), and panic disorder (PD) to be unique predictors of suicidal ideation, while only SAD, PTSD, and GAD were predictive of suicide attempts. Analyses by gender indicated that each of these four disorders were predictive of suicidal ideation or suicide attempts among women, while only PTSD and PD acted as risk factors among men.

Conclusions: Findings provide further evidence of the negative impact of anxiety disorders, suggest efforts should be made towards their early detection and treatment, and emphasize the importance of suicide risk assessment in treating individuals with anxiety disorders.

Life events, gender and suicidal behaviours in the acute community setting

D Cupina (New Zealand)

Australasian Psychiatry. Published online: 28 January 2009. doi: 10.1080/10398560802680746, 2009

Objective: The aim of this paper is to examine gender differences in relation to negative life events and suicidal behaviours in patients presenting to an acute community mental health team in Auckland, New Zealand.

Method: Clinical files of all patients referred to one of the Auckland community crisis teams in 2007 were surveyed ($n = 442$). Those presenting with suicidal behaviours were included in the study ('suicidal behaviours' refers to the presence of suicidal ideas or suicide attempts). Demographic information and reasons for presentation were collected from the file.

Results: Seventy patients aged 18–65 years met the inclusion criteria. For 86% of women and 85% of men separation from their partners and relationship conflicts were the main stressors precipitating suicidal behaviours and referral to the local community crisis team. Suicidal behaviours did not differ between males and females.

Conclusion: Irrespective of gender, relationship loss and conflicts were the most commonly identified negative life events precipitating suicidal behaviours in the acute community setting. These findings can have important implications in risk assessment, suicide prevention and provision of acute community services.

Overweight status, self-perception, and suicidal behaviors among adolescents

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Social Science & Medicine. Published online: 18 March 2009. doi:10.1016/j.socscimed.2009.02.015, 2009

Suicide is the third leading cause of death among adolescents in the USA. The suicide rate for individuals 15–19 years of age, while having declined since the early 1990s, has recently shown signs of an increasing trend. The prevalence of being overweight has also steadily risen among adolescents, and has tripled since 1960. This study utilizes data from the Youth Risk Behavioral Surveillance System (1999–2007) to explore the relationship between the perception of being overweight and suicidal behaviors. Studies have shown a high degree of correlation between overweight status, depressive disorders, and suicidal behaviors. This study analyzes these indicators in conjunction with individuals' perception of their weight. The empirical methodology is based on simultaneous-equations models and stratified samples to gauge whether the link between overweight indicators and suicide is causal or whether it is driven by other factors. Results indicate that body dissatisfaction, as measured by the perception of being overweight, has a strong impact on all suicidal behaviors for girls. It raises the risk of suicide ideation by 6.1 percentage points, suicide attempt by 3.6 percentage points, and a serious suicide attempt by 0.5 percentage points. Results are generally insignificant for males. Conditional on overweight perception, actual weight does not generally have an independent effect on suicidal behaviors. Policies aimed at reducing the prevalence of overweight among adolescents may further reduce suicidal behaviors by limiting overweight perception, especially among girls. However, the independent role of perception also highlights the importance of educating youths and fostering healthy attitudes regarding body image.

Ten years of research into self-harm in the Western Australian prison system: where to next?

GE Dear (Australia)

Psychiatry, Psychology & Law 15, 469–481, 2008

In this article the findings from a program of research into self-harming behaviour in Western Australian adult prisons conducted since 1996 are integrated with findings from international research to construct a model to explain self-harm in prison. The critical component in the model is severe distress: the necessary ingredient for self-harming behaviour. Consequently, a critical aspect of any system to prevent self-harm in prison is to reliably detect and effectively respond to prisoners' distress. The priority for researchers is to test the model using prospective designs to permit conclusions about causative relations among factors.

The duration of the suicidal process: how much time is left for intervention between consideration and accomplishment of a suicide attempt?

EA Deisenhammer, CM Ing, R Strauss, G Kemmler, H Hinterhuber, EM Weiss (Austria)

Journal of Clinical Psychiatry 70, 19–24, 2009

Background: A history of suicide attempts is a major predictive factor for completed suicide with repeated self-harm constituting a particularly high risk. This study was undertaken to investigate suicide attempters' reports on the length of the period between consideration and accomplishment of a suicide attempt.

Method: Eighty-two patients referred to a psychiatric university hospital after a suicide attempt were approached within 3 days after the act. A semistructured interview focusing on the duration and related aspects of the suicidal process, the Barratt Impulsiveness Scale, the Beck Suicide Intent Scale, and the Montgomery-Asberg Depression Rating Scale were administered. Data were collected from July 2004 to December 2005.

Results: Nearly half of the patients (47.6%; $N = 39$) reported that the period between the first current thought of suicide and the actual attempt had lasted 10 minutes or less. Those patients in which this process had taken longer showed a higher suicidal intent ($p < .001$). Impulsivity was not associated with the duration of the suicidal process. Although the majority of the patients were alone during the suicidal process, 76.8% ($N = 63$) reported having had any kind of interpersonal contact.

Conclusion: The process from the emergence of suicidal thoughts to the accomplishment of a suicide attempt, and thus the time for intervention, generally is short. However, in a considerable number of suicide attempters, there is at least some readiness for interpersonal contact with partner, family, or friends. Professional helpers appear to have limited potential for intervention during this phase. Thus, spreading information on signs of suicidality and interventional measures among the general population should be incorporated into suicide prevention strategies.

Suicidal behavior in the Western Pacific region: characteristics and trends

D De Leo, A Milner, X Wang (Western Pacific)

Suicide & Life-Threatening Behavior 39, 72–81, 2009

Current knowledge of suicidal behavior in the Western Pacific region is relatively limited when compared to other areas of the world. This area is characterized by a wide diversity of social, economic, and cultural aspects that do not permit any homogenous reading of suicide phenomena. Data from countries of the region included in this article suggest the existence of important differ-

ences among nations in terms of gender, age, and methods of suicide, as well role of mental illness. In addition, the Western Pacific region appears to be affected by higher rates of suicide than other areas in the world, with signs of progressive worsening in recent years and worrying predictions for the next two decades. The Suicide Trends in At-Risk Territories (START) Study, initiated by the World Health Organization Regional Office in Manila, seeks to research the incidence of both fatal and nonfatal suicidal behavior in countries of the region and to implement interventions for suicide attempters. This ambitious project is expected to standardize data collection procedures and improve the knowledge cultural factors in suicide.

The influence of limitation in activity of daily living and physical health on suicidal ideation: results from a population survey of Great Britain

M Dennis, S Baillon, T Brugha, J Lindesay, R Stewart, H Meltzer (UK)

Social Psychiatry & Psychiatric Epidemiology. Published online: 12 January 2009. doi: 10.1007/s00127-008-0474-2, 2009

Background: Studying suicidal ideation (SI) has methodological advantages over examining completed suicide and may provide useful insight into suicidal behaviour. SI is not only strongly associated with mental disorder (particularly depression), but also disability. This article explores the relationship between SI and disability in greater detail.

Methods: In the survey of psychiatric morbidity in Great Britain, 8,580 randomly selected adults were interviewed. Three questions were asked to assess SI, and a set of questions identified ADL limitation.

Results: Data was available on SI and ADL limitation in 8,513 of those surveyed. The independent association between SI and specific ADL limitations was greatest in older people. The strength of association between SI and ADL limitation increased with the number of domains of ADL affected and was of similar magnitude for most individual domains. In those with limitation in ADL, limited social support remained independently associated with SI.

Conclusions: Disability is an important independent correlate of suicidal ideation, particularly in older people. Preventative programmes need to be considered for disabled older people.

Family history of suicidal behavior predicts impulsive-aggressive behavior levels in psychiatric outpatients

G Diaconu, G Turecki (Canada)

Journal of Affective Disorders 113, 172–178, 2009

Background: Impulsive-aggressive traits have been proposed as mediators of the transmission of suicidal behavior in families. Our aim was to investigate

the association between family history of suicidal behavior, and expressions of impulsivity and aggressive behavior, in a clinical population.

Methods: A sample of $n = 474$ psychiatric outpatient subjects were assessed by means of standardized interviews for Axis I and II psychopathology, history of suicidal behavior in subjects and their family, and measures of impulsive-aggressive behaviors (IAB).

Results: A total of $n = 38$ (8%) probands had a family history of suicidal behavior. This was three times more frequent in patients with a personal history of suicidality, irrespective of their own psychopathology ($p < .001$), and four times more frequent in suicide attempters with depression vs. depressed non-attempters ($p < .005$). A family history of suicidal behavior was associated with higher impulsive ($p < .005$) and aggressive behavior measures ($p < .01$) in probands.

Limitations: Retrospective design and family-history methodology; Limited sample; Contagion and imitation effects could not be assessed based on available data.

Conclusions: Impulsive-aggressive behaviors are significantly elevated in persons who have a familial loading of suicidal behavior.

The association between self-reported anxiety symptoms and suicidality

GJ Diefenbach, SB Woolley, JW Goethe (UK)

Journal of Nervous & Mental Disease 197, 92–97, 2009

This cross-sectional study assessed the association between self-reported anxiety symptoms and self-reported suicidality among a mixed diagnostic sample of psychiatric outpatients. Data were obtained from chart review of 2,778 outpatients who completed a routine diagnostic clinical interview and a standardized self-report of psychiatric symptoms on admission. Bivariate analyses indicated that those with \geq moderate anxiety symptoms were over three times as likely to report \geq moderate difficulty with suicidality. Self-reported anxiety symptoms were associated with a 2-fold increased likelihood of reporting suicidality after controlling for confounding (demographics, depressive symptoms, and diagnoses). These data are consistent with a growing literature demonstrating an association between anxiety symptoms and suicidality, and suggest that this association is not accounted for by coexisting mood symptoms or diagnoses. A single item, self-report may be a useful screening tool for symptoms that are pertinent to assessment of suicide risk.

Suicide decline in Australia: where did the cases go?

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Australian & New Zealand Journal of Public Health 33, 67–69, 2009

Objectives: To describe the causes of death codes assigned in Australian Bureau of Statistics (ABS) mortality data to deaths in Australia from 2000 to 2005 that were coded as intentional self-harm (suicide) in the National Coroners Information System (NCIS).

Methods: Data for deaths in the period mid-2000 to end-2005 were obtained from the National Coroners Information System database (NCIS). We selected cases recorded in the NCIS as having intent at completion = intentional self-harm. The record linkage was done by the ABS and NCIS and did not form part of this project.

Results: During the study period, 12,786 deaths recorded in NCIS were assigned intent at completion = intentional self-harm. Of these, 9,937 (77.7%) had been assigned ICD-10 underlying cause of death codes in the range normally reported as suicide (X60-X84), 1,135 had been assigned other ICD-10 codes and the remaining 1,714 (13.4%) NCIS records did not hold any ICD-10 codes.

Conclusions: These findings confirm that routine mortality data have underestimated suicide mortality in Australia in recent years probably due to incomplete coroner data being available to ABS coders. Certain types of unintentional injury deaths have been over-estimated. Incomplete linkage of NCIS and ABS data in the source data used for this project complicates calculations of adjusted estimates and trends.

Obesity, unexplained weight loss and suicide: the original Whitehall Study

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Journal of Affective Disorders. Published online: 21 December 2008. doi:10.1016/j.jad.2008.12.002, 2008

Background: Evidence on the association between obesity and suicide is mixed. However, the strength of obesity as a predictor of suicide may be reduced, because of the role of weight changes associated with mental disorders. We tested the hypothesis that both obesity and unexplained weight loss are related to elevated suicide risk.

Methods: A clinical examination with measurements of height, weight and self-reported unexplained weight loss was conducted at baseline for 18,784 men aged 40 to 69. Based on national mortality register data, 61 suicides were identified during the 38-year follow-up.

Results: The age-adjusted hazard ratio for suicide among obese versus normal weight men was 2.22 (95% CI 0.94 to 5.28). Additional adjustment for unex-

plained weight loss raised this ratio to 2.48 (95% CI 1.04 to 5.92). Unexplained weight loss was associated with a substantial excess risk of suicide irrespective of obesity (age-adjusted hazard ratio 5.38, 95% CI 2.31 to 12.50; age- and obesity-adjusted hazard ratio 5.58, 95% CI 2.37 to 13.13).

Limitations: Inability to take into account the effect of depression as a potential mediating mechanism.

Conclusions: This study provides evidence that both obesity and unexplained weight loss may be important predictors of suicide. Lack of adjustment for weight loss may suppress the observed association between obesity and suicide.

Personality style and impulsivity as determinants of suicidal subgroups

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Archives of Suicide Research 13, 31–45, 2009

Studies on suicide have often been inadequate in the sense of failing to understand or conceptualize the dynamics of suicidal behavior from a comprehensive theoretical basis. The aim of the present study was therefore to examine Blatt's theory of Dependent and Self-critical personality dimensions (Blatt, 1974, Blatt & Shichman, 1983) in the context of actual suicidal behavior, and also to utilize these dimensions to facilitate our understanding of suicidal action. Ninety-six undergraduate students who had attempted suicide in the past were administered a series of measures related to suicidal behavior, involving impulsivity, intent, and lethality. Participants were also identified as Dependent or Self-critical in their basic personality orientation. Dependents and Self-critics engaged in contrasting suicidal behaviors along several parameters, with Self-critical individuals generally posing greater risk. These differences were congruent with Blatt's theoretical framework. Implications for suicide risk assessment, management, and treatment are discussed, with special reference to the importance of identifying distinctive suicidal subgroups identified by Dependent and Self-critical personality dimensions.

Risk factors and correlates of deliberate self-harm behavior: a systematic review

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Journal of Psychosomatic Research. Published online: 16 January 2009.

doi:10.1016/j.jpsychores.2008.10.013, 2009

Objective: Deliberate self-harm behavior-without suicidal intent-is a serious health problem and may be studied as a clinical phenomenon in its own right. Empirical studies of sociodemographic and psychological correlates and risk factors are systematically reviewed.

Methods: We searched Medline, PsycINFO, PSYINDEX (German psychological literature), and reference lists. We targeted self-induced bodily harm without conscious suicidal intent. Studies on suicidal behavior or self-poisoning were only included if they also assessed nonsuicidal self-harm.

Results: Fifty-nine original studies met the criteria. Deliberate self-harm may occur at all ages, yet adolescents and young adults are at a higher risk. Evidence on gender is complex. Only 5 studies realize a prospective design (6 months to 10 years) and test predictors. The majority use cross-sectional and retrospective methods. No longitudinal study (separately) examines new incidence. Evidence of correlates encompasses distal/proximal, person/environment, and state/trait factors. Many studies report associations between current self-harm behavior and a history of childhood sexual abuse. Adolescent and adult self-harmers experience more frequent and more negative emotions, such as anxiety, depression, and aggressiveness, than persons who do not self-harm. Two studies yield specific interactions between childhood trauma and current traits and states such as low emotional expressivity, low self-esteem, and dissociation with respect to a vulnerability to self-harm.

Conclusion: Evidence of distal, biographical stressors is fairly strong. Proximal stressors have rarely been investigated; protective factors, hardly at all. Despite many findings of correlates, the data do not yet justify terming them risk factors. Longitudinal studies are needed.

Suicide attempts in bulimia nervosa: personality and psychopathological correlates

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European Psychiatry (Suppl.) 23, S181-S181, 2008

Background: Little evidence exists about suicidal acts in eating disorders and its relation with personality. We explored the prevalence of lifetime suicide attempts (SA) in women with bulimia nervosa (BN), and compared eating disorder symptoms, general psychopathology, impulsivity and personality between individuals who had and had not attempted suicide. We also determined the variables that better correlate with of SA.

Method: Five hundred sixty-six BN outpatients (417 BN purging, 47 BN non-purging and 102 subthreshold BN) participated in the study.

Results: Lifetime prevalence of suicide attempts was 26.9%. BN subtype was not associated with lifetime SA ($p = .36$). Suicide attempters exhibited higher rates on eating symptomatology, general psychopathology, impulsive behaviors, more frequent history of childhood obesity and parental alcohol abuse ($p < .004$). Suicide attempters exhibited higher scores on harm avoidance and lower on self-directedness, reward dependence and cooperativeness ($p < .002$). The most strongly correlated variables with SA were: lower education,

minimum BMI, previous eating disorder treatment, low self-directedness, and familial history of alcohol abuse ($p < .006$).

Conclusion: Our results support the notion that internalizing personality traits combined with impulsivity may increase the probability of suicidal behaviors in these patients. Future research may increase our understanding of the role of suicidality to work towards rational prevention of suicidal attempts.

Suicide risk in rapid cycling bipolar patients

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Journal of Affective Disorders. Published online: 1 January 2009. doi:10.1016/j.jad.2008.12.005, 2009

Background: Rapid-cycling (RC) is a course modifier of bipolar disorder which often implicates a poor prognosis. However, the relationship of RC with suicidal features as a marker of impairment has been understudied.

Methods: Three hundred and five patients ($n = 305$) were included in a naturalistic, systematic prospective study in a single site setting. Patients with rapid-cycling (RC) were defined as having four or more manic, mixed or depressive episodes in the year prior to baseline assessment. The two groups were compared regarding clinical and sociodemographic variables, paying special attention to suicidal features. Statistical methods consisted of chi-square statistic for the comparison of categorical data, and Student's t test for dimensional variables normally distributed. Also, a General Linear Model was used to study the main effect of different sociodemographic and clinical variables on suicidality. All statistics were two-tailed, and significance was set at p less than .05.

Results: Fifty-five patients (18%) were classified as RC, whilst 250 (82%) were considered as nonrapid-cycling (NRC). No significative difference was found in the prevalence of RC amongst bipolar I and II patients. RC was associated with depressive onset of bipolar disorder. The number of suicide attempts was significantly higher amongst RC (RC mean 0.82 [SD 1.85] vs. NRC 0.44 [SD 0.94] $t = 2.09$, $p = .37$). Nonetheless, no significative differences were found between RC and NRC regarding the percentage of suicide attempters. On the other hand patients that presented RC showed a marked increase of lifetime history of suicidal ideation ($\chi^2 = 4.363$, $p = .039$). Finally, there were not any differences between RC patients and NRC in family history of suicide.

Discussion: Bipolar patients with RC are more likely to attempt suicide. Intensive treatment of this marker should be considered.

Dissemination and implementation of suicide prevention training in one Scottish region

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BMC Health Services Research 8, 246–259, 2008

Background: As part of a national co-ordinated and multifaceted response to the excess suicide rate, the Choose Life initiative, the Highland Choose Life Group launched an ambitious programme of training for National Health Service (NHS), Council and voluntary organisation staff. In this study of the dissemination and implementation of STORM (Skills-based Training On Risk Management), we set out to explore not only the outcomes of training, but key factors involved in the processes of diffusion, dissemination and implementation of the educational intervention.

Methods: Participants attending STORM training in Highland Region provided by 12 trained facilitators during the period March 2004 to February 2005 were recruited. Quantitative data collection from participants took place at three time points; immediately before training, immediately post-training and six months after training. Semi-structured telephone interviews were carried out with the training facilitators and with a sample of course participants 6 months after they had been trained. We have utilized the conceptual model described by Greenhalgh and colleagues in a Framework analysis of the data, for considering the determinants of diffusion, dissemination and implementation of interventions in health service delivery and organization.

Results: Some 203 individuals completed a series of questionnaire measures immediately pre (time 1) and immediately post (time 2) training and there were significant improvements in attitudes and confidence of participants. Key factors in the diffusion, dissemination and implementation process were the presence of a champion or local opinion leader who supported and directed the intervention, local adaptation of the materials, commissioning of a group of facilitators who were provided with financial and administrative support, dedicated time to provide the training and regular peer-support.

Conclusion: Features that contributed to the success of STORM were related to both the context (the multi-dimensional support provided from the host organization and the favourable policy environment) and the intervention (openness to local adaptation, clinical relevance and utility), and the dynamic interaction between context and the intervention.

Suicide prevention by online support groups: an action theory-based model of emotional first aid

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Archives of Suicide Research 13, 52–63, 2009

In the last two decades, online support groups have become a valuable source of help for individuals in suicidal crisis. Their attractiveness is attributed to features that enhance help-seeking and self-disclosure such as availability, anonymity, and use of written communication. However, online support groups also suffer from limitations and potential risks as agents of suicide prevention. The Israeli Association for Emotional First Aid (ERAN) has developed a practical model that seeks to maximize the benefits and minimize the risks of online suicide prevention. The model applies the Action Theory concepts whereby individuals shape their own environment. The present paper presents the model, which is based on an online support group combined with personal chat and a telephonic help line. The online support group is moderated by paraprofessionals who function as both process regulators and support providers. The principles and practice of the model are described, the theoretical rationale is presented, and directions for future research are suggested.

Social context during non-suicidal self-injury indicates suicide risk

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Personality & Individual Differences 46, 25–29, 2009

The link between non-suicidal self-injury (NSSI) and suicide is complex. Previous research indicates that self-injurers endorsing automatic/intrapersonal functions (as opposed to social/interpersonal functions) for NSSI are more likely to have considered and attempted suicide. Subsequent research suggests that those endorsing automatic/intrapersonal functions are more likely to self-injure exclusively while alone. Based on these findings, we hypothesized that the social context during NSSI (i.e. the extent to which one self-injures alone versus around others) represents an easily measurable and theoretically meaningful marker for suicide risk among those who self-injure. Participants were 205 young adults who had performed one or more NSSI behaviors and completed several clinical measures. In general, self-injurers scored higher on measures of suicidality and suicide risk factors (i.e. depression, anxiety, borderline personality disorder symptomatology) than a non-injuring control sample ($n = 596$). In addition, self-injurers who engage in NSSI alone were more likely to report a history of suicide ideation, plans, and attempts compared to other self-injurers. Endorsement of automatic/intrapersonal functions only partially explained the relationship between the social context during NSSI and suicidality. Consistent with the study hypothesis, social context during NSSI appears to be a marker for suicide risk in individuals who engage in NSSI.

Previously suicidal adolescents: predictors of six-month outcome

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Journal of the Canadian Academy of Child & Adolescent Psychiatry 17, 197–201, 2008

Aim: To determine the baseline variables, including borderline personality disorder (BPD), associated with the six-month outcome of previously suicidal adolescents ($n = 263$) presenting to an emergency department and treated predominantly as out-patients.

Methods: Multivariate logistic regression was used to analyze the associations between baseline variables and suicidality at 6-month follow-up.

Results: BPD, previous suicide attempt(s), drug use and female gender were associated with subsequent suicidality.

Conclusions: These findings corroborate previously reported risk factors for recurring suicidality among adolescents and broaden their generalizability to those presenting to an emergency department, many diagnosed with BPD.

Is low IQ associated with an increased risk of developing suicidal thoughts? A cohort study based on an 18-month follow-up of the National Psychiatric Morbidity Survey

D Gunnell, R Harbord, N Singleton, R Jenkins, G Lewis (UK)

Social Psychiatry & Psychiatric Epidemiology 44, 34–38, 2009

Studies in young male conscripts suggest that low IQ scores are associated with an increased risk of suicide. Mechanisms underlying this association are unclear. To investigate the association of IQ, as indexed by the national adult reading test (NART), with the incidence of, and recovery from, suicidal thoughts. An 18-month follow-up of 2,278 of the adults who took part in the Britain's second national psychiatric morbidity survey who completed the NART at baseline. There was no evidence that poor performance on the NART was associated with an increased incidence of suicidal thoughts over the 18 month follow-up (adjusted odds ratio per 10-unit increase in NART-IQ 1.08 (95% CI 0.86–1.36). However, among the 155 subjects with suicidal thoughts at baseline, those with low NART-IQ were least likely to recover from them: the adjusted odds of recovery per 10-unit increase in NART-IQ were 1.42 (95% CI 0.96–2.10). The association between low IQ and an increased risk of suicide may be because people with low IQ experience suicidal thoughts for more prolonged periods than those with high IQ or because low IQ increase the likelihood that people experiencing suicidal thoughts act upon them.

Hospital admissions for self-harm after discharge from psychiatric inpatient care: cohort study

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British Medical Journal 337, a2278-a2284, 2008

Background: To determine the risk of non-fatal self harm in the 12 months after discharge from psychiatric inpatient care.

Design: Cohort study based on national hospital episode statistics.

Setting: England.

Population: Patients aged 16–64 years discharged from psychiatric inpatient care between 1 April 2004 and 31 March 2005 and followed up for 1 year.

Results: 75,401 people were discharged from psychiatric inpatient care over the study period, 4935 (6.5%) of whom were admitted at least once for self-harm in the following 12 months. Risk of self-harm was greatest in the 4 weeks after discharge; one-third (32%, $n = 1578$) of admissions for self harm occurred in this period. The strongest risk factor for self-harm after discharge was admission for self-harm in the previous 12 months (hazard ratio 4.9, 95% confidence interval 4.6 to 5.2). The risk of self-harm was also higher in females, younger people, those with diagnoses of depression, personality disorders, and substance misuse, and those with short lengths of stay.

Conclusion: More than 6% of patients discharged from psychiatric inpatient care are readmitted for an episode of self-harm within 12 months, with one-third of these episodes occurring in the month after discharge. Self-harm after discharge from hospital shares many of the features of suicide after discharge. Interventions should be developed to reduce risk in this period.

Suicidality in a sample of Arctic households

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Suicide & Life Threatening Behavior 38, 699–707, 2008

We investigated the association of suicidal ideation and behavior with depression, anxiety, and alcohol abuse in a Canadian Arctic Inuit community. Inuit ($N = 111$) from a random sample of households completed assessments of anxiety and depression, alcohol abuse, and suicidality. High rates of suicidal ideation within the past week (43.6%), and suicide attempts within last 6 months (30%), were reported. Ideation was more frequent among younger persons, whereas those favoring local native language were less likely to report a wish to die. Higher overall suicidality scores were associated with higher anxiety, and alcohol abuse, but not with depression or gender. Implications for future research are discussed.

The effectiveness of telemental health applications: a review

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Canadian Journal of Psychiatry 53, 769–778, 2008

Objective: To review the evidence of benefit from use of telemental health (TMH) in studies that reported clinical or administrative outcomes.

Method: Relevant publications were identified through computerized literature searches using several electronic databases. Included for review were scientifically valid articles that described controlled studies, comparing TMH with a non-TMH alternative, and uncontrolled studies that had no fewer than 20 participants. Quality of the evidence was assessed with an approach that considers both study performance and study design. Judgments were made on whether further data were needed to establish each TMH application as suitable for routine clinical use.

Results: Included in the review were 72 papers that described 65 clinical studies; 32 (49%) studies were of high or good quality. Quality of evidence was higher for Internet- and telephone-based interventions than for video-conferencing approaches. There was evidence of success with TMH in the areas of child psychiatry, depression, dementia, schizophrenia, suicide prevention, posttraumatic stress, panic disorders, substance abuse, eating disorders, and smoking prevention. Evidence of success for general TMH programs and in the management of obsessive-compulsive disorder were less convincing. Further study was judged to be necessary or desirable in 53 (82%) of the studies.

Conclusion: Evidence of benefit from TMH applications is encouraging, though still limited. There is a need for more good-quality studies on the use of TMH in routine care. The emerging use of Internet-based applications is an important development that deserves further evaluation.

How often does deliberate self-harm occur relative to each suicide? A study of variations by gender and age

K Hawton, L Harriss (UK)

Suicide & Life-Threatening Behavior 38, 650–660, 2008

Deliberate self-harm (DSH; i.e., nonfatal self-poisoning or self-injury) occurs much more frequently than suicide, yet there has been little detailed investigation of the comparative rates of DSH and suicide. We conducted a study of how rates of DSH relate to suicide rates across the life cycle by gender and by method of estimation of DSH rates, using 10 years of data from a local system for monitoring DSH presentations to a general hospital and national and local suicide statistics. The rate-ratio of DSH to suicide was 36 (95% CI 34.9–37.1) based on annual person-based rates of DSH episodes and was nearly five times higher in females (87.9; 95% CI 84.4–91.6) than in males (18.7; 95% CI 17.9–

19.6). The ratio varied markedly across the life cycle, decreasing from more than 200 in teenagers to less than 10 in persons aged 60 years and over. The difference in the ratio between females and males also decreased over the life cycle. There were very similar findings when local suicide rates were used. These patterns were replicated when the data were analyzed, first, on the basis of all episodes of DSH during the study period, but with expectedly larger DSH:suicide ratios (e.g. overall 52.7; 95% CI 51.4–54.1), and second, on the basis of individual persons only engaging in DSH during the study period, but with smaller ratios (e.g. overall 26.2; 95% CI 25.4–27.2). The DSH:suicide rate ratios for those with high and low suicidal intent were similar within age groups except for those aged 60 years and over, in whom there was a greater proportion of high intent acts. These findings illustrate how the nature of self-harming behavior may vary in intention across the life cycle and between the genders, and provide a basis for further comparative work of this kind.

Self-harm in UK armed forces personnel: descriptive and case-control study of general hospital presentations

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British Journal of Psychiatry 194, 266–272, 2009

Background: Little is known about self-harm in the armed forces.

Aims: To investigate the characteristics of armed forces personnel presenting to a general hospital following self-harm and compare these with matched controls who had self-harmed.

Method: Investigation of armed forces personnel presenting to hospital between 1989 and 2003 following self-harm and case-control comparison with people in the general population who had self-harmed.

Results: One hundred and sixty-six armed forces personnel presented with self-harm during the study period, of whom 72.3% (120) were male. Nearly two-thirds (62.7%) were aged under 25 years. Relationship problems (62.0%), employment problems (43.9%) and alcohol misuse (40.5%) were common. Fewer armed forces personnel than controls had evidence of current or past psychiatric disorders or treatment or a prior history of self-harm, and their suicidal intent was lower (males only). Of 64 people in the armed forces who presented during the first 9 years of the study period, one had died (from natural causes) by the end of 2000, compared with nine (5.1%) of the controls, six by probable suicide.

Conclusion: Self-harm by armed forces personnel may often be a response to interpersonal and employment problems complicated by alcohol misuse, with relatively low suicide intent.

Evaluation of acceptability and use of lockable storage devices for pesticides in Sri Lanka that might assist in prevention of self-poisoning

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BMC Public Health 9, 69–106, 2009

Background: Self-poisoning with pesticides is a major reason for high suicide rates in rural areas of many developing countries. Safer storage of pesticides may be one means of prevention. We have conducted a study to assess the acceptability and use of lockable boxes for storing pesticides in rural Sri Lanka.

Methods: Four hundred lockable metal storage boxes were given to farming households, 100 in each of four villages. Assessment interviews were conducted by Sumithrayo (NGO) field workers immediately after boxes were supplied (T1), 11–14 weeks later (T2), 30 weeks later (T3), and 18 months later (T4). Data on suicide and self-harm were collected from local police and hospitals.

Results: At T1 only 1.8% (7/396) of households reported locking up pesticides, 72.5% (279/385) easy access to pesticides for adults and 50.4% (195/387) easy access for children. At T3 most informants in households using pesticides reported using the box all (82.3%, 298/362) or most of the time (7.2%, 26/362). Informants usually reported always locking the box (92.8%, 336/362) and most boxes were locked on inspection (93.6%, 339/362). By T4 there was some reduction in reporting that the box was kept locked all of the time (75.2%, 267/355) and the box being locked on inspection (73.8%, 262/355). Easy child access to the key was reported in relatively few households (10.7% at T4), although interviewers judged that this was possible in rather more (20.6%). Most informants regarded the box as useful (100% at T3 and 99.4% at T4), with convenience for storage, security, avoiding wastage, and protection of children being major factors. A message on the box about how to deal with bad feelings and the importance of safer storage was well received. The locks had been broken or the key lost in a few households.

Conclusions: Introduction of lockable boxes for storing pesticides to farming households in Sri Lanka appeared to be acceptable. Most households used the boxes responsibly, although there was some decline in the proper usage over time. A large-scale trial of lockable storage devices in farming households in rural areas as a means of prevention of suicide and accidental poisoning is now indicated.

Adolescents who self harm: a comparison of those who go to hospital and those who do not

K Hawton, K Rodham, E Evans, L Harriss (UK)

Child & Adolescent Mental Health 14, 24–30, 2009

Background: Deliberate self harm (DSH) by adolescents is a major problem at both hospital and community levels although little is known about the factors associated with hospital presentation.

Method: Using a community survey a comparison was undertaken of adolescents in 41 schools who reported DSH and presented to hospital with those who reported DSH but did not attend hospital.

Results: While hospital presentation following DSH was associated with several factors, multivariate analysis indicated that the most important were method of DSH (overdose, methods other than self-cutting and multiple methods) and help-seeking before the act.

Conclusions: The few differences between adolescents who present to hospital following DSH and those who do not, other than in method of DSH and prior help-seeking, highlight the need for primary preventive initiatives.

Therapeutic effects of psychological autopsies the impact of investigating suicides on interviewees

M Henry, BJ Greenfield (Canada)

Crisis 30, 20–24, 2009

Background: Several authors have observed a therapeutic impact of the psychological autopsy on the interviewee, although they do not explicitly define what aspects of the process were helpful.

Aims: This article aims to identify these therapeutic effects and to discuss their potential impact on participants' narratives.

Methods: This article derives from 35 psychological autopsy interviews that were conducted to better understand adolescent and young adult suicide. Interviews lasted approximately 6 to 8 h each and consisted of both a battery of questionnaires and open-ended questions. They were mostly conducted with the families of the deceased, including parents and siblings, and on occasion were done with a single family member or friend. The time elapsed since the suicide ranged from 6 to 18 months.

Results: Psychological autopsies were helpful to interviewees in allowing them to find meaning in the suicide, to find purpose through their altruistic participation, to obtain psychological support, to experience connectedness with others, to accept the loss as real, and to gain insight into their functioning. Negative reactions to the interviews, albeit uncommon, are also briefly described.

Conclusions: We recommend that interviewers receive preparatory training and ongoing supervision while conducting interviews, to assure a reflective and professional stance.

Mental disorders in self-cutting adolescents

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Journal of Adolescent Health. Published online: 9 January 2009. doi:10.1016/j.jadohealth.2008.10.003, 2009

Purpose: Self-cutting as a form of self-harm is common in general population adolescents. The aim of this study was to investigate the prevalence of mental disorders and associated factors among self-cutting community-dwelling adolescents.

Methods: A sample of adolescents who reported current self-cutting ($n = 80$) was drawn from a large sample of community adolescents ($n = 4205$). Of these 80 individuals, 44 consented to further detailed assessment. An age- and gender-matched control subject was selected for each study subject. Data collection included Structured Clinical Interviews for DSM-IV-TR, the Beck Depression Inventory, the Alcohol Use Disorders Identification Test (AUDIT), and the Youth Self-Report for adolescents aged 11–18 years (YSR).

Results: Major depressive disorder (63% vs. 5%), anxiety disorders (37% vs. 12%), and eating disorders (15% vs. 0%) were more common among self-cutting girls ($n = 41$) than among controls. None of the self-cutting boys ($n = 3$) had a DSM-IV-TR Axis I mental disorder. In multivariate model, the presence of major depressive disorder, the AUDIT score and the YSR internalizing subscale score were the factors that were independently associated with the presence of self-cutting in girls.

Conclusions: Major depressive disorder, signs of alcohol misuse, and internalizing behavior strongly associate with self-cutting in community-dwelling adolescents, especially in girls.

Chronic medical problems and distressful thoughts of suicide in primary care patients: mitigating role of happiness

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International Journal of Geriatric Psychiatry. Published online: 14 January 2009. doi:10.1002/gps.2174, 2009

Background: Chronic medical problems might amplify suicide risk in later life. Feelings of happiness may reduce this risk. We tested the hypothesis that happiness attenuates the association between number of self-reported chronic diseases and suicidal distress.

Methods: A sample of 1,801 depressed, primary care patients, 60 years of age or older, entering a clinical trial, were assessed for the presence of positive emotion, suicidal distress and self-reported chronic medical problems.

Results: Chronic medical problems are associated with suicide ideation and, as hypothesized, happiness attenuates the relationship between self-reported diseases and suicidal distress.

Conclusions: Decreased risk for distressing thoughts of suicide in the context of medical illness is predicted by the presence of positive emotions. Our results suggest that treatments designed to help older primary care patients identify sources of joy and enhance happiness might decrease suicide risk.

Detecting suicidality among adolescent outpatients: evaluation of clinicians' suicidality assessment against a structured diagnostic assessment made by trained raters

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BMC Psychiatry 8, 97–102, 2008

Accurate assessment of suicidality is of major importance. We aimed to evaluate trained clinicians' ability to assess suicidality against a structured assessment made by trained raters.

Method: Treating clinicians classified 218 adolescent psychiatric outpatients suffering from a depressive mood disorder into three classes: 1-no suicidal ideation, 2-suicidal ideation, no suicidal acts, 3-suicidal or self-harming acts. This classification was compared with a classification with identical content derived from the Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS-PL) made by trained raters. The convergence was assessed by kappa- and weighted kappa tests.

Results: The clinicians' classification to class 1 (no suicidal ideation) was 85%, class 2 (suicidal ideation) 50%, and class 3 (suicidal acts) 10% concurrent with the K-SADS evaluation ($\chi^2 = 37.1$, $df\ 4$, $p = .000$). Weighted kappa for the agreement of the measures was 0.335 ($CI = 0.198\text{--}0.471$, $p = .0001$). The clinicians under-detected suicidal and self-harm acts, but over-detected suicidal ideation.

Conclusions: There was only a modest agreement between the trained clinicians' suicidality evaluation and the K-SADS evaluation, especially concerning suicidal or self-harming acts. We suggest a wider use of structured scales in clinical and research settings to improve reliable detection of adolescents with suicidality.

A comparison of life events in suicidal and nonsuicidal adolescents and young adults with major depression and borderline personality disorder

N Horesh, T Nachshoni, L Wolmer, P Toren (Israel)

Comprehensive Psychiatry. Published online: 10 March 2009. doi:10.1016/j.comppsy.2009.01.006, 2009

This retrospective study assessed the correlations between various types of stressful life events (SLE) and suicidal adolescents and young adults with major depressive disorder (MDD;22), borderline personality disorder (BPD;18), and nonsuicidal adolescents and young adults with MDD (20) and BPD (20). A community control group of 40 participants was also evaluated. The measurements used were Life Events Checklist, Childhood Sexual Abuse Questionnaire, Suicide Risk Scale, and Beck Depression Inventory. Suicidal participants experienced a greater number of total lifetime negative events compared with nonsuicidal participants, irrespective of diagnosis, including a greater amount of negative life events in the year before the suicide attempt compared with the year before referral in the nonsuicidal group. Participants with MDD reported more lifetime negative events than participants with BPD. Suicidal adolescents did not have more lifetime death-related SLE than nonsuicidal adolescents, but MDD adolescents experienced more lifetime death-related SLE than BPD adolescents. Suicidal BPD participants reported more lifetime sex abuse-related SLE compared with nonsuicidal BPD participants. The complexity of the relationships between SLE and the interplay of both suicidality and underlying psychopathology is discussed with the relevant treatment implications.

Has occasional cannabis use among adolescents also to be considered as a risk marker?

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European Journal of Public Health 18, 626–629, 2008

Background: The association between cannabis use and health or behaviour problems is quite well established. Little is known about the risk markers related to occasional or former use. This work aims to explore associations between well-being in life and different levels of cannabis use.

Methods: A total of 16 934 French adolescents completed self-administered multi-choice questionnaires (from the European Study ESPAD 2003) on substance consumption, psychopathology, socio-demographics and schooling. Four groups were defined according to cannabis use: Never-Users (no lifetime consumption and no consumption during the last month), Former Users (at least one lifetime consumption but none in the last month), Current Occasional Users (< 5 times during the previous month) and Current Heavy Users

(≥ 5 times during the previous month). Analyses were performed with SAS 8.2 software and adjusted for gender and age.

Results: A total of 68.2% of students aged 12–19 years were Never-Users, 15.5% Former Users, 8.3% Current Occasional Users and 8.0% Current Heavy Users. When Former Users were compared with Never-Users, significant differences were found with regard to suicide attempt, odds ratio (OR) = 2.9 (2.4–3.4); multiple acts of violence, OR = 6.4 (5.4–7.7) and running away from home, OR = 3.1 (2.5–3.8). These differences were greater when Current Occasional Users were compared with Never-Users: suicide attempt, OR = 4.2 (3.5–5.0); multiple acts of violence, OR = 12.6 (10.2–15.5) and running away from home OR = 4.2 (3.4–5.4). Differences remain even after adjustment for alcohol and tobacco consumption.

Conclusions: These results showed that occasional and even former marijuana use is associated with risky behaviour among adolescents.

Suicide pacts in the mentally ill: a national clinical survey

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Psychiatry Research. Published online: 1 April 2009. doi:10.1016/j.psychres.2008.05.004, 2009

There have been no detailed descriptions of psychiatric patients who have died by suicide pact. We examined the social and clinical characteristics of pact cases in England and Wales using a national clinical survey sample of people who died by suicide pact and who had been in recent (< 12 months) contact with mental health services. Over the study period (1996–2005), there were 278 cases of suicide who had died in a pact, 77 (28%) of whom had been in recent service contact. The most common cause of death overall was by carbon monoxide poisoning, but those in contact with services were more likely to use more violent methods compared with other pact victims. Nearly half (47%) had affective disorder and 68% had previously self-harmed. Over a quarter (29%) had died within 3 months of discharge from psychiatric care and 36% had missed their last service appointment. Pact cases were more likely than solitary suicide cases to have experienced recent adverse life events, typically family problems. Measures that may prevent suicide pacts in the mentally ill include the effective treatment of depression and closer supervision in both in-patient and community settings. Awareness of the family environment may contribute to reduced risk.

Gatekeeper training as a preventative intervention for suicide: a systematic review

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Canadian Journal of Psychiatry 54, 260–268, 2009

Objective: Suicide prevention remains a challenge across communities in North America and abroad. We examine a suicide prevention effort that is widely used, termed gatekeeper training. There are 2 aims: review the state of the evidence on gatekeeper training for suicide prevention, and propose directions for further research.

Method: Studies were identified by searching MEDLINE (PubMed) and PsycINFO from inception to the present for the key words suicide, suicide prevention, and gatekeeper. In addition, a manual scan of relevant articles' bibliographies was undertaken.

Results: Gatekeeper training has been implemented and studied in many populations, including military personnel, public school staff, peer helpers, clinicians, and Aboriginal people. This type of training has been shown to positively affect the knowledge, skills, and attitudes of trainees regarding suicide prevention. Large-scale cohort studies in military personnel and physicians have reported promising results with a significant reduction in suicidal ideation, suicide attempts, and deaths by suicide.

Conclusions: Gatekeeper training is successful at imparting knowledge, building skills, and molding the attitudes of trainees; however, more work needs to be done on longevity of these traits and referral patterns of gatekeepers. There is a need for randomized controlled trials. In addition, the unique effect of gatekeeper training on suicide rates needs to be fully elucidated.

Decrease in suicide among the individuals treated with antidepressants: a controlled study of antidepressants in suicide, Sweden 1995–2005

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Acta Psychiatrica Scandinavica. Published online: 15 February 2009. doi: 10.1111/j.16000447.2009.01344.x, 2009

Objective: Ecological studies have demonstrated a substantial decrease in suicide in parallel with an increase in the use of antidepressants. Causality cannot, however, be inferred from such studies. The aim of this study was to test on the individual level the hypothesis that treatment with antidepressant medication has been a substantially contributing cause of the decrease in suicide.

Method: Time trends in the detection of antidepressants and five 'control medications' in the forensic toxicological screening of 16,937 suicides and 33,426 controls in Sweden 1995–2005.

Results: The expected number of antidepressant-positive suicides in 2005 was 409 if the hypothesis was true and 603 if it was false. The observed number in 2005 was 420. The control medications were detected to the extent that was expected if not preventing suicide.

Conclusion: The observed trend in the number of suicides with antidepressants was well predicted by the hypothesis that the increased use of antidepressants has been a substantially contributing cause of the decrease in suicide.

Suicide after leaving the UK armed forces — a cohort study

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PLoS Medicine. Published online: 3 March 2009. doi:10.1371/journal.pmed.1000026, 2009

Background: Few studies have examined suicide risk in individuals once they have left the military. We aimed to investigate the rate, timing, and risk factors for suicide in all those who had left the UK Armed Forces (1996–2005).

Methods and findings: We carried out a cohort study of ex-Armed Forces personnel by linking national databases of discharged personnel and suicide deaths (which included deaths receiving either a suicide or undetermined verdict). Comparisons were made with both general and serving populations. During the study period 233,803 individuals left the armed forces and 224 died by suicide. Although the overall rate of suicide was not greater than that in the general population, the risk of suicide in men aged 24 years and younger who had left the armed forces was approximately two to three times higher than the risk for the same age groups in the general and serving populations (age-specific rate ratios ranging from 170 to 290). The risk of suicide for men aged 30–49 years was lower than that in the general population. The risk was persistent but may have been at its highest in the first 2-year following discharge. The risk of suicide was greatest in males, those who had served in the Army, those with a short length of service, and those of lower rank. The rate of contact with specialist mental health was lowest in the age groups at greatest risk of suicide (14% for those aged under 20 years, 20% for those aged 20–24 years).

Conclusions: Young men who leave the UK Armed Forces were at increased risk of suicide. This may reflect preservice vulnerabilities rather than factors related to service experiences or discharge. Preventive strategies might include practical and psychological preparation for discharge and encouraging appropriate help-seeking behaviour once individuals have left the services.

Body-image dissatisfaction as a predictor of suicidal ideation among Korean boys and girls in different stages of adolescence: a two-year longitudinal study

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Journal of Adolescent Health. Published online: 12 February 2009. doi:10.1016/j.jadohealth.2008.11.017, 2009

Purpose: To descriptively examine trends in body dissatisfaction and suicidal ideation during adolescence, and to investigate whether body dissatisfaction at an early stage (Time 1) predicts suicidal ideation at a later stage (Time 2) among boys and girls in different stages of adolescence (early and mid-adolescence), controlling for Time 1 of relevant variables, including suicidal ideation, depressed mood, and self-esteem.

Methods: Data were obtained from Korea Youth Panel Survey data sets for early adolescents (1380 boys and 1209 girls, Time 1 mean age 10 years) and mid-adolescents (1429 boys and 1437 girls, Time 1 mean age 15 years) and from follow-up surveys of the same individuals after 2 years. Multivariate logistic analyses were carried out to assess the relationship of Time 1 body dissatisfaction to Time 2 suicidal ideation.

Results: For both genders, body dissatisfaction and suicidal ideation progressively increased until peaking at mid-adolescence and slightly decreasing thereafter. After controlling for psychological problems and other possible variables, body dissatisfaction prospectively predicted the risk of suicidal ideation in early-adolescent girls and mid-adolescent boys, but not in early-adolescent boys or mid-adolescent girls.

Conclusions: The results underscore that programs aimed at adolescents with body dissatisfaction should contain different material according to their gender and stage of adolescence. Such differential interventions may reduce suicide risk in adolescents.

Parent–adolescent agreement concerning adolescents' suicidal thoughts and behaviors

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Journal of Clinical Child & Adolescent Psychology 38, 245–255, 2009

Information on history of suicidal thoughts and behaviors is critical in risk assessment, and multi-informant assessment has been recommended. Despite this, relatively little is known about parent–adolescent agreement regarding adolescent suicidality. To examine the extent and predictors of such agreement, 448 psychiatrically hospitalized adolescents and their parents were administered structured interviews assessing suicidal thoughts, plans, and attempts and completed measures of youth internalizing and externalizing behaviors, perceived family social support, and parental distress and psychopathology. Adolescents

reported significantly more suicidal ideation, plans, and attempts than parents. Parental history of depression and adolescent perceived family support were associated with significantly greater agreement about suicidality. History of multiple suicide attempts was associated with greater disagreement about suicidality.

Controlling firearms use in Australia: has the 1996 gun law reform produced the decrease in rates of suicide with this method?

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Social Psychiatry & Psychiatric Epidemiology 44, 285–292, 2009

Background: Observed reductions in firearm suicides in Australia have been linked to the 1997 national firearms agreement (NFA) introduced following the 1996 Port Arthur massacre. The NFA placed strong access restrictions on firearms.

Aims: To assess the impact of legislative restrictions on the incidence of firearm suicide in Queensland and explore alternative or contributory factors behind observed declines.

Method: The Queensland suicide register (QSR) provided detailed information on all male suicides in Queensland (1990–2004), with additional data for Australia (1968–2004) accessed from other official sources. Trends in suicide rates pre/post NFA, and in method selection, were assessed using negative binomial regressions. Changing method selection patterns were examined using a cohort analysis of 5 years of age classes for Australian males. Results: The observed reduction in firearms suicides was initiated prior to the 1997 introduction of the NFA in Queensland and Australia, with a clear decline observed in Australian figures from 1988. No significant difference was found in the rate pre/post the introduction of the NFA in Queensland; however, a significant difference was found for Australian data, the quality of which is noticeably less satisfactory. A marked age-difference in method choice was observed through a cohort analysis demonstrating both time and age influences. Within sequential birth cohorts, rates of firearms suicides decreased in younger males but increased in hanging suicides; this trend was far less marked in older males.

Conclusions: The implemented restrictions may not be responsible for the observed reductions in firearms suicide. Data suggest that a change in social and cultural attitudes could have contributed to the shift in method preference.

Cerebrospinal fluid GABA concentration: relationship with impulsivity and history of suicidal behaviour, but not aggression, in human subjects

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Journal of Psychiatric Research 43, 353–359, 2009

The objective of this study was to assess the relationship between cerebrospinal fluid concentrations of the neurotransmitter gamma-aminobutyric acid (GABA) and measures of impulsivity and related behaviors (aggression and suicidality) in healthy volunteer and personality disordered subjects. CSF GABA levels, and measures of impulsivity, aggression, and history of suicidal behavior were obtained by morning lumbar puncture in 57 healthy volunteer subjects and in subjects with personality disorder. CSF GABA levels were not found to correlate with measures of aggression but were found to correlate directly with measures of impulsivity; e.g., a composite measure of impulsivity in all subjects ($r = .35$, $df = 46$, $P = .015$) and in personality disordered subjects examined separately ($r = .39$, $df = 30$, $P = .029$). In the personality disorder group, CSF GABA levels were higher among subjects with a history of suicidal behavior compared with those without this history. These data suggest that central GABAergic function correlates directly with impulsiveness and history of suicidal behavior, but not aggressiveness, in personality disordered subjects. This may be consistent with observations that high doses of benzodiazepines can lead to 'behavioral disinhibition' in human subjects. Further work assessing this and other aspects of the central GABA system in personality disordered subjects are warranted.

Psychiatric history modifies the gender ratio of suicide: an East and West comparison

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Social Psychiatry & Psychiatric Epidemiology 44, 130–134, 2009

Gender ratios of suicide rates differ greatly across countries. Victoria has a high male: female ratio in suicide that is typical in English-speaking and European countries, while in Hong Kong the low ratio is similar to other southeast Asian countries. This study investigates the effect of gender in the psychiatric and non-psychiatric populations to examine how psychiatric history may modulate the effect of gender in these two different communities. Review of coronial documentation of all suicide cases in 2000 in Hong Kong and Victoria, Australia. Log-linear model was used to test the gender-psychiatric history-location interaction. Gender difference in suicide was narrower in victims with psychiatric history than those without in both communities, albeit gender remained to have an effect even among those with a psychiatric history in Victoria. The impact of cultural- and gender-specific factors is most apparent in

suicide cases with no prior psychiatric history in Victoria: the male: female ratio was as high as 8:1 in this group of victims. Log-linear model results show that the gender-psychiatric history-location interaction was statistically significant. The gender differentials in suicide rates in these two communities are mainly driven by gender's effect in the population with no psychiatric history. Severe clinical conditions can override some, but not all, of gender's effects in Victoria. Suicide prevention effort should target gender-specific factors to prevent suicides in men without history of psychiatric disorders.

Self-harm in adolescent in-patients

AE Livesey (UK)

Psychiatric Bulletin 33, 10–12, 2009

Aims and method: Self-harm among adolescent in-patients exercises all who work with them. The UK has an exceptionally high prevalence of this behaviour compared with the rest of Europe. However, in one in-patient adolescent unit, in-patient self-harm was significantly reduced. Details of our rationale and intervention are presented, together with a retrospective data analysis.

Results: Using a range of practical and psychological interventions, the alarmingly high level of self-harm was almost completely eliminated and this level has been maintained to the present.

Clinical implications: Our results suggest that self-harm in in-patients can be managed and reduced without adverse effects on the patients. Our methods may be applicable to other settings, although some staff may initially feel uncomfortable with such policy.

A cross-sectional investigation of discontinuation of self-injury and normalizing pain perception in patients with borderline personality disorder

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Acta Psychiatrica Scandinavica. Published 6 January 2009. doi:10.1111/j.1600-0447.2008.01335.x, 2009

Objective: Several studies have shown reduced pain perception in patients with borderline personality disorder (BPD) and current self-injurious behavior (SIB). The aim of the present study was to test whether pain perception in patients with current SIB is different from that of patients who had stopped SIB, and whether pain perception of the latter group differs from healthy controls (HC).

Method: We investigated 24 borderline patients and 24 HC. Thirteen patients showed current SIB (BPD-SIB) and 11 patients did not exhibit SIB anymore (BPD-non-SIB). Pain thresholds were assessed using thermal stimuli and laser radiant heat pulses.

Results: We found significant linear trends for all pain measures. The BPD-SIB group was less sensitive than the BPD-non-SIB group and the latter were less sensitive than HC. The pain sensitivity negatively correlated with borderline symptom severity.

Conclusion: The results suggest an association between the termination of SIB, decline of psychopathology and normalization of pain perception in borderline patients.

Anti-depressants and suicide

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Journal of Health Economics. Published online: 3 March 2009. doi:10.1016/j.jhealeco.2009.02.002, 2009

Suicide takes the lives of around a million people each year, most of whom suffer from depression. In recent years there has been growing controversy about whether one of the best-selling anti-depressants — selective serotonin reuptake inhibitors (SSRIs) — increases or decreases the risk of completed suicide. Randomized clinical trials are not informative in this application because of small samples and other problems. We present what we believe are the most scientifically credible estimates to date on how SSRI sales affect suicide mortality using data from 26 countries for up to 25 years. We exploit just the variation in SSRI sales that can be explained by institutional differences in how drugs are regulated, priced, and distributed, as reflected by the sales growth of new drugs more generally. We find an increase in SSRI sales of 1 pill per capita (12% of 2000 sales levels) reduces suicide by 5%.

Suicide mortality among patients receiving care in the Veterans Health Administration Health System

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American Journal of Epidemiology. Published online: 27 February 2009. doi:10.1093/aje/kwp010, 2009

Understanding and reducing mortality from suicide among veterans is a national priority, particularly for individuals receiving care from the US Veterans Health Administration (VHA). This report examines suicide rates among VHA patients and compares them with rates in the general population. Suicide mortality was assessed in fiscal year 2001 for patients alive at the start of that fiscal year and with VHA use in fiscal years 2000–2001 ($n = 4,692,034$). Deaths from suicide were identified by using National Death Index data. General population rates were identified by use of the Web-based Injury Statistics Query and Reporting System. VHA rates were 43.13/100,000 person-years for men and 10.41/100,000 person-years for women. For male patients, the age-adjusted standardized mortality ratio was 1.66; for females, it was 1.87. Male patients aged 30–79 years had increased risks relative to men in the general population; standardized mortality ratios ranged from 2.56 (ages 30–39 years)

to 1.33 (ages 70–79 years). Female patients aged 40–59 years had greater risks than did women in the general population, with standardized mortality ratios of 2.15 (ages 40–49 years) and 2.36 (ages 50–59 years). Findings offer heretofore unavailable comparison points for health systems. Prior to the conflicts in Afghanistan and Iraq and before recent VHA initiatives, rates were higher among VHA patients than in the general population. Female patients had particularly high relative risks.

Acute tryptophan depletion and self-injurious behavior in aggressive patients and healthy volunteers

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Psychopharmacology (Berl) 203, 53–61, 2009

Rationale: An association between serotonin (5-HT) activity and self-injurious (i.e. self-aggressive) behavior across the spectrum of lethality (from self-mutilation through completed suicide) is a well-replicated finding. Studies to date, however, have relied on nonexperimental designs to examine this relationship, limiting the causal inferences that can be drawn about the role of 5-HT in self-aggressive behavior.

Objective: Examine the effect of experimentally altered 5-HT activity (via dietary tryptophan depletion) on self-aggressive behavior among adults with and without intermittent explosive disorder (IED). Individuals with a marked history of aggression, such as those with IED, are characterized by compromised 5-HT and heightened risk for self-aggression, making this a population of interest for examining the proposed relations.

Materials and methods: IED patients ($n = 16$) and healthy controls ($n = 16$) received a tryptophan depletion and a placebo drink on separate days at least 1 week apart. Self-aggressive behavior was assessed on both study days using a well-validated laboratory-based behavioral assessment with self-aggression defined as the intensity of shock self-administered.

Results: Tryptophan depletion facilitated selection of more intense shocks, on average, in both groups. Patients with IED were also more self-aggressive overall than healthy volunteers. No IED by drink condition interactions were found.

Conclusion: Experimentally lowered 5-HT bioavailability enhances overall self-injurious behavior irrespective of aggression history.

Interventions for people bereaved through suicide: systematic review (vol 193, pg 438, 2008)

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British Journal of Psychiatry 194, 90, 2009

Background: Promoting the mental health of people bereaved through suicide is a key aim of the National Suicide Prevention Strategy.

Aims: To evaluate the effects of interventions to support people bereaved through suicide.

Method: We conducted a systematic review of data from controlled studies of interventions for people bereaved through suicide. Studies were identified using systematic searches, the methodological quality of included studies was assessed and narrative synthesis conducted.

Results: Eight studies were identified. None was UK-based and all but one study had substantial methodological limitations. When compared with no intervention, there was evidence of some benefit from single studies of a cognitive-behavioural family intervention of four sessions with a psychiatric nurse; a psychologist-led 10-week bereavement group intervention for children; and 8-week group therapy for adults delivered by a mental health professional and volunteer. The findings from studies comparing two or more active interventions were more equivocal.

Conclusions: Although there is evidence of some benefit from interventions for people bereaved by suicide, this is not robust. Further methodologically sound evidence is required to confirm whether interventions are helpful and, if so, for whom.

The relationship between early suicide behaviors and mental health: results from a nine-year panel study

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Journal of Adolescence. Published online: 9 March 2009. doi:10.1016/j.adolescence.2009.01.012, 2009

This paper employs community-level data to examine the relationship between suicide behaviors, measured at age 11, and two mental health outcomes assessed 9 years later. Specifically, we assess the role and significance of suicide ideation and suicide attempts in substance dependence and depressive symptomatology. We evaluate these linkages in the context of two hypothesized mediators: exposure to social stress and T-1 depressive symptoms. Results indicate suicide ideation and attempts are significant predictors of later mental health problems. However, controlling for T-1 depression and stress exposure explains away the relationship between suicide attempts and later mental health. In contrast, suicide ideation remained a robust predictor of depression and drug dependence. The implications of these findings are discussed.

Effects of training on suicide risk assessment

DE McNeil, SR Fordwood, CM Weaver, JR Chamberlain, SE Hall, RL Binder (USA)

Psychiatric Services 59, 1462–1465, 2008

Objective: This study evaluated the impact of structured training in evidence-based risk assessment for suicide.

Methods: Forty-five psychiatry and psychology trainees participated in a workshop on evidence-based risk assessment. A comparison group of ten psychiatry trainees participated in a different workshop on the application of evidence-based medicine to psychiatry that was not focused specifically on risk assessment. Before and after each workshop, participants rated their skills in assessing patients' risk of suicide and wrote progress notes regarding clinical vignettes that included the assessment of and plan regarding suicide risk. Researchers systematically rated the progress notes.

Results: Participation in risk assessment training predicted improvement on specific indicators of documentation quality, ratings of the overall quality of documentation of suicide risk, and self-rated competence in suicide risk assessment.

Conclusions: Structured clinical training in evidence-based risk assessment can improve documentation of assessment and management of patients' risk of suicide.

Prison inmate characteristics and suicide attempt lethality: an exploratory study

PR Magaletta, MW Patry, B Wheat, J Bates (USA)

Psychological Services 5, 351–361, 2008

Working with suicidal inmates is among the most demanding elements of clinical practice in corrections, yet few studies regarding the characteristics of prison inmate suicide attempters or their attempts exist. This represents a significant gap as the method of attempt, the prison context, and the resulting lethality of these incidents may be different from attempts made outside of prison. This exploratory study is the first to apply a continuous scale rating of suicide attempt lethality to incidents where an inmate survived a suicide attempt. It describes the attempt incident dynamics and resulting range of lethality scores found within the study sample. It also examines the inmate adjustment and mental health characteristics that were associated with the lethality rating. Preliminary findings suggest that increases in suicide attempt lethality are associated with the presence of Axis II disorders, favorable staff interactions, and the decreased use of drugs other than marijuana, alcohol, cocaine, or depressants. A call for research to extend this exploration through replication is made and recommendations for clinical practice are considered.

Suicide in older adults in long-term care: 1990 to 2005

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Journal of the American Geriatric Society 56, 2107–2111, 2008

Objectives: To describe the characteristics associated with suicide in older persons residing in long-term care (LTC) facilities, to compare the characteristics of suicide cases in LTC with those of cases in the community, and to evaluate trends in suicide in these settings over the past 15 years.

Setting: The New York City (NYC) Office of the Chief Medical Examiner (OCME). **Participants:** Suicide deaths in NYC from 1990 to 2005.

Measurements: Location and method of suicide death reported by OCME.

Methods: Suicides in older persons in LTC and community-dwelling older adults were compared in terms of demographic characteristics and method used. Trends in suicide rate ratios (RRs) were examined using zero-inflated Poisson regression.

Results: Over the study period, there were 1,771 suicides among NYC residents aged 60 and older: 47 in LTC and 1,724 in the community. Cases in LTC tended to be older ($P < .02$) but did not differ from community cases in terms of race or sex. Suicides in LTC were significantly less likely ($RR = 0.05$, $P < .002$) to be due to firearms and 2.49 times as likely to be due to a long fall ($P < .002$) as community cases. Over the 15-year period, there was a significant decrease in the relative rate of suicide in community-dwelling adults ($RR = 0.97$, $P < .001$) but no change in residents of LTC ($RR = 1.05$, $P < .17$).

Conclusions: Suicide risk in community-dwelling older adults has declined over the past 15 years but has not changed in LTC facilities. This suggests that prevention efforts may not be reaching this population effectively.

Adolescents choosing self-harm as an emotion regulation strategy: the protective role of trait emotional intelligence

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British Journal of Clinical Psychology. Published online: 2 December 2008.

doi:10.1348/014466508X386027, 2008

Objectives: The present study seeks to extend the understanding of the role of dispositional factors in the aetiology of self-harm among adolescents. We hypothesized that higher trait emotional intelligence (trait EI) would be associated with a lower likelihood to harm oneself, and that this relationship would be mediated by the choice of coping strategies.

Design and methods: Trait EI, coping styles and self-harm behaviours were assessed in 490 adolescents recruited from eight British schools.

Results: The results supported our hypothesis and showed that the relationship between trait EI and self-harm was partly mediated by the choice of coping strategies. Emotional coping was a particularly powerful mediator, suggesting

that self-harm may be a way to decrease the negative emotions that are exacerbated by maladaptive emotional coping strategies, such as rumination, self-blame, and helplessness. Trait EI was correlated positively with adaptive coping styles and negatively with maladaptive coping styles, and depression.

Conclusions: These findings emphasize the potential value of incorporating coping coaching programmes in the treatment of self-harm patients.

Adolescent non-suicidal self-injurious behavior: the latest epidemic to assess and treat

AL Miller, HL Smith (USA)

Applied & Preventive Psychology 12, 178–188, 2008

Non-suicidal self-injury (NSSI) among adolescents is a serious and prevalent problem. This article reviews the epidemiological data as well as the existing treatments for adolescents who engage in NSSI. The authors also present the unique features of dialectical behavior therapy, the gold-standard evidence-based treatment for adults who engage in NSSI, and discuss its promise as an effective treatment for adolescents who engage in NSSI. Finally, the authors present a clinical vignette of an adolescent engaging in NSSI and how DBT works to target this maladaptive behavior. This article reviews first the epidemiological data and then the existing treatments for adolescents engaging in non-suicidal self-injurious behavior (NSSI). Next, the authors present the unique features of one particular therapy, called dialectical behavior therapy, for adolescents who engage in NSSI. Finally, the article concludes with a clinical vignette in which dialectical behavior therapy is applied to an adolescent engaging in NSSI.

Depression, anxiety and quality of life in suicide survivors: a comparison of close and distant relationships

AM Mitchell, TJ Sakradda, Y Kim, L Bullian, L Chiappetta (USA)

Archives of Psychiatric Nursing 23, 2–10, 2009

The study's purpose was to describe and compare depression, anxiety, and quality of life, by degree of relationship, between closely related and distantly related survivors (persons close to the suicide victim, or 'suicide survivors'; $N = 60$) during the acute phase of bereavement (within 1 month of the death). The close relationship category included spouses, parents, children, and siblings, whereas the distant relationship category included in-laws, aunts/uncles, and nieces/nephews. Analysis of covariance examined differences between the two groups on the symptom measures. Results indicate that, after controlling for age and gender effects, closely related survivors had significantly higher mean levels of depression and anxiety and had lower levels of mental health quality of life. There were no statistically significant differences on the physical health quality of life subscale.

Clinical correlates of planned, more lethal suicide attempts in major depressive disorder

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Journal of Affective Disorders 112, 237–242, 2009

Background: Assessment of suicide plans is standard in acute psychiatric care, but there is a limited evidence base to guide this routine clinical practice. The purpose of this study was to investigate clinical correlates of suicide planning in depressed patients.

Methods: 151 patients with major depressive disorder and a lifetime history of suicide attempt were studied. Subjects received a comprehensive evaluation including structured diagnostic interview for Axis I and II disorders, current symptoms, impulsivity, and systematic assessment of suicide planning prior to the most recent suicide attempt.

Results: Seriousness of suicide attempt planning correlated with lethality of suicidal acts. Comorbid anxiety disorder and anxiety correlated with less suicide planning. Specifically, this negative correlation was with comorbid panic disorder. Planning did not correlate with severity of depression or aggressive/impulsive traits.

Limitations: Cross-sectional design, retrospective recall of suicide planning data, limited applicability to completed suicide or other psychiatric disorders.

Conclusions: In major depression, comorbid panic disorder appears protective against more carefully planned, higher lethality suicide attempts. Surprisingly, severity of depression and aggressive impulsive traits do not predict planning or lethality of suicide attempts. We have previously reported that anxiety severity protects against the probability of a suicide attempt and now extend that observation to show there is protection against lethality of a suicide attempt. Treatment of anxiety without directly treating major depression may place patients at greater risk of suicidal behavior.

The gap between suicide characteristics in the print media and in the population

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European Journal of Public Health. Published online: 19 March 2009. doi:10.1093/eurpub/ckp034, 2009

Background: Programs to educate media professionals about suicide are increasingly established, but information about which suicide cases are most likely to be reported in the mass media is sparse.

Methods: We applied binomial tests to compare frequencies of social characteristics of all domestic suicides in the 13 largest Austrian print media in 2005 with frequencies of suicide characteristics in the population. Additionally, each reported suicide case was linked to its respective entry in the suicide database.

We performed a logistic regression analysis, with presence of an article as outcome, and sex of the suicide case, age, religious affiliation, family status, conduction of an autopsy and location of the suicide as explaining variables. Time of the year and federal state where the suicide happened was controlled for.

Results: Binomial tests showed that suicides involving murder or murder attempt were over-represented in the media. Reporting on mental disorders was under-represented. In the regression analysis, the likelihood of a report was negatively associated with the age of suicide cases. Foreign citizenship was a further predictor of a suicide report. The methods of drowning, jumping, shooting and rare methods were more likely to be reported than hanging, which is the most frequent suicide method in Austria.

Conclusions: Suicide characteristics in the media are not representative of the population. The identified discrepancies provide a basis for tailor-made education of mass media professionals.

Mental disorders, comorbidity and suicidal behavior: results from the National Comorbidity Survey Replication

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Molecular Psychiatry. Published online: 31 March 2009. doi: 10.1038/mp.2009.29, 2009

Mental disorders are among the strongest predictors of suicide attempts. However, little is known regarding which disorders that are uniquely associated with suicidal behavior because of high levels of psychiatric comorbidity. We examined the unique associations between individual disorders and subsequent suicidal behavior (suicide ideation, plans and attempts) using data from the National Comorbidity Survey Replication, a nationally representative household survey of 9282 US adults. Results revealed that approximately 80% of suicide attempters in the United States have a temporally prior mental disorder. Anxiety, mood, impulse-control and substance use disorders all significantly predict subsequent suicide attempts in bivariate analyses (odds ratios [OR] = 2.7–6.7); however, these associations decrease substantially in multivariate analyses controlling for comorbidity (OR = 1.5–2.3) but remain statistically significant in most cases. Disaggregation of the observed effects reveals that depression predicts suicide ideation, but not suicide plans or attempts among those with ideation. Instead, disorders characterized by severe anxiety/agitation (e.g. post-traumatic stress disorder) and poor impulse control (e.g. conduct disorder, substance use disorders) predict which suicide ideators who go on to make a plan or attempt. These results advance understanding of the unique associations between mental disorders and different forms of suicidal behavior. Future research must further delineate the mechanisms through which people come to think about suicide and progress from suicidal thoughts to attempts.

Training mental health professionals to assess and manage suicidal behavior: can provider confidence and practice behaviors be altered?

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Suicide & Life-Threatening Behavior 39, 21–32, 2009

Remarkably little systematic research has studied the effects of clinical suicidology training on changing practitioner attitudes and behaviors. In the current study we investigated whether training in an empirically-based assessment and treatment approach to suicidal patients administered through a continuing education workshop could meaningfully impact professional practices, clinic policy, clinician confidence, and beliefs posttraining and 6 months later. At the 6 month follow-up we found that 44% of practitioners reported increased confidence in assessing suicide risk, 54% reported increased confidence in managing suicidal patients, 83% reported changing suicide care practices, and 66% reported changing clinic policy. These results suggest that a brief and carefully developed workshop training experience can potentially change provider perceptions and behaviors with a possible impact on clinical care therein.

The recognition of diagnosable psychiatric disorders in suicide cases' last medical contacts

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General Hospital Psychiatry 31, 181–184, 2009

Objective: The objective of this study is to examine physicians' awareness of diagnosable psychiatric disorders in suicide cases' last medical contacts (MCs).

Materials and methods: The contact rates and proportions of both psychiatric and somatic diagnoses in a national cohort of suicide subjects (N = 3468) in Taiwan seeking psychiatric or nonpsychiatric medical services within 1 month and 1 year preceding death were examined.

Results: The overall rates of MCs were 72.6% within 1 month and 89.2% within 1 year preceding suicide. While around 99.9% of the suicide subjects who contacted psychiatrists within 1 month preceding death were diagnosed as having psychiatric disorders, only 19.7% of those visiting nonpsychiatric physicians had psychiatric diagnoses. Suicide subjects, however, frequently complained of somatic symptoms, for example, gastrointestinal discomfort, headache/dizziness and back problem during their contacts with nonpsychiatric physicians within 1 month preceding death.

Conclusions: Despite the high rates of MCs preceding suicide, the majority of suicide subjects were not diagnosed. Emphasizing psychosomatic manifestations of psychiatric disorders in physician education programs may help enhance the awareness of psychiatric disorders/suicide risk in clinical settings.

Repressive coping, emotional adjustment, and cognition in people who have lost loved ones to suicide

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Suicide & Life Threatening Behavior 38, 676–687, 2008

Research indicates that a repressive coping style is psychologically protective against the stress of trauma, yet it is unclear whether this finding generalizes to suicide bereavement. Thus, we assessed cognitive ability and mental health among individuals who lost a loved one to suicide. The results indicate that repressive coping may be associated with greater emotional health during suicide bereavement. Interestingly, ‘repressors’ also had lower scores on both cognitive tasks compared to ‘nonrepressors’, but it is unclear whether their more recent loss accounts for this difference. These results are based on cross-sectional data, and should be interpreted with caution.

Does cannabis use lead to depression and suicidal behaviours? A population-based longitudinal study

W Pedersen (Norway)

Acta Psychiatrica Scandinavica 118, 395–403, 2008

Objective: This study investigates the relationship between cannabis use and later depression, suicidal ideation and suicide attempts in a cohort of young Norwegians.

Method: Data were gathered through the Young in Norway longitudinal study, in which a population-based sample of 2033 Norwegians were followed up over a 13-year period, from their early teens to their late twenties. Data were gathered on: (a) exposure to cannabis use; and (b) depression, suicide ideation and suicide attempts. In addition, information about possible confounding factors was included.

Results: In early adolescence, no associations with later depression or suicidal behaviours were observed. In the sample’s twenties, we observed highly significant associations with suicide ideation and suicide attempts. When adjusting for confounders, the OR was 2.9 (95% CI 1.3–6.1) for later suicide attempts in the group who had used cannabis 11+ times during the past 12 months.

Conclusion: The findings suggest that exposure to cannabis by itself does not lead to depression but that it may be associated with later suicidal thoughts and attempts.

Improvement and recovery from suicidal and self-destructive phenomena in Treatment-Refractory Disorders

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Journal of Nervous & Mental Disease 197, 28–34, 2009

Long-term data about recovery from suicidal and self-destructive phenomena are limited. We examined these phenomena in a naturalistic, follow-along study of 226 adults with treatment-refractory disorders admitted at the Austen Riggs Center. Follow-along interviews systematically rated suicidal ideation, suicide attempts, self-mutilation, and other self-destructive phenomena. We identified vital status in 98.7%, finding 1 death by suicide. Among 79 who made at least 1 suicide attempt in the 6 months before admission, 61 (77.2%) were estimated to be free of suicidal acts by a median of 7.18 years. Self-mutilation and other self-destructive phenomena showed slightly longer times to recovery. Among 156 individuals with suicidal ideation, 79 (50.6%) attained sustained recovery at a median of 8.69 years. On average 2.9 to 5.2 years were required from the last observed self-destructive event to attain sustained recovery. Most participants showed significant improvement in suicidal phenomena, whereas between 50.6% and 77.2% attained sustained recoveries.

Childhood gender nonconformity and harassment as predictors of suicidality among gay, lesbian, bisexual, and heterosexual Austrians

M Plöderl, R Fartacek (Austria)
Archives of Sexual Behavior 38, 400–410, 2009

The role of childhood gender role nonconformity (CGNC) and childhood harassment (CH) in explaining suicidality (suicide ideation, aborted suicide attempts, and suicide attempts) was examined in a sample of 142 lesbian, gay, and bisexual (LGB) adults and 148 heterosexual adults in Austria. Current and previous suicidality, CGNC, and CH were significantly greater in LGB participants compared to heterosexual participants. After controlling for CGNC, the effect of sexual orientation on CH diminished. CGNC correlated significantly with current suicidality in the LGB but not in the heterosexual group, and only non-significant correlations were found for CGNC with previous suicidality. Controlling for CH and CGNC diminished the effect of sexual orientation on current suicidality. Bayesian multivariate analysis indicated that current suicidality, but not previous suicidality, depended directly on CGNC. CH and CGNC are likely implicated in the elevated levels of current suicidality among adult LGB participants. As for previous suicidality, the negative impact of CGNC on suicidality might be overshadowed by stress issues affecting sexual minorities around coming out. The association of CGNC with current suicidality suggests an enduring effect of CGNC on the mental health and suicide risk of LGB individuals.

Implementing clinical guidelines for self harm — highlighting key issues arising from the NICE Guideline for self-harm

A Pitman, P Tyrer (UK)

Psychology & Psychotherapy: Theory, Research & Practice 81, 377–397, 2008

The NICE clinical guideline on self-harm has been criticized for its reliance on expert consensus view in the absence of evidence on psychological aspects of care. The relative dearth of published experiences in implementing these guidelines is a likely consequence of these doubts. This article highlights the methodological problems inherent to the development of guidelines covering the first 48 hours after a presentation of self-harm, and reviews four areas where implementation has advanced: change in staff attitudes; triage scales; psychosocial assessments; and specific interventions for borderline personality disorder (BPD). Suggestions are made for how future versions of the guidelines might be adapted to improve the process of referral for appropriate psychological care and to provide more equitable access to care for patients in distress.

An international comparison of adolescent non-suicidal self-injury (NSSI) and suicide attempts: Germany and the USA

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Psychological Medicine. Published online: 27 January 2009. doi:10.1017/S0033291708005114, 2009

Background: This study examined the prevalence of non-suicidal self-injury (NSSI), suicide attempts, suicide threats and suicidal ideation in a German school sample and compared the rates with a similar sample of adolescents from the midwestern USA by using cross-nationally validated assessment tools.

Method: Data were provided from 665 adolescents (mean age 14.8 years, $SD = 0.66$, range 14–17 years) in a school setting. Students completed the Self-Harm Behavior Questionnaire (SHBQ), the Ottawa Self-Injury Inventory (OSI) and a German version of the Center for Epidemiological Studies-Depression Scale (CES-D).

Results: A quarter of the participants (25.6%) endorsed at least one act of NSSI in their life, and 9.5% of those students answered that they had hurt themselves repetitively (more than four times). Forty-three (6.5%) of the students reported a history of a suicide attempt. No statistically significant differences were observed between the German and US samples in terms of self-injury or suicidal behaviors.

Conclusions: By using the same validated assessment tools, no differences were found in the prevalence and characteristics of self-injury and suicidal behaviors between adolescents from Germany and the USA. Thus, it seems that NSSI has to be understood as worldwide phenomenon, at least in Western cultures.

Reduction in suicide mortality following a new national alcohol policy in Slovenia: an interrupted time-series analysis

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American Journal of Public Health. Published online: 19 March 2009. doi:10.2105/AJPH.2008.146183, 2009

Objectives: We assessed the impact on suicide mortality of a new national policy in Slovenia that limits the availability of alcohol.

Methods: We obtained monthly total, male, and female suicide counts in Slovenia between January 1997 and December 2005 and then employed autoregressive integrated moving average (ARIMA) techniques to model the effect of the alcohol policy (implemented in March 2003).

Result: There was a significant decrease in the total number of monthly suicides following the policy's implementation. Subsequent analyses revealed this association to be caused solely by the impact on male suicides. Specifically, there was an immediate and permanent reduction of 3.6 male suicides per month (95% confidence interval = $-0.4, -6.9$), or approximately 10% of the preintervention average. The policy had no statistically significant effect on female suicides.

Conclusions: Our results show the effectiveness of this specific policy in reducing male suicides in Slovenia and also hint at the potential of public policy in reducing the public health burden of alcohol-related harm more generally.

Suicide in dementia: 9-year national clinical survey in England and Wales

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British Journal of Psychiatry 194, 175–180, 2009

Background: Knowledge of suicide in people with dementia is limited to small case series.

Aims: To describe behavioural, clinical and care characteristics of people with dementia who died by suicide.

Method: All dementia cases ($n = 118$) from a 9-year national clinical survey of suicides in England and Wales ($n = 11\,512$) were compared with age- and gender-matched non-dementia cases (control group; $n = 492$) by conditional logistic regression.

Results: The most common method of suicide in patients with dementia was self-poisoning, followed by drowning and hanging, the latter being less frequent than in controls. In contrast to controls, significantly fewer suicides occurred within 1 year of diagnosis in patients with dementia. Patients with dementia were also less likely to have a history of self-harm, psychiatric symptoms and previous psychiatric admissions.

Conclusions: Known indicators of suicide risk are found less frequently in dementia suicide cases than non-dementia suicide cases. Further research should clarify whether suicide in dementia is a response to worsening dementia or an under-appreciation of psychiatric symptoms by clinicians.

Psychopharmacological treatment before suicide attempt among patients admitted to a psychiatric intensive care unit

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Journal of Affective Disorders 113, 37–44, 2009

Background: It is difficult to assess the effectiveness of treatments in lowering suicide incidence.

Methods: To ascertain the impact of antidepressants (AD) on suicidal behavior, we compared the psychopharmacological treatment taken in the previous 3 months by cases who had made or not a suicide attempt (SA) just before their admission to a hospital.

Results: In comparison with not SA cases, SA cases were more likely to have received AD and benzodiazepines (BZD) before hospitalization. On the contrary, they were less likely to have received antipsychotics, antiepileptic mood stabilizers, and lithium. Similar results were observed when the analysis was restricted to cases with a diagnosis of major depression, bipolar depression or bipolar mixed state, schizoaffective disorder, depressive or mixed type. Previous AD treatment seemed to be not related to the severity of psychopathology in general or to the severity of depressive and anxiety symptoms.

Conclusions: The results suggest that the use of AD in patients with mood disorders is not associated with a reduction of SA rate. Rather, it is not possible to exclude that AD or BZD can induce, worsen, or precipitate suicidal behavior in some patients, especially in those affected by mood disorders with Depressive or Mixed features. The results must be considered preliminary since this is an open, non-randomized, non-controlled study that was carried out at a single facility.

Five-year mortality of Finnish schizophrenia patients in the era of deinstitutionalization

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Social Psychiatry & Psychiatric Epidemiology 44, 135–142, 2009

Excess mortality among people with schizophrenia due to natural and unnatural causes, especially due to suicides, is a well-known fact. It has been suggested that deinstitutionalization increases suicide mortality but there are also contradictory results. We studied the changes in mortality and causes of death among schizophrenia sufferers during and after the years of deinstitutionalization

process in Finland. The sample, identified from the Finnish hospital discharge register (FHDR), consisted of patients aged 15–65 and hospitalized for the first time due to schizophrenia. We focused on the 5-year follow-up from inclusion years 1980–1998 ($N = 23,959$). Changes in 5-year follow-up mortality during the study period were explored for both genders and for different causes of death separately using multivariate logistic regression analyses. During the study period 1,926 deaths occurred. Suicide was the major cause of death in both genders. A significant reduction in overall 5-year mortality was observed among persons hospitalized in 1995–1998 when compared to people hospitalized 1980–1984. In males a significant reduction was seen in all mortality ($P = .025$) due to suicides ($P = .007$) but not in the case of natural deaths. In females no significant changes in mortality were found. Our study confirms a reduction in suicide mortality of male schizophrenia sufferers after the deinstitutionalization process. However the overall mortality is still very high and the attention needs to be focused on the general well-being of schizophrenia patients.

Spirituality, religion and suicidal behavior in a nationally representative sample

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Journal of Affective Disorders 114, 32–40, 2009

Background: Studies show that religion and spirituality are associated with decreased rates of mental illness. Some studies show decreased rates of suicide in religious populations, but the association between religion, spirituality and suicidal behaviors in people with mental illness are understudied. Few studies have examined the influence of social supports in these relationships.

Methods: Data were drawn from the Canadian Community Health Survey 1.2. Logistic regression was used to examine the relationship between spiritual values and religious worship attendance with 12-month suicidal ideation and attempts. Regressions were adjusted for sociodemographic factors and social supports. Interaction variables were then tested to examine possible effect modification by presence of a mental disorder.

Results: Identifying oneself as spiritual was associated with decreased odds of suicide attempt (adjusted odds ratio-1 [AOR-1] = 0.65, CI: 0.44–0.96) but was not significant after adjusting for social supports. Religious attendance was associated with decreased odds of suicidal ideation (AOR-1 = 0.64, 95% CI: 0.53–0.77) but not after adjusting for social supports. Religious attendance was associated with decreased odds of suicide attempt and remained significant after adjusting for social supports (AOR-2 = 0.38, 95% CI: 0.17–0.89). No significant interaction effects were observed between any of the tested mental disorders and religion, spirituality and suicidal behavior.

Limitations: This was a cross-sectional survey and causality of relationships cannot be inferred.

Conclusions: Results suggest that religious attendance is associated with decreased suicide attempts in the general population and in those with a mental illness independent of the effects of social supports.

Recent and lifetime utilization of health care services by children and adolescent suicide victims: a case-control study

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Journal of Affective Disorders. Published online: 1 February 2009. doi:10.1016/j.jad.2009.01.004

Objective: In the present paper we describe a case-control study on the utilization of health care services prior to suicide (across different time periods) among children and adolescents aged 11 to 18 years in the Province of Quebec, Canada and matched healthy controls.

Method: Utilization of services (i.e. contact with general practitioners, mental health professionals, psychiatrists and/or youth protection groups) was examined at different time periods in 55 child and adolescent suicide victims and 54 matched community controls using proxy-based interviews and questionnaires. In addition, we examined the rates of detection of psychopathology by health care professionals, the use of psychotropic medications and the subjects' compliance with treatment.

Results: Although more than 90% of child and adolescent suicide completers in our sample suffered from mental disorders, a significant proportion of them were left without appropriate healthcare support (including psychiatric consultation) in the period preceding their suicide. Also, 20% of suicide completers and no control subject made prior suicide attempts. More specifically, over two-thirds of suicide completers had no treatment contact within the month prior to the completion, while only 12.7% ($n = 7$) of them were in contact with psychiatric services during that same period. Moreover, 56.4% ($n = 31$) of the suicide completers had not been diagnosed as having a mental disorder at the time of their death, and 54.5% of the subjects' that received treatment (12 out of 22) were considered poorly compliant or not compliant at all according to their medical/psychosocial records. Finally, we also found that females seemed to have more psychiatric and mental health service contacts in the past month, that subjects with depressive and anxious disorders received more psychiatric and general mental health services in the past year, and that past month hospitalization was more often associated with alcohol abuse and psychosis.

Limitations: Relatively small sample size, and cross-sectional design.

Conclusions: Our findings indicate the need for an overall increase in the rates of healthcare services delivered to young subjects at risk for suicide, as well as better training of health professionals in detecting and treating youth psychopathology.

Self-mutilation and suicidal behaviour in children and adolescents: prevalence and psychosocial correlates: results of the BELLA study

F Resch, P Parzer, R Brunner (Germany)

European Child & Adolescent Psychiatry (Suppl.) 17, 92–98, 2008

Objective: To investigate the prevalence and psychosocial correlates of suicidal behaviour in a representative sample of children and adolescents in Germany.

Methods: Suicidal behaviour was assessed in the BELLA study in a sample of 2,863 families with children aged 7–17 using the corresponding questions from the child behavior check list and the youth self report. Self-reported as well as parent-reported measures of overall mental health problems, anxiety, depression, aggressive and delinquent behaviour, attention deficit-/hyperactivity as well as health-related quality of life were also administered.

Results: Self-mutilation and/or suicidal attempts within the last 6 months were reported by 2.9% of the adolescents 11–17 years of age. Suicidal thoughts were reported by 3.8% of the same group of adolescents. The prevalence rates reported by the parents were 1.4% for self-mutilation and/or suicidal attempts and 2.2% for suicidal thoughts. The prevalence of parent-reported self-mutilation/suicidal attempts in children below 11 years of age was very low. Youth reporting suicidal behaviour were older than youth not reporting suicidal behaviour. Children and adolescents exhibiting suicidal behaviour reported significantly more general mental health problems, depressive symptoms, anxiety, and hyperactivity as well as lower health-related quality of life.

Conclusions: There is a strong connection between suicidal behaviour and emotional and behavioural problems, especially with symptoms of depression, anxiety and hyperactivity. The association observed between attention deficit-/hyperactivity and suicidal behaviour requires further investigation. The differences in the extent of reported suicidal behaviour in adolescents between the self-and parent-ratings and the degree of confidentiality in the collection of the data are subjects for future research.

Risk factors for suicide in schizophrenia: findings from a Swedish population-based case control study

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Schizophrenia Research 108, 231–237, 2009

Previous reports regarding risk factors for suicide in schizophrenia have been inconclusive. We performed a matched case-control study of in-patient-treated schizophrenia patients in order to assess the suicide risk associated with socioeconomic, demographic, and psychiatric factors. The cases were 84 patients who died by suicide within 5 years after diagnosis in a cohort of all patients discharged for the first time from psychiatric hospitals in Stockholm

County, Sweden, with a diagnosis of schizophrenia, schizophreniform disorder or schizoaffective disorder between the years 1984 and 2000. One control was individually and randomly matched with each case from the same cohort by date (± 1 year) and age (± 5 years) at index diagnosis. Data were retrieved from clinical records of the case-control pairs in a blind fashion. Of the suicides, 54% were men and 46% were women. In multivariate analyses, higher educational attainment (odds ratio [OR] 3.0, 95% confidence interval [CI] 1.03–8.0), age ≥ 30 years at onset of symptoms (OR 4.8, CI 1.1–21.2), and a history of a suicide attempt requiring non-psychiatric medical treatment (OR 5.0, CI 1.6–15.4) were found to be significantly associated with an increased suicide risk. Gender did not significantly affect the suicide risk, nor did a history of self-discharge, compulsory in-patient treatment, substance-use disorder or a family history of mental disorders or suicide. In schizophrenia, certain suicide risk factors may differ from those in the general population. Clinical suicide risk assessment for schizophrenia patients should be performed taking this into account.

Longitudinal smoking habits as risk factors for early-onset and repetitive suicide attempts: the Northern Finland 1966 Birth Cohort Study

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Annals of Epidemiology 19, 329–335, 2009

Purpose: We sought to investigate the relationship between regular daily smoking in adolescence and in adulthood, the onset age of suicidal behavior, and the repetitiveness of suicide attempts by the age of 31 years.

Methods: Data from the Northern Finland 1966 Birth Cohort (NFBC 1966, $n = 7995$) were linked with the National Finnish Hospital Discharge registers (FHDR). Smoking habits of the cohort members were assessed at the ages of 14 and 31 years.

Results: After adjusting for hospital-treated psychiatric disorders and several sociodemographic characteristics, women with prolonged smoking from 14 to 31 years especially were at increased hazard (adjusted hazard ratio, 6.67; 95% confidence interval, 3.06–14.52) for having their first suicide attempt at younger age compared with infrequent smokers/nonsmokers. Smoking habits were not associated with the repetitiveness of suicide attempts in either gender.

Conclusion: This study confirms the association between smoking and suicidality. Further studies are needed to investigate the neurobiological basis of this association.

Addiction and suicidal behavior in acute psychiatric inpatients

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Comprehensive Psychiatry 50, 93–99, 2009

Objective: This study aims to evaluate the relationship of alcohol/drug use and effect severities to the degree of suicidality in acutely admitted psychiatric patients. Both degree of substance dependency and degree of substance-induced syndrome were analyzed. In addition, length of stay, involuntary status, and against medical advice discharge status were determined as they related to these variables.

Methods: Structured clinical admissions and discharge ratings were gathered from 10,667 consecutive, single-case individual records, from an urban acute care county psychiatric hospital.

Results: Data indicate that of the most severely suicidal group, 56% had substance abuse or dependence, 40% were rated as having half or more of their admission syndrome substance induced, and most had nonpsychotic diagnoses. There was an inverse relationship between degree of substance problem and length of stay. Although these patients more commonly left against medical advice, and were readmitted more frequently, they were less likely to be involuntarily committed.

Conclusions: A large, potentially lethal, and highly expensive subgroup of patients has been characterized, which might be called the ‘New Revolving Door acute psychiatric inpatient’. This group, which uses the most expensive level of care in the mental health system but is substantially addiction related, poses special challenges for inpatient psychiatric units, addiction treatment providers, and health care planners.

Prevalence and predictors of suicide attempt in an incidence cohort of 661 young people with first-episode psychosis

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Australian & New Zealand Journal of Psychiatry 43, 149–157, 2009

Objectives: Studies investigating suicidal behaviour in psychosis rarely focus on incidence cohorts of first-episode patients. This is important, because patients who refuse study participation have higher rates of comorbid substance use disorders and longer duration of untreated psychosis as well as worse course illness, variables potentially linked to higher prevalence of suicidal behaviour. The aims of the present study were therefore to examine the prevalence and predictors of suicide and suicide attempt before and during the first 18–24 months of treatment.

Method: A retrospective file audit of 661 patients was carried out.

Results: Six patients (0.9%) died by suicide, 93 (14.3%) attempted suicide prior to entry, and 57 (8.7%) did so during treatment. Predictors of suicide

attempt were: previous attempt (odds ratio (OR) = 45.54, 95% confidence interval (CI) = 9.46–219.15), sexual abuse (OR = 8.46, 95%CI = 1.88–38.03), comorbid polysubstance (OR = 13.63, 95%CI = 2.58–71.99), greater insight (OR = 0.17, 95%CI = 0.06–0.49), lower baseline Global Assessment of Functioning Scale and Scale of Occupational and Functional Assessment score (OR = 0.96, 95%CI = 0.62–0.91; OR = 0.98, 95%CI = 0.95–0.99), and longer time in treatment (OR = 1.05, 95%CI = 1.03–1.08).

Conclusions: The prevalence of suicidal behaviour was high, indicating that suicidal behaviour in incidence populations is higher than in non-epidemiological cohorts of first-episode patients. The rate of repetition of suicide attempt among the sample, however, was lower than expected, suggesting that specialist services can play a role in reducing suicide risk.

Discrepant comorbidity between minority and white suicides: a national multiple cause-of-death analysis

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BMC Psychiatry. Published online: 18 March 2009. doi: 10.1186/1471-244X-9-10, 2009

Background: Clinician training deficits and a low and declining autopsy rate adversely impact the quality of death certificates in the United States. Self-report and records data for the general population indicate that proximate mental and physical health of minority suicides was at least as poor as that of white suicides.

Methods: This cross-sectional mortality study uses data from Multiple Cause-of-Death (MCOD) public use files for 1999–2003 to describe and evaluate comorbidity among black, Hispanic, and white suicides. Unintentional injury decedents are the referent for multivariate analyses.

Results: One or more mentions of comorbid psychopathology are documented on the death certificates of 8% of white male suicides compared to 4% and 3% of black and Hispanic counterparts, respectively. Corresponding female figures are 10%, 8%, and 6%. Racial-ethnic discrepancies in the prevalence of comorbid physical disease are more attenuated. Cross-validation with National Violent Death Reporting System data reveals high relative underenumeration of comorbid depression/mood disorders and high relative overenumeration of schizophrenia on the death certificates of both minorities. In all three racial-ethnic groups, suicide is positively associated with depression/mood disorders [whites: adjusted odds ratio (AOR) = 31.9, 95% CI = 29.80–34.13; blacks: AOR = 60.9, 95% CI = 42.80–86.63; Hispanics: AOR = 34.7, 95% CI = 23.36–51.62] and schizophrenia [whites: AOR=2.4, 95% CI = 2.07–2.86; blacks: AOR = 4.2, 95% CI = 2.73–6.37; Hispanics: AOR = 4.1, 95% CI = 2.01–8.22]. Suicide is positively associated with cancer in whites [AOR = 1.8, 95% CI = 1.69–1.93] and blacks [AOR = 1.8, 95% CI = 1.36–2.48], but not with HIV or alcohol and other substance use disorders in any group under review.

Conclusions: The multivariate analyses indicate high consistency in predicting suicide-associated comorbidities across racial-ethnic groups using MCOD data. However, low prevalence of documented comorbid psychopathology in suicides, and concomitant racial-ethnic discrepancies underscore the need for training in death certification, and routinization and standardization of timely psychological autopsies in all cases of suicide, suspected suicide, and other traumatic deaths of equivocal cause.

Non-suicidal self-injury and eating pathology in high school students

S Ross, NL Heath, JR Toste (USA)

American Journal of Orthopsychiatry 79, 83–92, 2009

Although past research has explored self-injurious behaviors and disordered eating among adults in clinical settings, little research has been conducted examining nonsuicidal self-injury (NSSI) and eating pathology in community samples of adolescents. Four hundred and 40 students were screened for the presence of NSSI; a prevalence rate of 13.9% was found. Those who indicated that they engaged in NSSI ($n = 59$) and a comparison group of non-self-injurers ($n = 57$) completed the Eating Disorders Inventory. Results indicate that students who engage in NSSI display significantly more eating pathology than their non-NSSI peers, including poor interoceptive awareness; difficulties with impulse regulation; an increased sense of ineffectiveness, distrust, and social insecurity; and increased bulimic tendencies and body dissatisfaction. Relationships were found between increased lifetime frequency of NSSI behaviors and poor impulse control and deficits in affective regulation. In addition, adolescents who had stopped self-injuring reported comparable rates of eating pathology as did adolescents who continued to self-injure. The theoretical connection between NSSI and eating pathology are discussed with reference to enhancing knowledge regarding the characteristics of NSSI.

Core competencies in suicide risk assessment and management: implications for supervision

MD Rudd, KC Cukrowicz, CJ Bryan (USA)

Training & Education in Professional Psychology 2, 219–228, 2008

The recent publication of core competencies in suicide risk assessment and management (Suicide Prevention Resource Center, 2006) and the American Psychiatric Association's (2003) practice guidelines have raised concerns about how best to address these issues in clinical supervision of trainees. This article reviews the identified core competencies, addresses implications for supervision of trainees, and provides a general framework for applicable strategies for the supervision process to facilitate clinical skill development and refinement.

Adolescent alcohol use, suicidal ideation, and suicide attempts

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Journal of Adolescent Health 44, 335–341, 2009

Purpose: To examine the association between self-reported alcohol use and suicide attempts among adolescents who did and did not report suicidal ideation during the past year.

Methods: Screening data from 31,953 students attending schools in the United States that implemented the Signs of Suicide (SOS) program in 2001–2002 were used in this analysis. Two types of alcohol use were investigated: heavy episodic drinking, and drinking while down. Self-reported suicide attempts were regressed on suicidal ideation and both measures of alcohol use, controlling for participants' levels of depressive symptoms, and demographic characteristics.

Results: Logistic regression analyses indicated that both drinking while down and heavy episodic drinking were significantly associated with self-reported suicide attempts. Analyses examining the conditional association of alcohol use and suicidal ideation with self-reported suicide attempts revealed that drinking while down was associated with significantly greater risk of suicide attempt among those not reporting suicidal ideation in the past year. Heavy episodic drinking was associated with increased risk of suicide attempt equally among those who did and did not report suicidal ideation.

Conclusions: This study identified the use of alcohol while sad or depressed as a marker for suicidal behavior in adolescents who did not report ideating prior to an attempt, and hence, may not be detected by current strategies for assessing suicide risk. Findings from this study should provide further impetus for alcohol screening among clinicians beyond that motivated by concerns about alcohol and substance use.

A cross-national study of the relationship between elderly suicide rates and urbanization

A Shah (UK)

Suicide & Life-Threatening Behavior 38, 714–719, 2008

There is mixed evidence of a relationship between suicide rates in the general population and urbanization, and a paucity of studies examining this relationship in the elderly. A cross-national study with curve estimation regression model analysis, was undertaken to examine the a priori hypothesis that the relationship between elderly suicide rates and urbanization would be curvilinear and follow an inverted u-shaped curve. There was a curvilinear relationship between male suicide rates both the elderly age-bands and the percentage of the population living in urban areas, but this was not observed in females. A three-stage sequential model was developed to explain the observed rela-

tionship between suicide rates in elderly males and urbanization. The relationship between suicide rates in elderly females and urbanization.

The relationship between elderly suicide rates and the affordability of psychotropic drugs

A Shah, G Bhatia (UK)

International Psychogeriatrics 21, 204–205, 2009

A recent cross-national study of 62 developing and developed countries reported an increase in suicide rates with aging in males and females in 25 and 27 countries respectively (Shah, 2007). Longitudinal studies over time have reported a decline in elderly suicide rates in England and Wales (Gunnell et al., 2003; Lodhi and Shah, 2004), Sweden (Carlsten et al., 1999) and Australia (Hall et al., 2003) with an increase in prescription rates of antidepressants, particularly selective serotonin reuptake inhibitors. The vast majority of elderly suicide victims have depressive illness (Shah and De, 1998). The pathway to elderly depressed individuals acquiring a prescription of antidepressants includes the following sequential steps: recognition by individuals or their carers that there is problem and consulting a healthcare professional; recognition of depression by the healthcare professional; prescription of antidepressants by the healthcare professional; and, purchasing of the antidepressants by the patient. Different methods of acquiring the prescribed antidepressants exist in different countries including: healthcare professionals dispensing the antidepressant free or at a cost; and obtaining the prescribed antidepressant from a pharmacist free (either through state welfare system or insurance schemes) or at a cost. We have examined the relationship between elderly suicide rates and the affordability of psychotropic medication in a cross-national study.

Suicide and mental illness in parents and risk of suicide in offspring: a birth cohort study

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Social Psychiatry & Psychiatric Epidemiology. Published online: 23 January 2009. doi:10.1007/s00127-009-0495-5, 2009

Background: A family history of completed suicide and psychiatric illness has been identified as risk factors for suicide.

Aims: To examine the risk of offspring suicide in relation to parental history of suicide and other parental risk factors.

Method: The study population consisted of 7,177 adult offspring born 1959–1961 and their parents from the Copenhagen Perinatal Cohort. Cohort members and their parents who had committed suicide were identified in the Danish Causes of Death Registry (follow-up until December 31, 2005), while

information on psychiatric hospitalisation history was obtained from the Danish Psychiatric Central Research Register.

Results: Forty-eight cohort members, 77 mothers and 133 fathers had committed suicide during the follow-up. Independent of parental psychiatric illness and social status, parental suicide significantly increased suicide risk in offspring (hazard ratio 4.40 with 95% CI 1.81–10.69). A stronger effect of parental suicide was observed in offspring without a history of psychiatric hospitalisation.

Conclusion: Parental history of suicide is a risk factor for suicide in offspring, but primarily in offspring without psychiatric hospitalisation.

Gender and suicide risk: the role of wound site

S Stack, I Wasserman (USA)

Suicide & Life-Threatening Behavior 39, 13–20, 2009

That males have higher suicide rates than females is one of the most empirically documented social facts in suicidology, but the reasons for this continue to be debated. For the present paper, we tested a neglected contributing factor to the gender suicide ratio: wound site or the area of the body that is wounded in firearm suicides. Males may have a higher suicide rate, in part, due to their greater likelihood than women for shooting themselves in the head as opposed to the body. This has been related to gender differences in fear of facial disfigurement and suicide intent. Data from the Wayne County Medical examiner's office regarding 807 suicides committed with firearms was analyzed. The dependent variable was dichotomous and referred to the location of the site of the wound: gunshot to the head vs. gunshot to the body. Controls for demographic covariates of suicide included age and race of the suicide victim. The results of the multivariate logistic regression analysis determined that women were 47% less apt than men to shoot themselves in the head. Further analysis determined that women were less apt than men to use shotguns and rifles in their suicides (weapons that make head shooting more awkward). The findings are consistent with the notion that women are more concerned than men with facial disfigurement, and that women have a lower desire to die than men.

Suicide in paradise: aftermath of the Bali bombings

LK Suryani, A Page, CB Lesmana, M Jennaway, ID Basudewa, R Taylor (Indonesia)

Psychological Medicine. Published online: 18 December 2008. doi:10.1017/S0033291708004893, 2008

Background: The relationship between the Bali (Indonesia) bombings of October 2002 and suicide has not previously been investigated, despite anecdotal evidence of the economic and psychological consequences of these attacks.

Method: Suicide rates were calculated over the period 1994–2006 in three Bali regencies to determine whether suicide increased in the period following the

first Bali bombings. Poisson regression and time-series models were used to assess the change in suicide rates by sex, age and area in the periods before and after October 2002.

Results: Suicide rates (age-adjusted) increased in males from an average of 2.84 (per 100 000) in the period pre-2002 to 8.10 in the period post-2002, and for females from 1.51 to 3.68. The greatest increases in suicide in the post-2002 period were in the age groups 20–29 and 60 years, for both males and females. Tourist arrivals fell significantly after the bombings, and addition of tourism to models reduced relative risk estimates of suicide, suggesting that some of the increase may be attributable to the socio-economic effects of declines in tourism.

Conclusions: There was an almost fourfold increase in male suicide risk and a threefold increase in female suicide risk in the period following the 2002 bombings in Bali. Trends in tourism did not account for most of the observed increases. Other factors such as indirect socio-economic effects and Balinese notions of collective guilt and anxieties relating to ritual neglect are important in understanding the rise in suicide in the post-2002 period.

Associations between physical activity and reduced rates of hopelessness, depression, and suicidal behavior among college students

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Journal of American College Health 57, 427–436, 2009

Background: The authors explored associations among types of physical activity and hopelessness, depression, and suicidal behavior among college students.

Participants: Participants included 43,499 college students aged 18 to 25 who completed the 2005 National College Health Assessment conducted by the American College Health Association.

Methods: The authors used logistic regression modeling to compare the odds of experiencing hopelessness, depression, and suicidal behavior in students who engaged in various levels of aerobic and strength or toning activity with students who did not perform these activities.

Results: Men and women who engaged in some physical activity each week demonstrated a reduced risk of hopelessness, depression, and suicidal behavior compared with their inactive counterparts.

Conclusions: This study provides empirical evidence that establishes the association between physical activity, especially aerobic activity, and reduced risk of hopelessness, depression, and suicidal behavior among college students.

Family history of suicide: a clinical marker for major depression in primary care practice?

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Journal of Affective Disorders. Published online: 10 February 2009. doi:10.1016/j.2009.01.008, 2009

Background: The aim of this study was to investigate the family history of suicide among primary care patients with or without current major depressive episode (MDE).

Methods: This study was performed in 2 GP practices in Budapest on 255 consecutively investigated primary care attendees. The diagnosis of current MDE (symptomatic MDE or MDE in partial remission) was made by the Hungarian version of the Primary Care Evaluation of Mental Disorders (PRIME-MD). Family history of suicide was rated as positive where the patients reported at least one first or second degree relative with completed suicide.

Results: Out of the 255 consecutively investigated patients 45 (17.6%) have had current MDE and 24 (9.4%) have had positive family history of suicide. The family history of suicide was significantly more common among patients with current MDE than among those without it (26.6% vs 5.7%, $p = .0001$). Fifty percent of patients with, and 14.3% of patients without family history of suicide have had current MDE ($p = .0001$).

Limitation: Small sample size, and lacking data on fully remitted major depressives as well as on comorbid psychiatric and medical disorders.

Conclusion: History of completed suicide among first or second degree relatives could be a good and simple clinical marker for current and lifetime MDE in primary care patients.

Factors associated with choice of psychotropic drugs used for intentional drug overdose

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European Archives of Psychiatry & Clinical Neuroscience 259, 86–91, 2009

Introduction: Knowledge of the factors influencing the choice of drugs used for intentional drug overdose (IDO) may allow the reduction of IDO lethality.

Objectives: To assess with which frequency subjects with intentional overdose of psychotropic drugs ingest their own psychotropic drug treatment, and whether prescription of a drug may be a factor influencing the choice of drugs used for the IDO.

Methods: Demographic characteristics, psychiatric history, and currently prescribed psychotropic drug treatment were collected for all the patients ($n = 1,654$) admitted to an emergency department (ED) for IDO with psychotropic drugs (anxiolytics, hypnotics, antidepressants, neuroleptics and mood stabilizers) over a period of 18 months. Drugs ingested for the IDO were compared in

subjects who had ingested at least one psychotropic drug that was prescribed for them and subjects who had ingested psychotropic drugs not prescribed for them using multivariate logistic regression.

Results: Two-thirds of the patients ingested during the IDO at least one of their own prescribed psychotropic drugs. Compared with the subjects who had ingested psychotropic drugs not prescribed for them, they were more likely to have a history of psychiatric hospitalization (OR 4.2; 95%CI 3.1–5.5), of being a psychiatric outpatient (OR 3.9; 95%CI 3.0–5.1), of parasuicide (OR 2.5; 95%CI 1.9–3.3) and a serious IDO (OR 2; 95%CI 1.4–2.9). Independently from age and psychiatric hospitalization history, they ingested during the IDO more often antidepressants (OR 4.4; 95%CI 3.0–6.4), antipsychotics (OR 2.9; 95%CI 1.7–4.8) and mood stabilizers (OR 4.1; 95%CI 1.6–10.7). No association was found with prescription for overdose of hypnotic (OR 1.1; 95%CI 0.8–1.5), anxiolytic (OR 1.2; 95%CI 0.9–1.7) or paracetamol (OR 1.0; 95%CI 0.5–2.1).

Conclusion: Prescription of the psychotropic drugs plays an important role in the choice of the drugs ingested for the IDO. It might make potentially ‘dangerous’ drugs available for the patient. Physicians have always to balance the benefit of the treatment against the risk of drug overdose.

Factors associated with deliberate self-harm behaviour among depressed adolescent outpatients

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Journal of Adolescence. Published online: 23 March 2009. doi:10.1016/j.adolescence.2009.03.001

This study examined whether depressed adolescent outpatients with deliberate self-harm behaviour (DSH) differed from non-suicidal depressed adolescent outpatients in depressive and anxiety symptoms, alcohol use, perceived social support and number of negative life-events. Depressed adolescent outpatients ($n = 155$) aged 13–19 years were interviewed using K-SADS-PL for DSM-IV Axis I diagnoses and completed self-report questionnaires. Suicidal behaviour was assessed by K-SADS-PL suicidality items. Depressed adolescents with DSH were younger, perceived less support from the family, had more severe depressive symptoms and used more alcohol than non-suicidal depressed adolescents. Adolescents with DSH and suicidal ideation or suicide attempts had more depressive and anxiety symptoms than adolescents with DSH only. Adolescents with severe internalizing distress symptoms are at risk not only for DSH, but also additional suicidal behaviour. Family interventions may be needed in the treatment of depressed adolescents with DSH.

Correlates of serious suicidal ideation and attempts in female adult sexual assault survivors

SE Ullman, CJ Najdowski (USA)

Suicide & Life-Threatening Behavior 39, 47–57, 2009

Relations between (a) serious suicidal ideation and attempts and (b) demographics, trauma history, assault characteristics, post-assault outcomes, and psychosocial variables were examined among female adult sexual assault survivors. Younger, minority, and bisexual survivors reported greater ideation. More traumas, drug use, and assault disclosure related to greater attempts, whereas perceived control over recovery was related to fewer attempts. Child sexual abuse and some assault characteristics predicted suicidal behavior. Depression was related to suicidal behavior until psychosocial variables were accounted for. Specifically, using substances to cope and self-blame predicted greater ideation, whereas receiving aid/information support was related to less ideation. Implications for research and treatment are discussed.

Family functioning and suicidal ideation/behaviour in adolescents: a pilot study

LJ van Renen, LG Wild (South Africa)

Journal of Child & Adolescent Mental Health 20, 111–121, 2008

Objective: The main aim of this study was to explore the associations between specific aspects of family functioning and adolescent suicidal ideation/behaviour.

Method: Participants were 87 high school students (43 male and 44 female) aged between 14 and 16 years of age. They completed a questionnaire measuring various aspects of family functioning and suicidal ideation/behaviour. The specific dimensions of family functioning assessed were: connection, psychological control and behavioural regulation in the parent-adolescent relationship, family conflict and family structure.

Results: The results of *t* test and chi-square analyses indicated that adolescents who reported suicidal ideation or behaviour in the previous year experienced lower levels of connection and regulation and higher levels of conflict and psychological control in the parent-child relationship than non-suicidal adolescents. Family structure and interparental conflict were not significantly associated with suicidal ideation/behaviour.

Conclusions: The quality of relationships between adolescents and both of their parents may be important in distinguishing South African adolescents with recent suicidal ideation/behaviour from non-suicidal controls.

Gender issues in suicide rates, trends and methods among youths aged 15–24 in 15 European countries

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Journal of Affective Disorders 113, 216–226, 2009

Background: No recent cross-country examinations for youth suicide trends and methods for Europe were found.

Aim: The aim of the study is to specify differences in suicide rates, trends and methods used among 15–24 years olds by gender across 15 European countries.

Method: Data for 14,738 suicide cases in the age group 15–24 in 2000–2004/5 were obtained and analysed.

Results: Suicide rates ranged 5.5–35.1 for males and 1.3–8.5 for females. Statistically significant decline since 2000 was observed in Germany, Scotland, Spain, and England for males and in Ireland for females. Hanging was most frequently used for both genders, followed by jumping and use of a moving object for males and jumping and poisoning by drugs for females. Male suicides had a higher risk than females of using firearms and hanging and lower risk of poisoning by drugs and jumping. There were large differences between single countries.

Limitations: The limitations of the study are the small numbers of specific suicide methods in some countries as well as the re-categorisation of ICD-9 codes into ICD-10 in England, Ireland and Portugal. Further, the use of suicides (X60-X84) without events of undetermined deaths (Y10-Y34) continues to be problematic considering the possibility of ‘hidden suicides’.

Conclusions: The present study shows that suicide rates among young males are decreasing since 2000 in several European countries. Analysis of suicide methods confirms that there is a very high proportion of hanging in youths, which is extremely difficult to restrict. However, besides hanging there are also high rates of preventable suicide methods and reducing the availability of means should be one of the goals of suicide prevention.

The qualitative evaluation of a suicide prevention and management program by general nurses

S Wai-Chi Chan, W Chien, S Tso (Hong Kong)

Journal of Clinical Nursing 17, 2884–2894, 2008

Aim: To evaluate the effect of an education programme on nurses’ knowledge, attitude and competence on suicide prevention and management for patients with suicide attempt or ideation and their family members; and to examine the strengths and weaknesses of the program from the participants’ perspectives.

Background: Providing care for patients with suicidal ideation or after suicidal acts in general hospitals often poses particular challenges for general nurses. Education programme may help these nurses acquire appropriate attitude, knowledge and competence in suicide prevention and intervention.

Design: An 18-hour education programme on suicide prevention and management was developed based on needs analysis and literature and was provided to the study group. Fifty-four registered general nurses from the medical and surgical units of two general hospitals completed the education programme. Focus groups were used for process ($n = 24$) and outcome evaluation ($n = 18$).

Results: Findings suggested that the education intervention had benefited the participants by improving their attitude, confidence and professional skills in responding to patients with suicidal intent.

Conclusion: Barriers in the practice environment influenced nurses' abilities to give optimal care to this group of patients and their family members. Relevance to clinical practice: This study identified the essential content in an education intervention for prevention and management of suicide by frontline nurses and helped to understand the difficulties that nurses' encountered in practice.

Impulsive and non-impulsive suicide attempts in patients treated for alcohol dependence

M Wojnar, MA Ilgen, E Czyz, S Strobbe, A Klimkiewicz, A Jakubczyk, J Glass, KJ Brower (Poland)
Journal of Affective Disorders 115, 131–139, 2009

Background: Suicidal behavior has been recognized as an increasing problem among alcohol-dependent subjects. The aim of the study was to identify correlates of impulsive and non-impulsive suicide attempts among a treated population of alcohol-dependent patients.

Methods: A total of 154 patients with alcohol dependence consecutively admitted for addiction treatment participated in the study. Suicidal behavior was assessed together with severity of alcohol dependence, childhood abuse, impulsivity, and family history. A stop-signal procedure was used as a behavioral measure of impulsivity.

Results and conclusions: Lifetime suicide attempts were reported by 43% of patients in alcohol treatment; of which 62% were impulsive. Compared to patients without a suicide attempt, those with a non-impulsive attempt were more likely to have a history of sexual abuse (OR = 7.17), a family history of suicide (OR = 4.09), and higher scores on a personality measure of impulsiveness (OR = 2.27). The only significant factor that distinguished patients with impulsive suicide attempts from patients without a suicide attempt and from patients with a non-impulsive suicide attempt was a higher level of behavioral impulsivity (OR = 1.84–2.42).

Limitations: Retrospective self-report of suicide attempts and family history. Lack of diagnostic measure.

Sleep problems and suicidality in the National Comorbidity Survey replication

M Wojnar, MA Ilgen, J Wojnar, RJ McCammon, M Valenstein, KJ Brower (USA)

Journal of Psychiatric Research 43, 526–531, 2009

Objective: Links between sleep problems and suicidality have been frequently described in clinical samples; however, this issue has not been well-studied in the general population. Using data from a nationally representative survey, we examined the association between self-reported sleep difficulties and suicidality in the United States.

Methods: The WHO Composite International Diagnostic Interview was used to assess sleep problems and suicidality in the National Comorbidity Survey Replication (NCS-R). Relationships between three measures of sleep (difficulty initiating sleep, maintaining sleep, early morning awaking), and suicidal thoughts, plans, and attempts were assessed in logistic regression analyses, while controlling for demographic characteristics, 12-month diagnoses of mood, anxiety and substance use disorders, and chronic health conditions.

Results: In multivariate models, the presence of any of these sleep problems was significantly related to each measure of suicidality, including suicidal ideation (OR = 2.1), planning (OR = 2.6), and suicide attempt (OR = 2.5). Early morning awakening was associated with suicidal ideation (OR = 2.0), suicide planning (OR = 2.1), and suicide attempt (OR = 2.7). Difficulty initiating sleep was a significant predictor of suicidal ideation and planning (ORs: 1.9 for ideation; 2.2 for planning), while difficulty maintaining sleep during the night was a significant predictor of suicidal ideation and suicide attempts (ORs: 2.0 for ideation; 3.0 for attempt).

Conclusions: Among community residents, chronic sleep problems are consistently associated with greater risk for suicidality. Efforts to develop comprehensive models of suicidality should consider sleep problems as potentially independent indicators of risk.

Suicide among incarcerated veterans

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Journal of the American Academy of Psychiatry & the Law 37, 82–91, 2009

Both veterans and jail/prison inmates face an increased risk of suicide. The incarcerated veteran sits at the intersection of these two groups, yet little is known about this subpopulation, particularly its risk of suicide. A Pubmed/Medline/PsycINFO search anchored to incarcerated veteran suicide, veteran suicide, suicide in jails/prisons, and veterans incarcerated from 2000 to the present was performed. The currently available literature does not reveal the suicide risk of incarcerated veterans, nor does it enable meaningful estimates. However, striking similarities and overlapping characteristics link the

data on veteran suicide, inmate suicide, and incarcerated veterans, suggesting that the veteran in jail or prison faces a level of suicide risk beyond that conferred by either veteran status or incarceration alone. There is a clear need for a better characterization of the incarcerated veteran population and the suicide rate faced by this group. Implications for clinical practice and future research are offered.

Road traffic suicides

JP Wyatt, T Squires, S Collis, R Broadley (Scotland)
Journal of Forensic & Legal Medicine 16, 212–214, 2009

A prospective observational study of fatal road traffic collisions in south-east Scotland between 1993 and 2003 revealed 17 cases (2.8% of all road fatalities) which appeared to be the result of suicide. In all 17 cases the judgement that the death was the result of suicide reflected the combination of a consistent mechanism of injury with supporting background information. The 17 individuals comprised 13 car drivers and four pedestrians. Ten of the individuals had a past history of mental illness. Only three (18%) survived to reach hospital alive. Analysis of the injuries revealed nine individuals to have unsurvivable injuries (defined by Abbreviated Injury Scale of six, Injury Severity Score of 75). The number of road traffic suicides may be generally underestimated. They appear to be difficult to prevent.

Separation as a suicide risk factor

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Journal of Affective Disorders. Published online 6 January 2009. doi:10.1016/j.jad.2008.11.007, 2009

Background: Marital separation (as distinct from divorce) is rarely researched in the suicidological literature. Studies usually report on the statuses of 'separated' and 'divorced' as a combined category, possibly because demographic registries are not able to identify separation reliably. However, in most countries divorce only happens once the process of separation has settled which, in most cases, occurs a long time after the initial break-up.

Aim: It has been hypothesized that separation might carry a far greater risk of suicide than divorce. The present study investigates the impact of separation on suicide risk by taking into account the effects of age and gender.

Methods: The incidence of suicide associated with marital status, age and gender was determined by comparing the Queensland Suicide Register (a large dataset of all suicides in Queensland from 1994 to 2004) with the QLD population through two different census datasets: the Registered Marital Status and the Social Marital Status. These two registries permit the isolation of the variable 'separated' with great reliability.

Results: During the examined period, 6062 persons died by suicide in QLD (an average of 551 cases per year), with males outnumbering females by four to one. For both males and females separation created a risk of suicide at least 4 times higher than any other marital status. The risk was particularly high for males aged 15 to 24 (RR 91.62).

Conclusions: This study highlights a great variation in the incidence of suicide by marital status, age and gender, which suggests that these variables should not be studied in isolation. Furthermore, particularly in younger males, separation appears to be strongly associated with the risk of suicide.

Predictive value of self-stigma, insight, and perceived adverse effects of medication for the clinical outcomes in patients with depressive disorders

CF Yen, Y Lee, TC Tang, JY Yen, CH K, CC Chen (Taiwan)

Journal of Nervous & Mental Disease 197, 172–177, 2009

The aims of this prospective study were to examine the predictive values of self-stigma, insight, and perceived adverse effects of medication for remission of depressive symptoms, suicidal risk, and medication adherence in patients with depressive disorders over a 1-year follow-up period. One hundred seventy-four participants who were in a state of obvious depression underwent an index interview to determine their degree of self-stigma, insight, and perceived adverse effects of medication. One year later, they were reassessed to determine the severity of their depressive symptoms, suicidal risk, and the level of the medication adherence, and their associations with the 3 possible predictors at the index interview were examined. The results of this study indicated that perceiving more severe adverse effects of medication at the index interview increased the risks of the nonremission of depressive symptoms, occurrence of suicidal ideation or attempt, and medication nonadherence in patients with depressive disorders in the 1-year period. However, the degrees of self-stigma and insight did not predict the severity of depressive symptoms, suicidal risk, or the level of the medication adherence. Based on the results of this study, we suggest that it is important for clinicians to prevent the occurrence of and to help patients manage the adverse effects of medication. We also suggest that further prospective studies are needed to examine the predictive values of self-stigma and insight for clinical outcomes and medication adherence.

Personality traits as prospective predictors of suicide attempts

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Acta Psychiatrica Scandinavica. Published online: 3 March 2009. doi: 10.1111/j.1600-0447.2009.01366.x, 2009

Objective: To examine higher order personality factors of negative affectivity (NA) and disinhibition (DIS), as well as lower order facets of impulsivity, as prospective predictors of suicide attempts in a predominantly personality disordered sample.

Method: Data were analyzed from 701 participants of the Collaborative Longitudinal Personality Disorders Study with available follow-up data for up to 7 years. Cox proportional hazards regression analyses was used to examine NA and DIS, and facets of impulsivity (e.g. urgency, lack of perseverance, lack of premeditation and sensation seeking), as prospective predictors of suicide attempts.

Results: NA, DIS and all facets of impulsivity except for sensation seeking were significant in univariate analyses. In multivariate models which included sex, childhood sexual abuse, course of major depressive disorder and substance use disorders, only NA and lack of premeditation remained significant in predicting suicide attempts. DIS and the remaining impulsivity facets were not significant.

Conclusion: NA emerged as a stronger and more robust predictor of suicide attempts than DIS and impulsivity, and warrants greater attention in suicide risk assessment. Distinguishing between facets of impulsivity is important for clinical risk assessment.

Does acute treatment with sedatives/hypnotics for anxiety in depressed patients affect suicide risk? A literature review

NA Youssef, CL Rich (USA)

Annals of Clinical Psychiatry 20, 157–169, 2008

Background: Anxiety (among several other symptoms) has been identified in one prospective study as associated with suicide risk in depressed patients early in treatment. It has been suggested that treatment of anxiety in depression with sedative/hypnotic agents, especially benzodiazepines, in the first several weeks may decrease suicide risk. Sedative/hypnotic agents also have depressant and disinhibitory properties which might increase suicide risk, however. This review addresses the potential benefits and risks with regard to suicide of using sedative/hypnotics as an early adjunct to antidepressant treatment in anxious depressed patients.

Methods: Pertinent medical literature was reviewed using Medline/PubMed search as well as bibliographies from related publications. Reports in English from 1958 to 2006 were included.

Results: The review did not reveal any evidence that using sedative/hypnotics as an early adjunct to antidepressant treatment of anxious depressed patients decreases their suicide risk. There is considerable evidence that sedative/hypnotics produce depressant and/or disinhibitory effects in a small proportion (perhaps 5%) of people who take them. However, there is no clear evidence that their brief use early in depression increases suicide risk. Toxicological data of suicides indicate that a majority of people who commit suicide are under the influence of sedative/hypnotic chemicals (including alcohol) at the time.

Conclusions: The authors conclude that the question of whether sedative/hypnotics may prevent or provoke suicide in anxious depressed patients cannot be answered definitively with the available information. They believe the potential risks of prescribing sedative/hypnotics for depressed patients who may be suicidal are serious. They suggest that alternatives to sedative/hypnotics should be used if early adjunctive treatment for anxiety in depressed patients is thought to be indicated.

Clinical correlates of the worsening or emergence of suicidal ideation during SSRI treatment of depression: an examination of Citalopram in the STARD study

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Journal of Affective Disorders. Published online: 14 February 2009. doi:10.1016/j.jad.2009.01.002, 2009

Background: Untreated major depressive disorder (MDD) is a major risk factor for suicide, but some data suggest antidepressants may be associated with increased suicidal ideation (SI) in some depressed patients. The purpose of this study was to determine whether, and in whom, treatment of MDD is associated with increased or emergent SI.

Methods: Patients were treated with Citalopram, 10–60 mg/day for 12–14 weeks. A score >0 on Item 12 of the Quick Inventory of Depressive Symptomatology - Self-Report indicated the presence of SI. Worsening was defined by a ≥ 1 -point increase. Emergent SI was defined by an increase from 0 at baseline to ≥ 1 during treatment.

Results: Of the 1909 participants with baseline SI, 57% experienced improvement in SI by their first post-baseline visit and 5% worsened. By the final visit, 74% experienced improvement and 4% worsened. Of 1721 participants without baseline SI, 7% experienced emergence by the first postbaseline visit. Of these, 63% had no SI at their final visit. Major risk factors for treatment-emergent SI at the first treatment visit were drug abuse, severe depression and melancholic features.

Limitations: Main limitations are lack of a comparison group to help pinpoint whether citalopram treatment added risk or protection, a placebo group to determine whether changes in SI were related to illness factors, medication effects or other factors, and more detailed and validated measures of SI.

Conclusions: SI and behaviors, core features of MDD, wax and wane in intensity before, during, and perhaps after treatment. It is clinically important to understand risk factors, maintain careful surveillance and treat as vigorously as necessary to attain remission.

Citation List

FATAL SUICIDAL BEHAVIOUR

Epidemiology

- Abrams RC, Leon AC, Tardiff K, Marzuk PM, Li C, Galea S (2009). Antidepressant use in elderly suicide victims in New York city: an analysis of 255 cases. *Journal of Clinical Psychiatry* 70, 312–317.
- Alaräisänen A, Miettunen J, Räsänen P, Fenton W, Koivumaa-Honkanen HT, Isohanni M (2009). Suicide rate in schizophrenia in the Northern Finland 1966 Birth Cohort. *Social Psychiatry and Psychiatric Epidemiology*. Published online 25 March 2009. doi: 10.1007/s00127-009-0033-5.
- Aliverdinia A, Pridemore WA (2009). Women's fatalistic suicide in Iran: a partial test of Durkheim in an Islamic republic. *Violence Against Women* 15, 307–320.
- Anonymous (2008). Suicide rate reduced modestly by antidepressants. *Australian Journal of Pharmacy* 89, 91–91.
- Antretter E, Dunkel D, Haring C (2009). Cause-specific excess mortality in suicidal patients: gender differences in mortality patterns. *General Hospital Psychiatry* 31, 67–74.
- Arias EA, Schlesinger LB, Pinizzotto AJ, Davis EF, Fava JL, Dewey LM (2008). Police officers who commit suicide by cop: a clinical study with analysis. *Journal of Forensic Sciences* 53, 1455–1457.
- Assunção LA, Santos A, Magalhães T (2009). Suicide by sharp force injuries — a study in Oporto. *Legal Medicine (Tokyo)*. Published online: 17 March 2009. doi: 10.1016/j.legalmed.2009.02.018.
- Banerjee S, Chowdhury AN, Schelling E, Brahma A, Biswas MK, Weiss MG (2009). Deliberate self-harm and suicide by pesticide ingestion in the Sundarban region, India. *Tropical Medicine & International Health* 14, 213–219.
- Baumert J, Erazo N, Ruf E, Ladwig K (2008). Time trends in suicide mortality vary in choice of methods: an analysis of 145,865 fatal suicide cases in Germany 1991–2002. *Social Psychiatry & Psychiatric Epidemiology* 43, 913–919.
- Bhandarkar R, Shah A (2008). Association of general population suicide rates with fertility rates: a test of fertility as a measure of social integration. *Psychological Reports* 103, 812–818.
- Bjornaas MA, Jacobsen D, Haldorsen T, Ekeberg O (2009). Mortality and causes of death after hospital-treated self-poisoning in Oslo: a 20-year follow-up. *Clinical Toxicology* 47, 116–123.
- Boscarino JA, Erlich PM, Hoffman SN (2009). Low serum cholesterol and external-cause mortality: potential implications for research and surveillance. Published online: 8 January 2009. doi: 10.1016/j.jpsychires.2008.11.007.
- Bramness JG, Walby F (2009). Ecological studies and the big puzzle of falling suicide rates. *Acta Psychiatrica Scandinavica* 119, 169–170.
- Campi R, Barbato A, D'Avanzo B, Guaiana G, Bonati M (2009). Suicide in Italian children and adolescents. *Journal of Affective Disorders* 113, 291–295.
- Chang HJ, Lin HC, Lee HC, Lin CC, Pfeiffer S (2009). Risk of mortality among depressed younger patients: a five-year follow-up study. *Journal of Affective Disorders* 113, 255–262.
- Chang SS, Gunnell D, Sterne JA, Lu TH, Cheng AT (2009). Was the economic crisis 1997–1998 responsible for rising suicide rates in East/Southeast Asia? A time-trend analysis for Japan, Hong Kong, South Korea, Taiwan, Singapore and Thailand. *Social Science & Medicine*. Published online: 4 February 2009. doi: 10.1016/j.socscimed.2009.01.010.

- Chatard A, Selimbegovic L, N'Dri Konan P (2009). Self-esteem and suicide rates in 55 Nations. *European Journal of Personality* 23, 19–32.
- Chen VC, Cheng AT, Tan HK, Chen CY, Chen TH, Stewart R, Prince M (2009). A community-based study of case fatality proportion among those who carry out suicide acts. *Social Psychiatry & Psychiatric Epidemiology*. Published online: 18 March 2009. doi: 10.1007/s00127-009-0021-9.
- Chen YY, Gunnell D, Lu TH (2009). Descriptive epidemiological study of sites of suicide jumps in Taipei, Taiwan. *Injury Prevention* 15, 41–44.
- Ciranni MA, Kearney TE, Olson KR (2009). Comparing acute toxicity of first- and second-generation antipsychotic drugs: a 10-year, retrospective cohort study. *Journal of Clinical Psychiatry* 70, 122–129.
- Darke S, Dufou J, Torok M (2009). Toxicology and circumstances of completed suicide by means other than overdose. *Journal of Forensic Sciences* 54, 490–494.
- Davis RR (2008). Integration-regulation and lethal violence: a sociological examination of the rural-urban suicide differential in the U.S. Gulf South 1970–2000. *Southern Rural Sociology: Special Issue: Rural Crime* 23, 171–198.
- De Leo D, Milner A, Wang X (2009). Suicidal behavior in the Western Pacific region: characteristics and trends. *Suicide & Life-Threatening Behavior* 39, 72–81.
- Demirci S, Dogan KH, Erkol Z, Deniz I (2009). Precautions taken to avoid abandoning the act of hanging and reducing pain in suicidal hanging cases. *American Journal of Forensic Medicine & Pathology* 30, 32–35.
- Demirci S, Dogan KH, Erkol Z, Gunaydin G (2009). Ligature strangulation deaths in the province of Konya (Turkey). *Journal of Forensic & Legal Medicine*. Published online: 14 January 2009. doi: 10.1016/j.jflm.2008.12.013.
- Doessel DP, Williams RFG, Whiteford H (2009). Policy-appropriate measurement of suicide: headcount vs. potential years of life lost, Australia, 1907–2005. *Archives of Suicide Research* 13, 87–99.
- Dokov W (2009). Forensic characteristics of suicide by electrocution in Bulgaria. *Journal of Forensic Science*. Published online: 27 February 2009. doi: 10.1111/j.1556-4029.2009.01002.x.
- Elnour AA, Harrison J (2009). Suicide decline in Australia: where did the cases go? *Australian & New Zealand Journal of Public Health* 33, 67–69.
- Fazel S, Benning R (2009). Suicides in female prisoners in England and Wales, 1978–2004. *British Journal of Psychiatry* 194, 183–184.
- Ferretti F, Coluccia A (2009). Socio-economic factors and suicide rates in European Union countries. *Legal Medicine*. Published online: 28 February 2009. doi: 10.0106/j.legalmed.2009.01.014.
- Flavin P, Radcliff B (2009). Public policies and suicide rates in the American states. *Social Indicators Research* 90, 195–209.
- Gad ElHak SA, El-Ghazali AM, Salama MM, Aboelyazeed AY (2009). Fatal suicide cases in Port Said city, Egypt. *Journal of Forensic & Legal Medicine*. Published online: 29 January 2009. doi: 10.1016/j.jflm.2008.12.006.
- Gershon RRM, Pearson JM, Nandi V, Vlahov D, Bucciarelli-Prann A, Tracy M, Tardiff K, Galea S (2008). Epidemiology of subway-related fatalities in New York City, 1990–2003. *Journal of Safety Research* 39, 583–588.
- Hall GC (2009). Validation of death and suicide recording on the THIN UK primary care database. *Pharmacoepidemiology & Drug Safety* 18, 120–131.

- Hanna VN, Ahmad A (2008). Suicide in the Kurdistan region of Iraq, state of the art. *Nordic Journal of Psychiatry*. Published online: 11 December 2008. doi: 10.1080/08039480802610016.
- Hu G, Wilcox HC, Wissow L, Baker SP (2008). Mid-life suicide an increasing problem in U.S. whites, 1999–2005. *American Journal of Preventive Medicine* 35, 589–593.
- Huisman M, Oldehinkel AJ (2009). Income inequality, social capital and self-inflicted injury and violence-related mortality. *Journal of Epidemiology & Community Health* 63, 31–37.
- Humphreys C (2009). Data briefing: watch on suicide and self harm. *Health Services Journal* 119, 17–17.
- Hunt IM, While D, Windfuhr K, Swinson N, Shaw J, Appleby L, Kapur N (2009). Suicide pacts in the mentally ill: a national clinical survey. *Psychiatry Research*. Published online: 1 April 2009. doi:10.1016/j.psychres.2008.05.004.
- Inoue K, Tanii H, Kaiya H, Nata M, Okazaki Y, Fukunaga T (2008). Suicide among younger age groups in Japan. *American Journal of Forensic Medicine & Pathology* 29, 384–385.
- Inoue K, Tanii H, Nata M, Fujita Y, Ono Y (2009). Analysis of the high-risk age group of suicide in South Korea-comparison of Japan and South Korea. *Journal of Forensic & Legal Medicine* 16, 104–105.
- Inoue K, Tanii H, Ono Y (2009). Association of the ratio of job offers with a recent suicide trend in a rural unprosperous region in Japan. *Psychiatry & Clinical Neurosciences* 63, 252–253.
- Jagadish Rao PP, Kumar GP, Naik NR, Dhananjaya S, Anil K (2009). A response to ‘Suicidal poisoning in Southern India: gender differences’. *Journal of Forensic & Legal Medicine* 16, 45–45.
- Jena S, Mountany L, Muller A (2009). A demographic study of homicide-suicide in the Pretoria region over a 5 year period. *Journal of Forensic & Legal Medicine*. Published online: 17 January 2009. doi: 10.1016/j.jflm.2008.12.009.
- Jensen LL, Gilbert JD, Byard RW (2009). Coincident deaths: double suicide or murder-suicide. *Medicine, Science & Law* 49, 27–32.
- Jick H, Hagberg KW, Egger P (2009). Rate of suicide in patients taking montelukast. *Pharmacotherapy* 29, 165–166.
- Jobes DA, Bryan CJ, Neal-Walden TA (2009). Conducting suicide research in naturalistic clinical settings. *Journal of Clinical Psychology* 65, 382–395.
- Joe S, Niedermeier DM (2008). Social work research on African Americans and suicidal behavior: a systematic 25-year review. *Health & Social Work* 33, 249–257.
- Jung H, Matei DB, Hecser L (2009). Biostatistical study of suicide features in Mures County (Romania). *Legal Medicine (Tokyo)*. Published online: 17 March 2009. doi: 10.1016/j.legalmed.2009.02.016.
- Kabore HJ, Brown S, Archer P (2008). Suicide among persons 65 years and older, Oklahoma, 2004. *The Journal of the Oklahoma State Medical Association* 101, 267–270.
- Kapur N, While D, Blatchley N, Bray I, Harrison K (2009). Suicide after leaving the UK Armed Forces — a cohort study. *PLoS Medicine*. Published online: 3 March 2009. doi: 10.1371/journal.pmed.1000026.
- Kapusta ND, Niederkrotenthaler T, Etzersdorfer E, Voracek M, Dervic K, Jandl-Jager E, Sonneck G (2009). Influence of psychotherapist density and antidepressant sales on suicide rates. *Acta Psychiatrica Scandinavica* 119, 236–242.

- Kelly BD, Davoren M, Mhaoláin AN, Breen EG, Casey P (2009). Social capital and suicide in 11 European countries: an ecological analysis. *Social Psychiatry & Psychiatric Epidemiology*. Published online: 11 March 2009. doi: 10.1007/s00127-009-0018-4.
- Khan MM, Mahmud S, Karim MS, Zaman M, Prince M (2008). Case-control study of suicide in Karachi, Pakistan. *British Journal of Psychiatry* 193, 402–405.
- Kim H, Colantonio A (2008). Intentional traumatic brain injury in Ontario, Canada. *Journal of Trauma* 65, 1287–1292.
- Klieve H, Barnes M, De Leo D (2009). Controlling firearms use in Australia: has the 1996 gun law reform produced the decrease in rates of suicide with this method? *Social Psychiatry & Psychiatric Epidemiology*, 44, 285–292.
- Kovacs K (2008). Suicide and alcohol-related mortality in Hungary in the last two decades. *International Journal of Public Health* 53, 252–259.
- Kposowa AJ (2009). Psychiatrist availability, social disintegration, and suicide deaths in U.S. counties, 1990–1995. *Journal of Community Psychology* 37, 73–87.
- Kuehn BM (2009). Soldier suicide rates continue to rise: military, scientists work to stem the tide. *Journal of the American Medical Association* 301, 1111–1113.
- Kwon JW, Chun H, Cho SI (2009). A closer look at the increase in suicide rates in South Korea from 1986–2005. *BMC Public Health* 9, 72.
- Large MM, Nielssen OB, Lackersteen SM (2008). Did the introduction of ‘dangerousness’ and ‘risk of harm’ criteria in mental health laws increase the incidence of suicide in the United States of America? *Social Psychiatry & Psychiatric Epidemiology*. Published online: 19 December 2008. doi: 10.1007/s00127-008-0488-9.
- Large MM, Nielssen OB, Lackersteen SM (2009). The rise and fall of suicide in New South Wales. *Medical Journal of Australia* 190, 282–282.
- Largay M, Kelly CB, Stevenson M (2009). A study of suicide rates in Northern Ireland 1984–2002. *Ulster Medical Journal* 78, 16–20.
- Lee WM (2008). Acetaminophen-related acute liver failure in the United States. *Hepatology Research* (Suppl.) 38, s3–s8.
- Liu HL (2009). Epidemiologic characteristics and trends of fatal suicides among the elderly in Taiwan. *Suicide & Life Threatening Behaviour* 39, 103–113.
- Liu KY, Chen EYH, Cheung ASZ, Yip PSF (2009). Psychiatric history modifies the gender ratio of suicide: an East and West comparison. *Social Psychiatry & Psychiatric Epidemiology* 44, 130–134.
- Ludwig J, Marcotte DE, Norberg K (2009). Anti-depressants and suicide. *Journal of Health Economics*. Published online: 3 March 2009. doi:10.1016/j.jhealeco.2009.02.002.
- Mainio A, Karvonen K, Hakko H, Särkioja T, Räsänen P (2009). Parkinson’s disease and suicide: a profile of suicide victims with Parkinson’s disease in a population-based study during the years 1988–2002 in Northern Finland. *International Journal of Geriatric Psychiatry*. Published online: 6 January 2009. doi: 10.1002/gps.2194.
- Maynard C, Boyko EJ (2008). Suicide rates in the Washington State veteran population. *Psychiatric Services* 59, 1245–1245.
- McCarthy JF, Valenstein M, Kim HM, Ilgen M, Zivin K, Blow FC (2009). Suicide mortality among patients receiving care in the veterans health administration health system. *American Journal of Epidemiology* 169, 1033–1038.
- McKenzie K, Bhui K, Nanchahal K, Blizard B (2008). Suicide rates in people of South Asian origin in England and Wales: 1993–2003. *British Journal of Psychiatry* 193, 406–409.

- Mezuk B, Prescott MR, Tardiff K, Vlahov D, Galea S (2008). Suicide in older adults in long-term care: 1990 to 2005. *Journal of the American Geriatric Society* 56, 2107–2111.
- Miller K, Burns C (2008). Suicides on farms in South Australia, 1997–2001. *Australian Journal of Rural Health* 16, 327–331.
- Mohandie K, Meloy JR, Collins PI (2009). Suicide by cop among officer-involved shooting cases. *Journal of Forensic Sciences* 54, 456–462.
- Molina DK, DiMaio VJ (2008). Trends in firearm usage in homicides and suicides in Bexar County Texas from 1982 to 2004. *American Journal of Forensic Medicine & Pathology* 29, 281–284.
- Moniruzzaman S, Andersson R (2008). Cross-national injury mortality differentials by income level: the possible role of age and ageing. *Public Health* 122, 1167–1176.
- Naderi-Heiden A, Shadnia S, Salimi AR, Naderi A, Naderi MM, Schmid D, Gleiss A, Kasper S, Frey R (2008). Self-poisonings with tricyclic antidepressants and selective serotonin reuptake inhibitors in Tehran, Iran. *World Journal of Biological Psychiatry*. Published online: 13 November 2008. doi: 10.1080/15622970802288563.
- Nishio A, Akazawa K, Shibuya F, Abe R, Nushida H, Ueno Y, Nishimura A, Shioiri T (2009). Influence on the suicide rate two years after a devastating disaster: a report from the 1995 Great Hanshin-Awaji Earthquake. *Psychiatry & Clinical Neurosciences* 63, 247–250.
- Nock MK, Borges G, Bromet EJ, Cha CB, Kessler RC, Lee S (2008). Suicide and suicidal behavior. *Epidemiologic Reviews* 30, 133–154.
- Ozawa-De Silva C (2008). Too lonely to die alone: internet suicide pacts and existential suffering in Japan. *Culture, Medicine & Psychiatry* 32, 516–551.
- Parkinson MD (2009). Reporting system for violent deaths and youth suicide. *Journal of the American Medical Association* 301, 485–486.
- Pirkola S, Sund R, Sailas E, Wahlbeck K (2009). Community mental-health services and suicide rate in Finland: a nationwide small-area analysis. *Lancet* 373, 147–153.
- Politi L, Morini L, Mari F, Groppi A, Bertol E (2008). Ethyl glucuronide and ethyl sulfate in autopsy samples 27 years after death. *Journal of Legal Medicine* 122, 507–509.
- Pompili M, Masocco M, Vichi M, Lester D, Innamorati M, Tatarelli R, Vanacore N (2009). Suicide among Italian adolescents: 1970–2002. *European Journal of Child & Adolescent Psychiatry*. Published online: 17 March 2009. doi: 10.1007/s00787-009-0007-x.
- Power L, Brophy J (2008). A comparison of suicide rates between older adults in Ireland and the UK: 1975–2005. *Irish Journal of Medical Science*. Published online: 14 November 2008. doi: 10.1007/s11845-008-0183-6.
- Purandare N, Voshaar RC, Rodway C, Bickley H, Burns A, Kapur N (2009). Suicide in dementia: 9-year national clinical survey in England and Wales. *British Journal of Psychiatry* 194, 175–180.
- Pycha R, Pompili M, Innamorati M, Schwitzer J, Lester D, Sani G, Tatarelli R, Giupponi G (2009). Sex and ethnic differences among South Tirolese suicides: a psychological autopsy study. *European Psychiatry* 24, 47–56.
- Racette S, Kremer C, Desjarlais A, Sauvageau A (2008). Suicidal and homicidal sharp force injury: a 5-year retrospective comparative study of hesitation marks and defense wounds. *Forensic Science, Medicine & Pathology* 4, 221–227.
- Rantanen H, Koivisto A-M, Salokangas RKR, Helminen M, Oja H, Pirkola S, Wahlbeck K, Joukamaa M (2009). Five-year mortality of Finnish schizophrenia patients in the era of deinstitutionalization. *Social Psychiatry & Psychiatric Epidemiology* 44, 135–142.
- Razvodovsky Y, Stickley A (2009). Suicide in urban and rural regions of Belarus, 1990–2005. *Public Health* 123, 27–31.

- Rezaeian M (2008). Suicide/homicide ratios in countries of the Eastern Mediterranean region. *Eastern Mediterranean Health Journal* 14, 1459–1465.
- Rezaeian M (2008). Islam and suicide: a short personal communication. *Omega* 58, 77–85.
- Rockett IR, Lian Y, Stack S, Ducatman AM, Wang S (2009). Discrepant comorbidity between minority and white suicides: a national multiple cause-of-death analysis. *BMC Psychiatry*. Published online: 18 March 2009. doi: 10.1186/1471-244x-9-10.
- Ruuhela R, Hiltunen L, Venalainen A, Pirinen P, Partonen T (2008). Climate impact on suicide rates in Finland from 1971 to 2003. *International Journal of Biometeorology* 53, 167–175.
- Salib E, Cortina-Borja M (2009). Effect of 7 July 2005 terrorist attacks in London on suicide in England and Wales. *British Journal of Psychiatry* 194, 80–85.
- Shah A (2008). A cross-national study of the relationship between elderly suicide rates and urbanization. *Suicide & Life-Threatening Behavior* 38, 714–719.
- Shah A (2008). A nonlinear association of fertility and suicide rates among elderly persons. *Psychological Reports* 103, 943–946.
- Shah A (2008). The relationship between annual predicted future population growth rates and elderly suicide rates. *International Psychogeriatrics* 21, 414–415.
- Shah A (2009). The relationship between population growth and elderly suicide rates: a cross-national study. *International Psychogeriatrics* 21, 379–383.
- Shah A (2009). Are age-related trends in suicide rates associated with life expectancy and socio-economic factors? *International Journal of Psychiatry in Clinical Practice* 13, 16–20.
- Shah A (2009). The relationship between elderly suicide rates and the human development index: a cross-national study of secondary data from the World Health Organization and the United Nations. *International Psychogeriatrics* 21, 69–77.
- Shah A, Bhandarkar R (2008). Cross national study of the correlation of general population suicide rates with unemployment rates. *Psychological Reports* 103, 793–796.
- Shah A, Bhandarkar R (2009). Should research focus specifically on elderly suicide rates in cross-national ecological studies designed to identify distal risk factors? *International Psychogeriatrics* 21, 202–204.
- Shah A, Bhat R (2008). Are elderly suicide rates improved by increased provision of mental health service resources? A cross-national study. *International Psychogeriatrics* 20, 1230–1237.
- Shah A, Bhatia G (2009). The relationship between elderly suicide rates and the affordability of psychotropic drugs. *International Psychogeriatrics* 21, 204–205.
- Shah A, Chatterjee S (2008). Is there a relationship between elderly suicide rates and educational attainment? A cross-national study. *Aging & Mental Health* 12, 795–799.
- Shah A, Coupe J (2009). A comparative study of elderly suicides in England and Wales, Scotland and Northern Ireland: trends over time and age-associated trends. *International Psychogeriatrics*. Published online: 26 February 2009. doi: 10.1017/S1041610209008515.
- Shah A, Coupe J (2009). The contribution of elderly suicide rates of the three constituent countries of the United Kingdom to the overall national suicide rate. *International Psychogeriatrics*. Published online: 26 February 2009. doi: 10.1017/S1041610209008539.
- Shah A, Lindesay J, Dennis M (2009). Comparison of elderly suicide rates among migrants in England and Wales with their country of origin. *International Journal of Geriatric Psychiatry* 24, 292–299.
- Shah A, Sahay A (2009). Should ecological studies designed to identify distal risk factors focus specifically on elderly suicide rates or broader age-bands? *International Psychogeriatrics*. Published online: 2 March 2009. doi: 10.1017/s1041610209008655.

- Stack S, Wasserman I (2009). Gender and suicide risk: the role of wound site. *Suicide & Life-Threatening Behavior* 39, 13–20.
- Suryani LK, Page A, Lesmana CB, Jennaway M, Basudewa ID, Taylor R (2008). Suicide in paradise: aftermath of the Bali bombings. *Psychological Medicine*. Published online: 18 December 2008. doi: 10.1017/S0033291708004893.
- Thelin N, Holmberg S, Nettelbladt P, Thelin A (2009). Mortality and morbidity among farmers, non-farming rural men, and urban referents: a prospective population-based study. *International Journal of Occupational & Environmental Health* 15, 21–28.
- Tör K, Pollak S (2009). Complex suicide versus complicated suicide. *Forensic Science International* 184, 6–9.
- Valle V, Gosney H, Sinclair J (2008). Qualitative analysis of coroners' data into the unnatural deaths of children and adolescents. *Child: Care, Health & Development* 34, 721–731.
- Varnik A, Kolves K, Allik J, Arensman E, Aromaa E, van Audenhove C, Bouleau JH, van der Feltz-Cornelis CM, Giupponi G, Gusmao R, Kopp M, Marusic A, Maxwell M, Oskarsson H, Palmer A, Pull C, Realo A, Reisch T, Schmidtke A, Perez Sola V, Wittenburg L, Hegend U (2009). Gender issues in suicide rates, trends and methods among youths aged 15–24 in 15 European countries. *Journal of Affective Disorders* 113, 216–226.
- Verzeletti A, Astorri P, De Ferrari F (2009). Firearm-related deaths in Brescia (Northern Italy) between 1994 and 2006: a retrospective study. *Journal of Forensic & Legal Medicine*. Published online: 13 February 2009. doi: 10.1016/j.jflm.2009.01.006.
- Violanti JM (2008). Police suicide research: conflict and consensus. *International Journal of Emergency Mental Health* 10, 299–307.
- Walker JT (2009). County level suicide rates and social integration: urbanicity and its role in the relationship. *Sociological Spectrum* 29, 101–135.
- White NC, Litovitz T, Clancy C (2008). Suicidal antidepressant overdoses: a comparative analysis by antidepressant type. *Journal of Medical Toxicology* 4, 238–250.
- Windfuhr K, While D, Hunt I, Turnbull P, Lowe R, Burns J, Swinson N, Shaw J, Appleby L, Kapur N (2008). Suicide in juveniles and adolescents in the United Kingdom. *Journal of Child Psychology & Psychiatry & Related Disciplines* 49, 1155–1165.
- Wright MA, Wintemute GJ, Claire BE (2008). Gun suicide by young people in California: descriptive epidemiology and gun ownership. *Journal of Adolescent Health* 43, 619–622.
- Wyatt JP, Squires T, Collis S, Broadley R (2009). Road traffic suicides. *Journal of Forensic & Legal Medicine* 16, 212–214.
- Yamasaki A, Araki S, Sakai R, Yokoyama K, Voorhees AS (2008). Suicide mortality of young, middle-aged and elderly males and females in Japan for the years 1953–96: time series analysis for the effects of unemployment, female labour force, young and aged population, primary industry and population density. *Industrial Health* 46, 541–549.
- Yang B, Lester D (2009). Is there a natural suicide rate? *Applied Economics Letters* 16, 137–140.
- Yip P (2009). Effects of an earthquake on suicide rates in Nantou, Taiwan. *British Journal of Psychiatry* 194, 190–190.
- Yip PSF, Wong PWC, Cheung YT, Chan KS, Beh SL (2009). An empirical study of characteristics and types of homicide-suicides in Hong Kong, 1989–2005. *Journal of Affective Disorders* 112, 184–192.
- Zonda T, Bozsonyi K, Veres E, Lester D, Frank M (2008/2009). The impact of holidays on suicide in Hungary. *Omega* 58, 153–162.

Risk and protective factors

- Abraham-Nordling M, Lönn S, Wallin G, Yin L, Nyren O, Tullgren O, Hall P, Törning O (2009). Hyperthyroidism and suicide: a retrospective cohort study in Sweden. *European Journal of Endocrinology* 160, 437–444.
- Ahmadi A, Mohammadi R, Schwebel DC, Khazaie H, Yeganeh N, Almasi A (2009). Demographic risk factors of self-immolation: a case-control study. *Burns*. Published online: 5 March 2009. doi: 10.1016/j.burns.2008.06.012.
- Ajdacic-Gross V, Lauber C, Baumgartner M, Malti T, Rossler W (2009). In-patient suicide - a 13-year assessment. *Acta Psychiatrica Scandinavica*. Published online: 8 March 2009. doi: 10.1111/j.1600-0447.2009.01380.x.
- Anonymous (2008). Let's talk facts about teen suicide. *Journal of the Oklahoma State Medical Association* 101, 361–364.
- Aseltine RH, Schilling EA, James A, Glanovsky JL, Jacobs D (2009). Age variability in the association between heavy episodic drinking and adolescent suicide attempts: findings from a large-scale, school-based screening program. *Journal of the American Academy of Child and Adolescent Psychiatry* 48, 263–271.
- Baldessarini RJ, Tondo L (2009). Suicidal risks during treatment of bipolar disorder patients with lithium versus anticonvulsants. *Pharmacopsychiatry* 42, 72–75.
- Barbui C, Esposito E, Cipriani A (2009). Selective serotonin reuptake inhibitors and risk of suicide: a systematic review of observational studies. *Canadian Medical Association Journal* 180, 291–297.
- Bastia BK, Kar N (2009). A Psychological autopsy study of suicidal hanging from Cuttack, India: focus on stressful life situations. *Archives of Suicide Research* 13, 100–104.
- Biermann T, Stilianakis N, Bleich S, Thurauf N, Kornhuber J, Reulbach U (2008). The hypothesis of an impact of ozone on the occurrence of completed and attempted suicides. *Medical Hypotheses* 72, 338–341.
- Chen YY, Chiang HC, Liao SC, Lee MB (2009). Suicide sex ratio: the interaction between mental illness and suicide methods. *Journal of Clinical Psychiatry* 70, 294–295.
- Chen YY, Liao SC, Lee MB (2009). Health care use by victims of charcoal-burning suicide in Taiwan. *Psychiatric Services* 60, 126–126.
- Cheng IC, Hu FC, Tseng MCM (2009). Inpatient suicide in a general hospital. *General Hospital Psychiatry* 31, 110–115.
- Cheung YT, Chau PH, Yip PSF (2008). A revisit on older adults suicides and Severe Acute Respiratory Syndrome (SARS) epidemic in Hong Kong. *International Geriatric Psychiatry* 23, 1231–1238.
- Conner KR, McCloskey MS, Duberstein PR (2008). Psychiatric risk factors for suicide in the alcohol-dependent patient. *Psychiatric Annals* 38, 742–748.
- Conner KR, Swogger MT, Houston RJ (2009). A test of the reactive aggression-suicidal behavior hypothesis: is there a case for proactive aggression? *Journal of Abnormal Psychology* 118, 235–240.
- Demirci S, Dogan KH, Erkol Z, Deniz I (2008). Is daily shaving of axillary and pubic hair a feature of suicide in the Muslim community? *American Journal of Forensic Medicine & Pathology* 29, 330–333.
- Dombrovski AY, Szanto K., Duberstein P, Conner KR, Houck PR, Conwell Y (2008). Sex differences in correlates of suicide attempt lethality in late life. *American Journal of Geriatric Psychiatry* 16, 905–913.

- Dracheva S, Patel N, Woo DA, Marcus SM, Siever LJ, Haroutunian V (2008). Increased serotonin 2C receptor mRNA editing: a possible risk factor for suicide. *Molecular Psychiatry* 13, 1001–1010.
- Dwivedi Y, Rizavi HS, Zhang H, Mondal AC, Roberts RC, Conley RR, Pandey GN (2009). Neurotrophin receptor activation and expression in human post-mortem brain: effect of suicide. *Biological Psychiatry* 65, 319–328.
- Elovainio M, Shipley MJ, Ferrie JE, Gimeno D, Vahtera J, Marmot MG, Kivimaki M (2008). Obesity, unexplained weight loss and suicide: the original Whitehall study. *Journal of Affective Disorders*. Published online: 21 December 2008. doi: 10.1016/j.jad.2008.12.002.
- Ernst C, Deleva V, Deng XM, Sequeira A, Pomarenski A, Klempan T, Ernst N, Quirion R, Gratton A, Szyf M, Turecki G (2009). Alternative splicing, methylation state, and expression profile of Tropomyosin-related Kinase B in the frontal cortex of suicide completers. *Archives of General Psychiatry* 66, 22–32.
- Fazel S, Cartwright J, Norman-Nott A, Hawton K (2008). Suicide in prisoners: a systematic review of risk factors. *Journal of Clinical Psychiatry* 69, 1721–1731.
- Garcia-Amador M, Colom F, Valenti M, Horga G, Vieta E (2009). Suicide risk in rapid cycling bipolar patients. *Journal of Affective Disorders*. Published online: 1 January 2009. doi: 10.1016/j.jad.2008.12.005.
- Geissbühler M, Links PS (2009). Prospective risk factors for suicide attempts in borderline personality disorder. *Current Psychiatry Reports* 11, 53–54.
- Gibbons R, Mann JJ (2009). Proper studies of selective serotonin reuptake inhibitors are needed for youth with depression. *Canadian Medical Association Journal* 180, 270–271.
- Gos T, Günther K, Bielau H, Dobrowolny H, Mawrin C, Trübner K, Brisch R, Steiner J, Bernstein HG, Jankowski Z, Bogerts B (2009). Suicide and depression in the quantitative analysis of glutamic acid decarboxylase-immunoreactive neuropil. *Journal of Affective Disorders* 113, 45–55.
- Gos T, Krell D, Brisch R, Bielau H, Trubner K, Steiner J, Bernstein HG, Bogerts B (2008). Demonstration of decreased activity of dorsal raphe nucleus neurons in depressed suicidal patients by the AgNOR staining method. *Journal of Affective Disorders* 111, 251–260.
- Guipponi M, Deutsch S, Kohler K, Perroud N, Le Gal F, Vessaz M, Laforge T, Petit B, Jollant F, Guillaume S, Baud P, Courtet P, La Harpe R, Malafosse A (2008). Genetic and epigenetic analysis of SSAT gene dysregulation in suicidal behavior. *American Journal of Medical Genetics. Part B, Neuropsychiatric Genetics*. Published online: 2 December 2008. doi: 10.1002/ajmg.b.30901.
- Haqqi S (2008). Suicide and domestic violence: could there be a correlation? *Medscape Journal of Medicine* 10, 287–287.
- Healy D (2009). Are selective serotonin reuptake inhibitors a risk factor for adolescent suicide? *Canadian Journal of Psychiatry* 54, 69–71.
- Hedstrom P, Liu KY, Nordvik MK (2008). Interaction domains and suicide: a population-based panel study of suicides in Stockholm, 1991–1999. *Social Forces* 87, 713–740.
- Hibbeln JR (2009). Depression, suicide and deficiencies of omega-3 essential fatty acids in modern diets. *World Review of Nutrition & Dietetics* 99, 17–30.
- Hill DL (2009). Relationship between sense of belonging as connectedness and suicide in American Indians. *Archives of Psychiatric Nursing* 23, 1, 65–74.
- Hovanesian S, Isakov I, Cervellione KL (2009). Defense mechanisms and suicide risk in Major Depression. *Archives of Suicide Research* 13, 47–86.
- Hughes JR (2008). Smoking and suicide: a brief overview. *Drug & Alcohol Dependence* 98, 169–178.

- Huh GY, Jo GR, Kim KH, Ahn YW, Lee SY (2009). Imitative suicide by burning charcoal in the southeastern region of Korea: the influence of mass media reporting. *Legal Medicine*. Published online: 5 March 2009. doi: 10.1016/j.legalmed.2009.01.099.
- Jokinen J, Nordstrom AL, Nordstrom P (2008). Cerebrospinal fluid monoamine metabolites and suicide. *Nordic Journal of Psychiatry* 25, 1–4.
- Jokinen J, Nordstrom AL, Nordstrom P (2009). CSF 5-HIAA and DST non-suppression - orthogonal biologic risk factors for suicide in male mood disorder inpatients. *Psychiatry Research* 165, 96–102.
- Jokinen J, Nordstrom P (2008). HPA axis hyperactivity as suicide predictor in elderly mood disorder inpatients. *Psychoneuroendocrinology* 33, 1387–1393.
- Kanchan T, Menezes RG (2009). “Suicidal poisoning in Southern India: gender differences” - Authors’ response. *Journal of Forensic & Legal Medicine*. Published online: 23 February 2009. doi: 10.1016/j.jflm.2009.01.013.
- Karvonen K, Hakko H, Koponen H, Meyer-Rochow VB, Rasanen P (2009). Suicides among older persons in Finland and time since hospitalization discharge. *Psychiatric Services* 60, 390–393.
- Kenny DT, Lennings CJ, Munn OA (2008). Risk factors for self-harm and suicide in incarcerated young offenders: implications for policy and practice. *Journal of Forensic Psychology* 8, 358–382.
- Kilbane EJ, Gokbayrak NS, Galynker I, Cohen L, Tross S (2008). A review of panic and suicide in bipolar disorder: Does comorbidity increase risk? *Journal of Affective Disorders*. Published online: 8 November 2008. doi: 10.1016/j.jad.2008.09.014.
- Kikuchi N, Ohmori-Matsuda K, Shimazu T, Sone T, Kakizaki M, Nakaya N, Kilbane EJ, Gokbayrak NS, Galynker I, Cohen L, Tross S (2008). A review of panic and suicide in bipolar disorder: does comorbidity increase risk? *Journal of Pain and Symptom Management* 37, 316–324.
- Klempan TA, Sequeira A, Canetti L, Lalovic A, Ernst C, Ffrench-mullen J, Turecki, G (2009). Altered expression of genes involved in ATP biosynthesis and GABAergic neurotransmission in the ventral prefrontal cortex of suicides with and without major depression. *Molecular Psychiatry* 14, 175–189.
- Klomek AB, Sourander A, Niemela S, Kumpulainen K, Piha J, Tamminen T, Almqvist F, Gould MS (2009). Childhood bullying behaviors as a risk for suicide attempts and completed suicides: a population-based birth cohort study. *Journal of the American Academy of Child & Adolescent Psychiatry* 48, 254–261.
- Kronenberg S, Frisch A, Rotberg B, Carmel M, Apter A, Weizman A (2008). Pharmacogenetics of selective serotonin reuptake inhibitors in pediatric depression and anxiety. *Pharmacogenomics* 9, 1725–1736.
- Kuehn BM (2009). Studies linking smoking-cessation drug with suicide risk spark concerns. *Journal of American Medical Association* 301, 1007–1008.
- Kuriyama S, Tsuji I (2008). Pain and risk of completed suicide in Japanese men: a population based cohort study in Japan (Ohsaki Cohort Study). *Journal of Pain & Symptom Management* 37, 316–324.
- Lester D (2008). A further study of sex differences in suicide notes: a study of German suicide notes. *Psychological Reports* 103, 797–798.
- Lin HC, Wu CH, Lee HC (2009). Risk factors for suicide following hospital discharge among cancer patients. *Psychooncology*. Published 20 January 2009. doi: 10.1002/pon.1483.

- Loas G, Azi A, Noisette C, Legrand A, Yon V (2009). Fourteen-year prospective follow-up study of positive and negative symptoms in chronic schizophrenic patients dying from suicide compared to other causes of death. *Psychopathology* 42, 185–189.
- Luca VD, Viggiano E, Dhoot R, Kennedy J, Wong AHC (2009). Methylation and QTDT analysis of the 5-HT_{2A} receptor 102c allele: analysis of suicidality in major psychosis. *Journal of Psychiatric Research* 43, 532–537.
- Lui SY (2009). Risk factors for deliberate self-harm and completed suicide in young Chinese people with schizophrenia. *Australian & New Zealand Journal of Psychiatry* 43, 252–259.
- Maki NE, Martikainen PT (2008). The effects of education, social class and income on non-alcohol- and alcohol-associated suicide mortality: a register-based study of Finnish men aged 25–64. *European Journal of Population* 24, 385–404.
- Mandell DJ (2009). General comments and discussion: social issues of suicide. *Legal Medicine*. Published online: 16 March 2009. doi: 10.1016/j.legalmed.2009.01.115.
- Mann JJ, Arango VA, Avenevoli S, Brent DA, Champagne FA, Clayton P, Currier D, Dougherty DM, Haghighi F, Hodge SE, Kleinman J, Lehner T, McMahon F, Mo cicki EK, Oquendo MA, Pandey GN, Pearson J, Stanley B, Terwilliger J, Wenzel A (2009). Candidate endophenotypes for genetic studies of suicidal behavior. *Biological Psychiatry* 65, 556–563.
- Martin-Guerrero I, Martin-Arruti M, Ardanaz M, Costas J, Ballesteros J, Callado LF, Garcia-Orad A, Meana JJ (2008). The role of Tryptophan hydroxylase 2 (TPH-2) gene polymorphisms in the pathogenesis of completed suicide. *Methods and Findings in Experimental & Clinical Pharmacology* 30, 155.
- Masango SM, Rataemane ST, Motojesi AA (2008). Suicide and suicide risk factors: a literature review. *South African Family Practice* 50, 25–28.
- Masocco M, Pompili M, Vichi M, Vanacore N, Lester D, Tatarelli R (2008). Suicide and marital status in Italy. *Psychiatric Quarterly* 79, 275–285.
- McGirr A, Paris J, Lesage A, Renaud J, Turecki G (2009). An examination of DSM-IV borderline personality disorder symptoms and risk for death by suicide: a psychological autopsy study. *Canadian Journal of Psychiatry* 54, 87–92.
- McNamara RK, Jandacek R, Rider T, Tso P, Dwivedi Y, Roberts RC, Conley RR, Pandey GN (2009). Fatty acid composition of the postmortem prefrontal cortex of adolescent male and female suicide victims. *Prostaglandins, Leukotrienes & Essential Fatty Acids* 80, 19–26.
- Mittal V, Brown WA, Shorter E (2009). Are patients with depression at heightened risk of suicide as they begin to recover? *Psychiatric Services* 60, 384–386.
- Mukamal KJ, Miller M (2009). BMI and risk factors for suicide: why is BMI inversely related to suicide? *Obesity (Silver Spring)* 17, 532–538.
- Mushtaq I, Mushtaq SA (2009). Psychological autopsy study of suicide in Karachi. *British Journal of Psychiatry* 194, 377–377.
- Must A, Kõks S, Vasar E, Tasa G, Lang A, Maron E, Väli M (2008). Common variations in 4p Locus are related to male completed suicide. *Neuromolecular Medicine* 11, 13–19.
- Must A, Tasa G, Lang A, Vasar E, Kõks S., Maron E., Väli M (2009). Variation in tryptophan hydroxylase-2 gene is not associated to male completed suicide in Estonian population. *Neuroscience Letters* 453, 112–114.
- Niederhofer H (2008). Is suicidality associated with acetylcholine? *International Psychogeriatrics* 20, 1291–1291.
- Nock MK (2009). Suicidal behavior among adolescents: correlates, confounds, and (the search for) causal mechanisms. *Journal of the American Academy of Child & Adolescent Psychiatry* 48, 237–239.

- Pandey GN, Dwivedi Y, Rizavi HS, Teppen T, Gaszner GL, Roberts RC, Conley RR (2009). GSK-3[β] gene expression in human postmortem brain: regional distribution, effects of age and suicide. *Neurochemical Research* 34, 274–285.
- Pandey GN, Ren X, Rizavi HS, Conley RR, Roberts RC, Dwivedi Y (2008). Brain-derived neurotrophic factor and tyrosine kinase B receptor signalling in post-mortem brain of teenage suicide victims. *International Journal of Neuropsychopharmacology* 11, 1047–1061.
- Pedersen W (2008). Does cannabis use lead to depression and suicidal behaviours? A population-based longitudinal study. *Acta Psychiatrica Scandinavica* 118, 395–403.
- Portzky G, Audenaert K, van Heeringen K (2008). Psychosocial and psychiatric factors associated with adolescent suicide: a case-control psychological autopsy study. *Journal of Adolescence*. Published online: 21 November 2008. doi: 10.1016/j.adolescence.2008.10.007.
- Pridmore S (2009). Predicament suicide: concept and evidence. *Australas Psychiatry* 17, 112–116.
- Pridmore S, McArthur M (2008). Suicide and life stressors. *Australasian Psychiatry* 16, 459–460.
- Pridmore S, McArthur M (2009). Suicide and Western culture. *Australasian Psychiatry* 17, 42–50.
- Renaud J, Berlim TM, Seguin M, McGirr A, Tousignant M, Turecki G (2009). Recent and lifetime utilization of health care services by children and adolescent suicide victims: a case-control study. *Journal of Affective Disorders*. Published online: 1 February 2009. doi: 10.1016/j.jad.2009.01.004.
- Renberg ES, Hjelmeland H, Koposov R (2008). Building models for the relationship between attitudes toward suicide and suicidal behavior: based on data from general population surveys in Sweden, Norway, and Russia. *Suicide & Life-Threatening Behavior* 38, 661–675.
- Reulbach U, Bleich S (2008). Suicide risk after a suicide attempt. *British Medical Journal* 337, 1303–1304.
- Reutfors J, Brandt L, Jönsson EG, Ekblom A, Sparén P, Osby U (2009). Risk factors for suicide in schizophrenia: findings from a Swedish population-based case control study. *Schizophrenia Research* 108, 231–237.
- Richardson-Vejlgaard R, Sher L, Oquendo MA, Lizardi D, Stanley B (2009). Objections to suicide among depressed patients with alcohol use disorders. *Journal of Affective Disorders*. Published online: 15 February 2009. doi: 10.1016/j.jad.2009.01.005.
- Rihmer Z, Gonda X, Tondo L (2008). Lithium and suicidal behavior in patients with bipolar disorder. *Journal of Clinical Psychiatry* 69, 1831–1832.
- Romm S, Combs H, Klein MB (2008). Self immolation: cause and culture. *Journal of Burn Care & Research* 29, 988–993.
- Rowell KL, Green BL, Guidry J, Eddy J (2008). Factors associated with suicide among African American adult men: a systematic review of the literature. *Journal of Men's Health* 5, 274–281.
- Sanadjian M (2008). Female suicide and space for resentment, gender and male excess among the Lurs of South-western Iran. *Social Identities* 14, 717–738.
- Schneider B, Kolves K, Blettner M, Wetterling T, Schnabel A, Varnik A (2009). Substance use disorders as risk factors for suicide in an Eastern and a Central European city (Tallinn and Frankfurt/Main). *Psychiatry Research* 165, 263–272.
- Schneider B, Wetterling T, Georgi K, Bartusch B, Schnabel A, Blettner M (2009). Smoking differently modifies suicide risk of affective disorders, substance use disorders, and social factors. *Journal of Affective Disorders* 112, 165–173.
- Seemüller F, Riedel M, Obermeier M, Bauer M, Adli M, Mundt C, Holsboer F, Brieger P, Laux G, Bender W, Heuser I, Zeiler J, Gaebel W, Jäger M, Henkel V, Möller HJ (2009). The controversial link between antidepressants and suicidality risks in adults: data from a naturalistic study on a large sample of in-patients with a major depressive episode. *International Journal of Neuropsychopharmacology* 12, 181–189.

- Shahid M, Hyder AA (2008). Deliberate self-harm and suicide: a review from Pakistan. *International Journal of Injury Control & Safety Promotion* 15, 233–241.
- Sharma SP (2008). High suicide rate among Cancer patients fuels prevention discussions. *Journal of the National Cancer Institute* 100, 1750–1752.
- Sher L (2008). The concept of post-traumatic mood disorder and its implications for adolescent suicidal behavior. *Minerva Pediatrica* 60, 1393–1399.
- Sher L (2009). Do sleep abnormalities related to disruption of synaptic homeostasis contribute to the pathophysiology of post-traumatic mood disorder and suicidal behavior? *Medical Hypotheses* 72, 230–230.
- Sheridan C (2009). Doubts surround link between Bt cotton failure and farmer suicide (vol 27, pg 9, 2009). *Nature Biotechnology* 27, 205–205.
- Smith EG, Søndergård L, Lopez AG, Andersen PK, Kessing LV (2009). Association between consistent purchase of anticonvulsants or lithium and suicide risk: a longitudinal cohort study from Denmark, 1995–2001. *Journal of Affective Disorders*. Published online: 24 February 2009. doi: 10.1016/j.jad.2009.01.013.
- Sørensen HJ, Mortensen EL, Wang AG, Juel K, Silvertown L, Mednick SA (2009). Suicide and mental illness in parents and risk of suicide in offspring: a birth cohort study. *Social Psychiatry & Psychiatric Epidemiology*. Published online: 23 January 2009. doi: 10.1007/s00127-009-0495-5.
- Sparks DL, Hunsaker JC 3rd, Amouyel P, Malafosse A, Bellivier F, Leboyer M, Courtet P, Helbecque N (2009). Angiotensin I-converting enzyme I/D polymorphism and suicidal behaviors. *American Journal of Medical Genetics. Part B, Neuropsychiatric Genetics* 150B, 290–294.
- Stenager K, Qin P (2008). Individual and parental psychiatric history and risk for suicide among adolescents and young adults in Denmark: a population-based study. *Social Psychiatry & Psychiatric Epidemiology* 43, 920–926.
- Tidemalm D, Langstrom N, Lichtenstein P, Runeson B (2008). Risk of suicide after suicide attempt according to coexisting psychiatric disorder: Swedish cohort study with long term follow-up. *British Medical Journal* 337, 1328–1331.
- Toro K, Dunay G, Bartholy J, Pongracz R, Kis Z, Keller E (2009). Relationship between suicidal cases and meteorological conditions. *Journal of Forensic & Legal Medicine*. Published online: 23 January 2009. doi: 10.1016/j.jflm.2008.12.015.
- Torzsa P, Rihmer Z, Gonda X, Szokontor N, Sebestyen B, Faludi G, Kalabay L (2009). Family history of suicide: a clinical marker for major depression in primary care practice? *Journal of Affective Disorders*. Published online: 10 February 2009. doi: 10.1016/j.jad.2009.01.008.
- Tusell, F (2008). On suicides and menstruation: a comment on Dogra, et al. (2007). *Psychological Reports* 103, 732–734.
- Valenstein M, Kim HM, Ganoczy D, McCarthy JF, Zivin K, Austin KL, Hoggatt K, Eisenberg D, Piette JD, Blow FC, Olfson M (2009). Higher-risk periods for suicide among VA patients receiving depression treatment: prioritizing suicide prevention efforts. *Journal of Affective Disorders* 112, 50–58.
- van Cott AC, Cramer J, Dersh JJ, Zeber J, Mortensen E, Copeland LA, Steinman M, Glickman M, Pugh M (2008). Suicide in older veterans treated with antiepileptic drugs. *Epilepsia* (Suppl.) 49, 69–69.
- Videtic A, Zupanc T, Pregelj P, Balazic J, Tomori M, Komel R (2009). Suicide, stress and serotonin receptor 1A promoter polymorphism -1019C>G in Slovenian suicide victims. *European Archives of Psychiatry & Clinical Neuroscience*. Published online: 18 February 2009. doi: 10.1007/s00406-008-0861-4.

- Wang AG, Stora T (2009). Core features of suicide. Gender, age, alcohol and other putative risk factors in a low-incidence population. *Nordic Journal of Psychiatry* 63, 154–159.
- Wong PWC, Yeung AWM, Chan WSC, Yip PSF, Tang AKH (2009). Suicide notes in Hong Kong in 2000. *Death Studies* 33, 372–381.
- Wortzel HS, Binswanger IA, Anderson CA, Adler LE (2009). Suicide among incarcerated veterans. *Journal of the American Academy of Psychiatry & the Law* 37, 82–91.
- Wray M, Miller M, Gurvey J, Carroll J, Kawachi I (2008). Leaving Las Vegas: exposure to Las Vegas and risk of suicide. *Social Science & Medicine* 67, 1882–1888.
- Wyder M, Ward P, De Leo D (2009). Separation as a suicide risk factor. *Journal of Affective Disorders*. Published online: 6 January 2009. doi: 10.1016/j.jad.2008.11.007.
- Youssef NA, Rich CL (2008). Does acute treatment with sedatives/hypnotics for anxiety in depressed patients affect suicide risk? A literature review. *Annals of Clinical Psychiatry* 20, 157–169.

Prevention

- Aksoy-Poyraz C, Ozdemir A, Ozmen M, Arikan K, Ozkara C (2008). Electroconvulsive therapy for bipolar depressive and mixed episode with high suicide risk after epilepsy surgery. *Epilepsy & Behavior* 13, 707–709.
- Anderson AL, Lester D, Rogers JR (2008). A psychometric investigation of the suicide opinion questionnaire. *Death Studies* 32, 924–936.
- Andriessen K (2009). Can postvention be prevention? *Crisis* 30, 43–47.
- Bostwick JM, Lineberry TW (2009). Editorial on ‘Inpatient suicide: preventing a common sentinel event’. *General Hospital Psychiatry* 31, 101–102.
- Brent DA (2009). Youth depression and suicide: selective serotonin reuptake inhibitors treat the former and prevent the latter. *Canadian Journal of Psychiatry* 54, 76–77.
- Bryan CJ, Corso KA, Rudd M, Cordero L (2008). Improving identification of suicidal patients in primary care through routine screening. *Primary Care & Community Psychiatry* 13, 143–147.
- Bursztein C, Apter A (2009). Adolescent suicide. *Current Opinion in Psychiatry* 22, 1–6.
- Caley M, Fowler T (2009). Suicide prevention: is more demographic information the answer? *Journal of Public Health* 31, 95–97.
- Cardell R, Bratcher KS, Quinnett P (2009). Revisiting ‘suicide proofing’ an inpatient unit through environmental safeguards: a review. *Perspectives in Psychiatric Care* 45, 36–44.
- Carroll A (2008). Risk assessment and management in practice: the Forensicare risk assessment and management exercise. *Australasian Psychiatry* 16, 412–417.
- Castelpietra G, Morsanutto A, Pascolo-Fabrizi E, Isacson G (2008). Antidepressant use and suicide prevention: a prescription database study in the region Friuli Venezia Giulia, Italy. *Acta Psychiatrica Scandinavica* 118, 382–388.
- Chan SW, Chien WT, Tso S (2008). The qualitative evaluation of a suicide prevention and management programme by general nurses. *Journal of Clinical Nursing* 17, 2884–2894.
- Chen WJ, Chen CC, Ho CK, Lee MB, Chung YT, Wang YC, Lin GG, Lu RY, Sun FC, Chou FH (2009). The suitability of the BSRS-5 for assessing elderly who have attempted suicide and need to be referred for professional mental health consultation in a metropolitan city, Taiwan. *International Journal of Geriatric Psychiatry*. Published online: 3 March 2009. doi: 10.1002/gps.2239.

- Chen YY, Yip PS (2008). Rethinking suicide prevention in Asian countries. *Lancet* 372, 1629–1630.
- Choi JL, Rogers JR, Werth Jr JL (2009). Suicide risk assessment with Asian American college students: A culturally informed perspective. *Counseling Psychologist* 37, 186–218.
- Cougnard A, Verdoux H, Grolleau A, Moride Y, Begaud B, Tournier M (2008). Impact of antidepressants on the risk of suicide in patients with depression in real-life conditions: a decision analysis model. *Psychological Medicine*. Published online: 9 December 2009. doi: 10.1017/S003329170800473X.
- Docksai R (2009). Youth depression and suicide. *Futurist* 43, 16–17.
- Farrow R, Arensman E, Corcoran P, Williamson E, & Perry IJ (2009). Irish coroners' attitudes towards suicide and its prevention. *Irish Journal of Medical Science* 178, 61–67.
- Fernandez N, Grataloup G, Posner K (2008). Translation of the Columbia suicide severity rating scale (C-SSRS) for use in 33 countries. *Value in Health* 11, A340-A341.
- Fountoulakis KN, Gonda X, Siamouli M, Rihmer Z (2009). Psychotherapeutic intervention and suicide risk reduction in bipolar disorder: a review of the evidence. *Journal of Affective Disorders* 113, 21–29.
- Gask L, Lever-Green G, Hays R (2008). Dissemination and implementation of suicide prevention training in one Scottish region. *BMC Health Services Research* 8, 246–259.
- Gilat I, Shahar G (2009). Suicide prevention by online support groups: an action theory-based model of emotional first aid. *Archives of Suicide Research* 13, 52–63.
- Giordano R, Stichler JF (2009). Improving suicide risk assessment in the emergency department. *Journal of Emergency Nursing* 35, 22–26.
- Hailey D, Roine R, Ohinmaa A (2008). The effectiveness of telemental health applications: a review. *Canadian Journal of Psychiatry* 53, 769–778.
- Halperin J, Leibowitz J, Crocker L, Gsodl M, Campbell J, Parrett N, Underhill J (2008). So who is avoiding whom? Bridging the gap between young men and mental health professionals. *Clinical Psychology Forum* 191, 25–29.
- Hawton K, Ratnayeke L, Simkin S, Harriss L, Scott V (2009). Evaluation of acceptability and use of lockable storage devices for pesticides in Sri Lanka that might assist in prevention of self-poisoning. *BMC Public Health* 9, 69–106.
- Hawton K, Saunders KE (2009). Psychiatric service development and suicide. *Lancet* 373, 99–100.
- Hayes AJ, Shaw JJ, Lever-Green G, Parker D, Gask L (2008). Improvements to suicide prevention training for prison staff in England and Wales. *Suicide & Life Threatening Behavior* 38, 708–713.
- Hoven CW, Wasserman D, Wasserman C, Mandell DJ (2009). Awareness in nine countries: A public health approach to suicide prevention. *Legal Medicine (Tokyo)*. Published online: 17 March 2009. doi: 10.1016/j.legalmed.2009.01.106.
- Hubbeling D (2009). Use of guidelines in suicide prevention. *Psychiatric Services* 60, 405–405.
- Huisman A, Robben PB, Kerkhof AJFM (2009). An examination of the Dutch Health Care Inspectorate's supervision system for suicides of mental health care users. *Psychiatric Services* 60, 80–85.
- Huisman A, Robben PBM, Kerkhof AJFM (2009). Use of guidelines in suicide prevention – reply. *Psychiatric Services* 60, 405–405.
- Hunt IM, Kapur N, Webb R, Robinson J, Burns J, Shaw J, Appleby L (2009). Suicide in recently discharged psychiatric patients: a case-control study. *Psychological Medicine* 39, 443–449.

- Inagaki M, Matsumoto T, Kawano K, Yamada M, Takeshima T (2008). Rethinking suicide prevention in Asian countries. *Lancet* 372, 1630–1630.
- Inoue K, Tani H, Nata M, Ono Y (2009). Preventing suicide in males: a suicide investigation in nine public health centers in Mie prefecture, Japan. *Journal of Forensic & Legal Medicine*. Published online: 18 February 2009. doi: 10.1016/j.jflm.2009.01.009.
- Isaac M, Elias B, Katz LY, Belik SL, Deane FP, Enns MW, Sareen J & The Swampy Cree Suicide Prevention Team (2009). Gatekeeper training as a preventative intervention for suicide: a systematic review. *Canadian Journal of Psychiatry* 54, 260–268.
- Isacson G, Holmgren A, Osby U, Ahlner J (2009). Decrease in suicide among the individuals treated with antidepressants: a controlled study of antidepressants in suicide, Sweden 1995–2005. *Acta Psychiatrica Scandinavica*. Published online: 15 February 2009.10.1111/j.1600-0447.2009.01344.x.
- Janofsky JS (2009). Reducing inpatient suicide risk: using human factors analysis to improve observation practices. *Journal of the American Academy of Psychiatry & the Law* 37, 15–24.
- Johari HG, Mohammadi AA, Bolandparvaz S (2009). Preventable irreversible side effects of critical socioeconomic decisions on burns. *Burns*. Published online: 20 March 2009. doi: 10.1016/j.burns.2008.11.005
- Kaga M, Takeshima T, Matsumoto T (2009). Suicide and its prevention in Japan. *Legal Medicine*. Published online: 6 March 2009. doi: 10.1016/j.legalmed.2009.01.015.
- Kapur N (2009). Health services and suicide prevention. *Journal of Mental Health* 18, 1–5.
- Kovacsics CE, Gottesman II, Gould TD (2009). Lithium's anti-suicidal efficacy: elucidation of neurobiological targets using endophenotype strategies. *Annual Review of Pharmacology & Toxicology* 49, 175–198.
- Langille DB, Asbridge M, Kisely S, Leblanc MB, Schaller E, Lynk A, Allen M (2008). The relationship of sex and risk behaviours to students' use of school-based health centres in Cape Breton, Nova Scotia. *Paediatrics & Child Health* 13, 605–609.
- Lauterbach E, Felber W, Muller-Oerlinghausen B, Ahrens B, Bronisch T, Meyer T, Kilb B, Lewitzka U, Hawellek B, Quante A, Richter K, Broocks A, Hohagen F (2008). Adjunctive lithium treatment in the prevention of suicidal behaviour in depressive disorders: a randomised, placebo-controlled, 1-year trial. *Acta Psychiatrica Scandinavica* 118, 469–479.
- Law CK, Yip PS, Chan WS, Fu KW, Wong PW, Law YW (2009). Evaluating the effectiveness of barrier installation for preventing railway suicides in Hong Kong. *Journal of Affective Disorders* 114, 254–262.
- Lester D (2008/2009). The use of the internet for counseling the suicidal individual: possibilities and drawbacks. *Omega* 58, 233–250.
- Levy RA (2008). Doctors for gun control. *Regulation* 31, 7–9.
- McNiel DE, Fordwood SR, Weaver CM, Chamberlain JR, Hall SE, Binder RL (2008). Effects of training on suicide risk assessment. *Psychiatric Services* 59, 1462–1465.
- Melton BB, Coverdale JH (2009). What do we teach psychiatric residents about suicide? A national survey of chief residents. *Academic Psychiatry* 33, 47–50.
- Milzman D, Lin HHS (2008). Suicide ideation presenting to the hospital: lack of evidence for success and death. *Critical Care Medicine* 36, a129–a129.
- Ní Mhaoláin AM, Davoren M, Kelly BD, Breen E, Casey P (2009). Paracetamol availability in pharmacy and non-pharmacy outlets in Dublin, Ireland. *Irish Journal of Medical Science* 178, 79–82.

- Niederkröthaler T, Till B, Herberth A, Kapusta ND, Voracek M, Dervic K, Etzersdorfer E, Sonneck G (2009). Can media effects counteract legislation reforms? The case of adolescent firearm suicides in the wake of the Austrian firearm legislation. *Journal of Adolescent Health* 44, 90–93.
- Niederkröthaler T, Till B, Herberth A, Voracek M, Kapusta ND, Etzersdorfer E, Strauss M, Sonneck G (2009). The gap between suicide characteristics in the print media and in the population. *European Journal of Public Health*. Published online: 19 March 2009. doi:10.1093/eurpub/ckp034.
- Oncu B, Soykan C, Ihan IO, Sayil I (2008). Attitudes of medical students, general practitioners, teachers, and police officers toward suicide in a Turkish sample. *Crisis* 29, 173–179.
- Oordt MS, Jobes DA, Fonseca VP, Schmidt SM (2009). Training mental health professionals to assess and manage suicidal behavior: can provider confidence and practice behaviors be altered? *Suicide & Life-Threatening Behavior* 39, 21–32.
- Oyama H, Sakashita T, Ono Y, Goto M, Fujita M, Koida J (2008). Effect of community-based intervention using depression screening on elderly suicide risk: a meta-analysis of the evidence from Japan. *Community Mental Health Journal* 44, 311–320.
- Pan YJ, Lee MB, Chiang HC, Liao SC (2009). The recognition of diagnosable psychiatric disorders in suicide cases' last medical contacts. *General Hospital Psychiatry* 31, 181–184.
- Patel AS, Harrison A, Bruce-Jones W (2009). Evaluation of the risk assessment matrix: a mental health triage tool. *Emergency Medicine Journal* 26, 11–14.
- Pirkis J, Dare A, Blood RW, Rankin B, Williamson M, Burgess P, Jolley D (2009). Changes in media reporting of suicide in Australia between 2000/01 and 2006/07. *Crisis* 30, 25–33.
- Pompili M, Rihmer Z, Innamorati M, Lester D, Girardi P, Tatarelli R (2009). Assessment and treatment of suicide risk in bipolar disorders. *Expert Review of Neurotherapeutics* 9, 109–136.
- Pridemore WA, Snowden AJ (2009). Reduction in suicide mortality following a new national alcohol policy in Slovenia: an interrupted time-series analysis. *American Journal of Public Health*. Published online: 19 March 2009. doi: 10.2105/AJPH.2008.146183.
- Robinson J, Pirkis J, Kryszynska K, Niner S, Jorm AF, Dudley M, Schindeler E, De Leo D, Harrigan S (2008). Research priorities in suicide prevention in Australia a comparison of current research efforts and stakeholder-identified priorities. *Crisis* 29, 180–190.
- Rudd MD, Cukrowicz KC, Bryan CJ (2008). Core competencies in suicide risk assessment and management: implications for supervision. *Training & Education in Psychology* 2, 219–228.
- Sam KG, Kondabolu K, Pati D, Kamath A, Pradeep Kumar G, Rao PGM (2009). Poisoning severity score, APACHE II and GCS: effective clinical indices for estimating severity and predicting outcome of acute organophosphorus and carbamate poisoning. *Journal of Forensic & Legal Medicine*. Published online: 16 January 2009. doi: 10.1016/j.jflm.2008.12.004.
- Sareen J, Belik SL (2009). The need for outreach in preventing suicide among young veterans. *PLoS Medicine* 6, e26–e26.
- Scott MA, Wilcox HC, Schonfeld IS, Davies M, Hicks RC, Turner JB, Shaffer D (2009). School-based screening to identify at-risk students not already known to school professionals: the Columbia Suicide Screen. *American Journal of Public Health* 99, 334–339.
- Simon RI (2009). Enhancing suicide risk assessment through evidence-based psychiatry. *Psychiatric Times* 26, 42–45.
- Skilling GD, Sclare PD, Watt SJ, Fielding S (2008). The effect of catalytic converter legislation on suicide rates in Grampian and Scotland 1980–2003. *Scottish Medical Journal* 53, 3–6.
- Stewart C, Rapp-Paglicci L, Rowe W (2009). Evaluating the efficacy of the Prodigy Prevention Program across urban and rural locales. *Child & Adolescent Social Work Journal* 26, 65–75.

- The PLoS Medicine Editors (2009). Media portrayals of suicide. *PLoS Medicine* 6, e51–e51.
- Tishler CL, Reiss NS (2009). Inpatient suicide: preventing a common sentinel event. *General Hospital Psychiatry* 31, 103–109.
- Tompkins TL, Witt J (2009). The short-term effectiveness of a suicide prevention gatekeeper training program in a college setting with residence life advisers. *Journal of Primary Prevention*. Published online: 13 March 2009. doi: 10.1007/s10935–009–0171–2.
- Valenstein M, Eisenberg D, McCarthy JF, Austin KL, Ganoczy D, Kim HM, Zivin K, Piette JD, Olfson M, Blow FC (2009). Service implications of providing intensive monitoring during high-risk periods for suicide among VA patients with depression. *Psychiatric Services* 60, 439–444.
- Voracek M, Loibl LM, Swami V, Vintil M, Kolves K, Sinniah D, Pillai SK, Ponnusamy S, Sonneck G, Furnham A, Lester D (2008). The Beliefs in the Inheritance of Risk Factors for Suicide Scale (BIRFSS): cross-cultural validation in Estonia, Malaysia, Romania, the United Kingdom, and the United States. *Suicide & Life-Threatening Behavior* 38, 688–698.
- Voracek M, Tran US, Sonneck G (2008). Psychometric properties of the revised facts on suicide quiz on Austrian medical and psychology undergraduates. *Death Studies* 32, 937–950.
- Wilson CJ, Deane FP, Marshall KL, Dalley A (2008). Reducing adolescents' perceived barriers to treatment and increasing help-seeking intentions: effects of classroom presentations by general practitioners. *Journal of Youth & Adolescence* 37, 1257–1269.
- Wong PWC, Liu PMY, Chan WSC, Law YW, Law SCK, Fu KW, Li HSH, Tso MK, Beautrais AL, Yip PSF (2009). An integrative suicide prevention program for visitor charcoal burning suicide and suicide pact. *Suicide & Life-Threatening Behavior* 39, 82–90.
- Xue R, Zhang YZ, Zou LB (2008). Progress in the development of early-onset antidepressants. *Chinese Pharmacological Bulletin* 24, 1558–1561.

Postvention and bereavement

- Ballard ED, Pao M, Horowitz L, Lee LM, Henderson DK, Rosenstein DL (2008). Aftermath of suicide in the hospital: institutional response. *Psychosomatics* 49, 461–469.
- Chen J, Choi YJ, Mori K, Sawada Y, Sugano S (2009). Those who are left behind: an estimate of the number of family members of suicide victims in Japan. *Social Indicators Research*. Published online: 10 February 2009. doi: 10.1007/s11205–009–9448–3.
- Feigelman B, Feigelman W (2008). Surviving after suicide loss: the healing potential of suicide survivor support groups. *Illness, Crisis & Loss* 16, 285–304.
- Feigelman W, Jordan JR, Gorman BS (2008/2009). How they died, time since loss, and bereavement outcomes. *Omega* 58, 251–273.
- Henry M, Greenfield BJ (2009). Therapeutic effects of psychological autopsies the impact of investigating suicides on interviewees. *Crisis* 30, 20–24.
- Kalischuk RG, Nixon G (2009). A transpersonal theory of healing following youth suicide. *International Journal of Mental Health & Addiction*. Published online: 27 January 2009. doi: 10.1007/s11469–009–9193–5.
- Lyn CW (2008). When a coworker completes suicide. *AAOHN Journal* 56, 459–467.
- McDaid C (2009). Interventions for people bereaved through suicide: systematic review (vol 193, pg 438, 2008). *British Journal of Psychiatry* 194, 90–90.
- McDaid C, Trowman R, Golder S, Hawton K, Sowden A (2008). Interventions for people bereaved through suicide: systematic review. *British Journal of Psychiatry* 193, 438–443.

- Mitchell AM, Crane PA, Kim Y (2008). Perceived stress in survivors of suicide: psychometric properties of the Perceived Stress Scale. *Research in Nursing & Health* 31, 576–585.
- Mitchell AM, Sakraida TJ, Kim Y, Bullian L, Chiappetta L (2009). Depression, anxiety and quality of life in suicide survivors: a comparison of close and distant relationships. *Archives of Psychiatric Nursing* 23, 2–10.
- Parker HA, McNally RJ (2008). Repressive coping, emotional adjustment, and cognition in people who have lost loved ones to suicide. *Suicide & Life Threatening Behavior* 38, 676–687.
- Thomyangkoon P, Leenaars A (2008). Impact of death by suicide of patients on Thai psychiatrists. *Suicide & Life Threatening Behavior* 38, 728–740.

NON-FATAL SUICIDAL BEHAVIOUR

Epidemiology

- Borges G, Breslau J, Su M, Miller M, Medina-Mora ME, Aguilar-Gaxiola S (2009). Immigration and suicidal behavior among Mexicans and Mexican Americans. *American Journal of Public Health* 99, 728–733.
- Claassen CA, Carmody T, Bossarte R, Trivedi MH, Elliott S, Currier GW (2008). Do geographic regions with higher suicide rates also have higher rates of nonfatal intentional self-harm? *Suicide & Life Threatening Behavior* 38, 637–649.
- Fairweather-Schmidt AK, Anstey KJ, Mackinnon AJ (2009). Is suicidality distinguishable from depression? Evidence from a community-based sample. *Australian & New Zealand Journal of Psychiatry* 43, 208–215.
- Goldstein TR (2009). Suicidality in pediatric bipolar disorders. *Child & Adolescent Psychiatric Clinics of North America* 182, 339–352.
- Hadjizacharia P, Brown CV, Teixeira PG, Chan LS, Yang K, Salim A, Inaba K, Rhee P, Deme- triades D (2008). Traumatic suicide attempts at a Level I trauma center. *Journal of Emer- gency Medicine*. Published online: 8 November 2008. doi: 10.1016/j.jemermed.2008.04.031.
- Hawton K, Bergen H, Casey D, Simkin S (2008). General hospital presentations of non-fatal hanging over a 28-year period: case-control study. *British Journal of Psychiatry* 193, 503–504.
- Hawton K, Harriss L (2009). How often does deliberate self-harm occur relative to each suicide? A study of variations by gender and age. *Suicide & Life Threatening Behavior* 38, 650–660.
- Hawton K, Harriss L, Casey D, Simkin S, Harrison K, Bray I, Blatchley N (2009). Self-harm in UK armed forces personnel: descriptive and case-control study of general hospital presen- tations. *British Journal of Psychiatry* 194, 266–272.
- Heyerdahl F, Bjornaas MA, Dahl R, Hovda KE, Nore AK, Ekeberg O, Jacobsen D (2009). Rep- etition of acute poisoning in Oslo: 1-year prospective study. *British Journal of Psychiatry* 194, 73–79.
- Issam ER, Fadia H, Viviane C, Christine D (2009). Suicidal behavior among medical students. *Medical Teacher*. Published online: 13 January 2009. doi: 10.1080/01421590802348184.
- Joe S, Baser RS, Neighbors HW, Caldwell CH, S Jackson J (2009). 12-month and lifetime prevalence of suicide attempts among black adolescents in the national survey of Ameri- can life. *Journal of the American Academy of Child & Adolescent Psychiatry* 48, 271–282.
- Klaus NM, Mobilio A, King CA (2009). Parent-adolescent agreement concerning adolescents' suicidal thoughts and behaviors. *Journal of Clinical Child & Adolescent Psychology* 38, 245–255.
- Laukkanen E, Rissanen M-L, Honkalampi K, Kylmä J, Tolmunen T, Hintikka J (2009). The prevalence of self-cutting and other self-harm among 13- to 18-year old Finnish adoles- cents. *Social Psychiatry & Psychiatric Epidemiology* 44, 23–28.
- Ma X, Xiang YT, Cai ZJ, Li SR, Xiang YQ, Guo HL, Hou YZ, Li ZB, Li ZJ, Tao YF, Dang WM, Wu XM, Deng J, Chan SS, Ungvari GS, Chiu HF (2009). Lifetime prevalence of suicidal ideation, suicide plans and attempts in rural and urban regions of Beijing, China. *Aus- tralian & New Zealand Journal of Psychiatry* 43, 158–166.
- Malakouti SK, Nojomi M, Bolhari J, Hakimshoostari M, Poshtmashhadi M, De Leo D (2009). Prevalence of suicide thoughts, plans and attempts in a community sample from Karaj, Iran. *Community Mental Health Journal* 45, 37–41.

- McLaughlin AM, Hardt J, McKay AP, Fitzpatrick GJ, Donnelly MB (2009). Alcohol, drug misuse and suicide attempts: unrecognised causes of out of hospital cardiac arrests admitted to intensive care units. *Irish Journal of Medical Sciences* 178, 29–33.
- Miller AL, Smith HL (2008). Adolescent non-suicidal self-injurious behavior: the latest epidemic to assess and treat. *Applied & Preventive Psychology* 12, 178–188.
- Muehlenkamp JJ, Hoff ER, Licht J-G, Azure JA, Hasenzahl SJ (2008). Rates of non-suicidal self-injury: a cross-sectional analysis of exposure. *Current Psychology* 27, 234–241.
- Nixon AC, Doak MW, Crozier H, Crooks DP, Waring WS (2009). Patterns of antiepileptic drug overdose differ between men and women: admissions to the Edinburgh Poisons Unit, 2000–2007. *Quarterly Journal of Medicine* 102, 51–56.
- Nordentoft M, Branner J (2008). Gender differences in suicidal intent and choice of method among suicide attempters. *Crisis* 29, 209–212.
- O'Connor RC, Rasmussen S, Miles J, Hawton K (2009). Self-harm in adolescents: self-report survey in schools in Scotland. *British Journal of Psychiatry* 194, 68–72.
- Parkar SR, Dawani V, Weiss MG (2008). Gender, suicide, and the sociocultural context of deliberate self-harm in an urban general hospital in Mumbai, India. *Culture, Medicine & Psychiatry* 32, 492–515.
- Plener PL, Libal G, Keller F, Fegert JM, Muehlenkamp JJ (2009). An international comparison of adolescent non-suicidal self-injury (NSSI) and suicide attempts: Germany and the USA. *Psychological Medicine*. Published online: 27 January 2009. doi: 10.1017/S0033291708005114.
- Resch F, Parzer P, Brunner R (2008). Self-mutilation and suicidal behaviour in children and adolescents: prevalence and psychosocial correlates: results of the BELLA study. *European Child & Adolescent Psychiatry* (Suppl.) 17, 92–98.
- Sansone RA, Wiederman MW, Schumacher DE, Routsong-Weichers L (2008). The prevalence of self-harm behaviors among a sample of gastric surgery candidates. *Journal of Psychosomatic Research* 65, 441–444.
- Scocco P, Fantoni G, Rapattoni M, Girolamo GD, Pavan L (2009). Death ideas, suicidal thoughts, and plans among nursing home residents. *Journal of Geriatric Psychiatry & Neurology*. Published online: 23 March 2009. doi: 10.1177/0891988709332937
- Slama F, Courtet P, Golmard JL, Mathieu F, Guillaume S, Yon L, Jollant F, Misson H, Jaussent I, Leboyer M, Bellivier F (2009). Admixture analysis of age at first suicide attempt. *Journal of Psychiatric Research*. Published online: 15 February 2009. doi: 10.1016/j.jpsychires.2009.01.007.
- Slama F, Dehurtevent B, Even JD, Charles-Nicolas A, Ballon N, Slama R (2008). Characteristics of a French - African - Caribbean epidemiological psychiatric sample with a history of suicide attempt. *Suicide & Life Threatening Behavior* 38, 720–727.
- Stenbacka M (2008). Unintentional and intentional injuries due to opiate abuse. *Heroin Addiction & Related Clinical Problems* 10, 29–32.
- Suk E, van Mill J, Vermeiren R, Ruchkin V, Schwab-Stone M, Doreleijers T, Deboutte D (2009). Adolescent suicidal ideation: a comparison of incarcerated and school-based samples. *European Child & Adolescent Psychiatry*. Published online: 16 February 2009. doi: 10.1007/s00787-009-0740-1.
- Usall J, Pinto-Meza A, Fernandez A, Graaf RD, Demyttenaere K, Alonso J, Girolamo GD, Lepine JP, Kovess V, Haro JM (2009). Suicide ideation across reproductive life cycle of women: results from a European epidemiological study. *Journal of Affective Disorders*. Published online: 19 January 2009. doi: 10.1016/j.jad.2008.12.006.

- Valtonen HM, Suominen K, Sokero P, Mantere O, Arvilommi P, Leppämäki S, Isometsä ET (2009). How suicidal bipolar patients are depends on how suicidal ideation is defined. *Journal of Affective Disorders*. Published online: 17 March 2009. doi: 10.1016/j.jad.2009.02.008.
- van Bergen DD, Smit JH, Van Balkom AJLM, Van Ameijden E, Saharso S (2008). Suicidal ideation in ethnic minority and majority adolescents in Utrecht, The Netherlands. *Crisis* 29, 202–208.

Risk and protective factors

- Acosta F, Aguilar E, Cejas M, Gracia R, Caballero A, Siris S (2009). A prospective study of the psychopathological variables associated with suicidality among schizophrenic patients. *Actas Españolas de Psiquiatría* 37, 42–48.
- Ainsah O, Norharlina B, Osman CB (2008). The association between deliberate self-harm and menstrual cycle among patients admitted to Hospital Kuala Lumpur. *Hong Kong Journal of Psychiatry* 18, 158–165.
- Azarin JM, Kaladjian A, Adida M, Hantouche E, Hameg A, Lancrenon S, Akiskal HS (2009). Risk factors associated with lifetime suicide attempts in bipolar I patients: findings from a French National Cohort. *Comprehensive Psychiatry* 50, 115–120.
- Babu GN, Subbakrishna DK, Chandra PS (2008). Prevalence and correlates of suicidality among Indian women with post-partum psychosis in an inpatient setting. *Australian & New Zealand Journal of Psychiatry* 42, 976–980.
- Bacskai E, Czobor P, Gerevich J (2009). Suicidality and trait aggression related to childhood victimization in patients with alcoholism. *Psychiatry Research* 165, 103–110.
- Bagge CL, Sher KJ (2008). Adolescent alcohol involvement and suicide attempts: toward the development of a conceptual framework. *Clinical Psychology Review* 28, 1283–1296.
- Bakst S, Rabinowitz J, Bromet EJ (2009). Antecedents and patterns of suicide behavior in first-admission psychosis. *Schizophrenia Bulletin*. Published online: 9 March 2009. doi: 10.1093/schbul/sbp001.
- Balducci C, Alfano V, Fraccaroli F (2009). Relationships between mobbing at work and MMPI-2 personality profile, posttraumatic stress symptoms, and suicidal ideation and behavior. *Violence & Victims* 24, 52–67.
- Baud P, Perroud N, Courtet P, Jaussent I, Releco, Jollant F, Malafosse A (2009). Modulation of anger control in suicide attempters by TPH-1. *Genes, Brain & Behavior* 8, 97–100.
- Belik SL, Stein MB, Asmundson GJ, Sareen J (2009). Relation between traumatic events and suicide attempts in Canadian military personnel. *Canadian Journal of Psychiatry* 54, 93–104.
- Bernburg JG, Thorlindsson T, Sigfusdottir ID (2009). The spreading of suicidal behavior: the contextual effect of community household poverty on adolescent suicidal behavior and the mediating role of suicide suggestion. *Social Science & Medicine* 68, 380–389.
- Biong S, Ravndal E (2009). Living in a maze: health, well-being and coping in young non-western men in Scandinavia experiencing substance abuse and suicidal behaviour. *International Journal of Qualitative Studies on Health & Well-being* 4, 4–16.
- Bjork Petersen C, Grønbaek MN, Bussey Rask M, Nielsen B, Søgaard Nielsen A (2008). Suicidal behaviour among alcohol-dependent Danes attending outpatient treatment. *Nordic Journal of Psychiatry*. Published online: 26 November 2008. doi: 10.1080/08039480802559965.
- Blasco-Fontecilla H, Baca-Garcia E, Dervic K, Perez-Rodriguez MM, Saiz-Gonzalez MD, Saiz-Ruiz J, Oquendo MA, De Leon J (2009). Severity of personality disorders and suicide attempt. *Acta Psychiatrica Scandinavica* 119, 149–155.

- Braden JB, Sullivan MD (2008). Suicidal thoughts and behavior among adults with self-reported pain conditions in the National Comorbidity Survey replication. *Journal of Pain* 9, 1106–1115.
- Brausch AM, Gutierrez PM (2009). The role of body image and disordered eating as risk factors for depression and suicidal ideation in adolescents. *Suicide & Life-Threatening Behavior* 39, 58–71.
- Brent DA, Emslie GJ, Clarke GN, Asarnow J, Spirito A, Ritz L, Vitiello B, Iyengar S, Birmaher B, Ryan ND, Zelazny J, Onorato M, Kennard B, Mayes TL, Debar LL, McCracken JT, Strober M, Suddath R, Leonard H, Porta G, Keller MB (2009). Predictors of spontaneous and systematically assessed suicidal adverse events in the treatment of SSRI-resistant depression in adolescents (TORDIA) study. *American Journal of Psychiatry*. Published online: 17 February 2009. doi: 10.1176/appi.ajp.2008.08070976.
- Brezo J, Barker ED, Paris J, Hebert M, Vitaro F, Tremblay RE, Turecki G (2008). Childhood trajectories of anxiousness and disruptiveness as predictors of suicide attempts. *Archives of Pediatrics & Adolescent Medicine* 162, 1015–1021.
- Brown RM, Brown SL, Johnson A, Olsen B, Melver K, Sullivan M (2009). Empirical support for an evolutionary model of self-destructive motivation. *Suicide & Life-Threatening Behavior* 39, 1–12.
- Brundin L, Björkqvist M, Träskman-Bendz L, Petersén A (2009). Increased orexin levels in the cerebrospinal fluid the first year after a suicide attempt. *Journal of Affective Disorders* 113, 179–182.
- Cacciola JS, Koppenhaver JM, Alterman AI, McKay JR (2008). Posttraumatic stress disorder and other psychopathology in substance abusing patients. *Drug & Alcohol Dependence*. Published online: 4 December 2008. doi: 10.1016/j.drugalcdep.2008.10.018.
- Cha C, Nock M (2009). Emotional intelligence is a protective factor for suicidal behavior. *Journal of the American Academy of Child & Adolescent Psychiatry* 48, 422–430.
- Chabrol H, Saint-Martin C (2009). Psychopathic traits and suicidal ideation in high-school students. *Archives of Suicide Research* 13, 64–73.
- Chamberlain P, Goldney R, Delfabbro P, Gill T, Dal Grande L (2009). Suicidal ideation. *Crisis* 30, 39–42.
- Chan WS, Law CK, Liu KY, Wong PW, Law YW, Yip PS (2009). Suicidality in Chinese adolescents in Hong Kong: the role of family and cultural influences. *Social Psychiatry & Psychiatric Epidemiology* 44, 278–284.
- Chandrasekaran R, Gnanaselane J (2008). Predictors of repeat suicidal attempts after first-ever attempt: a two-year follow-up study. *Hong Kong Journal of Psychiatry* 18, 131–135.
- Christiansen E, Jensen BF (2009). A nested case-control study of the risk of suicide attempts after discharge from psychiatric care: the role of co-morbid substance use disorder. *Nordic Journal of Psychiatry* 63, 132–139.
- Cohen A, Gilman SE, Houck PR, Szanto K, Reynolds CF (2009). Socioeconomic status and anxiety as predictors of antidepressant treatment response and suicidal ideation in older adults. *Social Psychiatry & Psychiatric Epidemiology*, 44, 272–277.
- Cooper J, Husain N, Webb R, Waheed W, Kapur N, Guthrie E, Appleby L (2008). Self-harm in the UK: differences between South Asians and Whites in rates, characteristics, provision of service and repetition. *Social Psychiatry & Psychiatric Epidemiology* 43, 1024–1024.
- Cornette MM, Strauman TJ, Abramson LY, Busch AM (2009). Self-discrepancy and suicidal ideation. *Cognition & Emotion* 23, 504–527.

- Cougle JR, Keough ME, Riccardi CJ, Sachs-Ericsson N (2009). Anxiety disorders and suicidality in the National Comorbidity Survey-Replication. *Journal of Psychiatric Research*. Published online: 14 January 2009. doi: 10.1016/j.jpsychires.2008.12.004.
- Crane C, Duggan DS (2009). Overgeneral autobiographical memory and age of onset of childhood sexual abuse in patients with recurrent suicidal behaviour. *British Journal of Clinical Psychology* 48, 93–100.
- Csorba J, Dinya E, Plener P, Nagy E, Páli E (2009). Clinical diagnoses, characteristics of risk behaviour, differences between suicidal and non-suicidal subgroups of Hungarian adolescent outpatients practising self-injury. *European Child & Adolescent Psychiatry*. Published online: 22 January 2009. doi: 10.1007/s00787-008-0733-5.
- Cukrowicz KC, Duberstein PR, Vannoy SD, Lynch TR, McQuoid DR, Steffens DC (2009). Course of suicide ideation and predictors of change in depressed older adults. *Journal of Affective Disorders* 113, 30–36.
- Cupina D (2009). Life events, gender and suicidal behaviours in the acute community setting. *Australasian Psychiatry*. Published online: 28 January 2009. doi: 10.1080/10398560802680746.
- Dave D, Rashad I (2009). Overweight status, self-perception, and suicidal behaviors among adolescents. *Social Science & Medicine*. Published online: 18 March 2009. doi: 10.1016/j.socscimed.2009.02.015.
- Davies RD (2009). Adolescent substance abuse: psychiatric comorbidity and high risk behaviours. *American Journal of Psychiatry* 166, 116–117.
- De Filippis S, Erbuto D, Gentili F, Innamorati M, Lester D, Tatarelli R, Martelletti P, Pompili M (2008). Mental turmoil, suicide risk, illness perception, and temperament, and their impact on quality of life in chronic daily headache. *Journal of Headache & Pain* 9, 349–357.
- Dennis MS (2009). Suicide and self-harm in older people. *Quality in Ageing* 10, 16–23.
- Dennis M, Baillon S, Brugha T, Lindesay J, Stewart R, Meltzer H (2009). The influence of limitation in activity of daily living and physical health on suicidal ideation: results from a population survey of Great Britain. *Social Psychiatry & Psychiatric Epidemiology*. Published online: 12 January 2009. doi: 10.1007/s00127-008-0474-2.
- Diaconu G, Turecki G (2009). Family history of suicidal behavior predicts impulsive-aggressive behavior levels in psychiatric outpatients. *Journal of Affective Disorders* 113, 172–178.
- Diefenbach GJ, Woolley SB, Goethe JW (2009). The association between self-reported anxiety symptoms and suicidality. *Journal of Nervous & Mental Disease* 197, 92–97.
- Douglas KS, Lilienfeld SO, Skeem JL, Poythress NG, Edens JF, Patrick CJ (2008). Relation of antisocial and psychopathic traits to suicide-related behavior among offenders. *Law & Human Behaviour* 32, 511–525.
- Dyrbye LN, Sloan JA, Shanafelt TD (2009). Is there a connection between high educational debt and suicidal ideation among medical students? Response. *Annals of Internal Medicine* 150, 285–285.
- Eisenbach C, Ungur AL, Unger J, Stremmel W, Encke J (2008). Admission to intensive care for parasuicide by self-poisoning: variation by time cycles, climate and the lunar cycle. *Psychiatry Research* 161, 177–184.
- Elizabeth Sublette M, Carballo JJ, Moreno C, Galfalvy HC, Brent DA, Birmaher B, John Mann J, Oquendo MA (2009). Substance use disorders and suicide attempts in bipolar subtypes. *Journal of Psychiatric Research* 43, 230–238.
- Fanous AH, Chen X, Wang X, Amdur R, O'Neill FA, Walsh D, Kendler KS (2009). Genetic variation in the serotonin 2A receptor and suicidal ideation in a sample of 270 Irish high-density schizophrenia families. *American Journal of Medical Genetics Part B (Neuropsychiatric Genetics)* 150B, 411–417.

- Fazaa N, Page S (2009). Personality style and impulsivity as determinants of suicidal subgroups. *Archives of Suicide Research* 13, 31–45.
- Fishbain DA, Lewis JE, Gao J, Cole B, Steele Rosomoff R (2009). Are chronic low back pain patients who smoke at greater risk for suicide ideation? *Pain Medicine* 10, 340–346.
- Fliege H, Lee J-R, Grimm A, Fydrich T, Klapp BF (2008). Axis I comorbidity and psychopathologic correlates of autodestructive syndromes. *Comprehensive Psychiatry*. Published online: 21 November 2008. doi: 10.1016/j.comppsy.2008.09.008.
- Fliege H, Lee J-R, Grimm A, Klapp BF (2009). Risk factors and correlates of deliberate self-harm behavior: a systematic review. *Journal of Psychosomatic Research*. Published online: 16 January 2009. doi: 10.1016/j.jpsychores.2008.10.013.
- Forcano L, Fernandez-Aranda F, Alvarez-Moya E, Bulik C, Granero R, Gratacos M, Jimenez-Murcia S, Krug I, Mercader JM, Riesco N, Saus E, Santamaria JJ, Estivill X (2009). Suicide attempts in bulimia nervosa: personality and psychopathological correlates. *European Psychiatry* 24, 91–97.
- Fu KW, Chan YY, Yip PSF (2009). Testing a theoretical model based on social cognitive theory for media influences on suicidal ideation: results from a panel study. *Media Psychology* 12, 26–49.
- Fuller-Thomson E, Sawyer JL (2009). Lifetime prevalence of suicidal ideation in a representative sample of Canadians with type 1 diabetes. *Diabetes Research & Clinical Practice* 83, 9–11.
- Gal E, Dyck MJ, Passmore A (2009). The relationship between stereotyped movements and self-injurious behavior in children with developmental or sensory disabilities. *Research in Developmental Disabilities* 30, 342–352.
- Galera C, Bouvard MP, Encrenaz G, Messiah A, Fombonne E (2008). Hyperactivity-inattention symptoms in childhood and suicidal behaviors in adolescence: the Youth Gazel Cohort. *Acta Psychiatrica Scandinavica* 118, 480–489.
- Geissbühler M, Links PS (2009). Prospective risk factors for suicide attempts in borderline personality disorder. *Current Psychiatry Reports* 11, 53–54.
- Ghanizadeh A (2009). Is thermal regulation processing involved in the etiology of self injury of skin in Autism? *Iranian Journal of Pediatrics* 19, 84–85.
- Ghanizadeh A, Baligh-Jahromi P (2009). Depression, anxiety and suicidal behaviour in children and adolescents with Haemophilia. *Haemophilia* 15, 528–532.
- Gibb BE, Andover MS, Miller IW (2008). Depressive characteristics of adult psychiatric inpatients with a history of multiple versus one or no suicide attempts. *Depression & Anxiety*. Published online: 9 December 2008. doi: 10.1002/da.20412.
- Giegling I, Chiesa A, Calati R, Hartmann AM, Möller HJ, De Ronchi D, Rujescu D, Serretti A (2009). Do the estrogen receptors 1 gene variants influence the temperament and character inventory scores in suicidal attempters and healthy subjects? *American Journal of Medical Genetics Part B (Neuropsychiatric Genetics)* 150B, 434–438.
- Gilbert P, McEwan K, Bellew R, Mills A, Gale C (2008). The dark side of competition: how competitive behaviour and striving to avoid inferiority are linked to depression, anxiety, stress and self-harm. *Psychology & Psychotherapy*. Published online: 26 November 2008. doi: 10.1348/147608308X379806.
- Gilreath TD, King G, Graham JW, Flisher AJ, Lombard C (2009). Associations between maternal closeness, suicidal ideation, and risk behaviors in Cape Town. *European Child & Adolescent Psychiatry* 18, 174–179.
- Glenn CR, Klonsky ED (2009). Social context during non-suicidal self-injury indicates suicide risk. *Personality & Individual Differences* 46, 25–29.

- Goldney RD, Winefield AH, Winefield HR, Saebel J (2009). The benefit of forgetting suicidal ideation. *Suicide & Life-Threatening Behavior* 39, 33–37.
- Goldston DB, Daniel SS, Erkanli A, Reboussin BA, Mayfield A, Frazier PH, Treadway SL (2009). Psychiatric diagnoses as contemporaneous risk factors for suicide attempts among adolescents and young adults: developmental changes. *Journal of Consulting & Clinical Psychology* 77, 281–290.
- Granero R, Poni E, Poni C (2008). Suicidal ideation among students of the 7(th), 8(th), and 9(th) grades in the State of Lara, Venezuela: the Global School Health Survey. *Puerto Rico Health Sciences Journal* 27, 337–342.
- Greene FN, Chorpita BF, Aukahi AA (2009). Examining youth anxiety symptoms and suicidal ideation in the context of the Tripartite Model of Emotion. *Journal of Psychopathology & Behavioral Assessment*. Published online: 19 February 2009. doi: 10.1007/s10862-009-9129-1.
- Greenfield B, Henry M, Weiss M, Tse SM, Guile JM, Dougherty G, Zhang X, Fombonne E, Lis E, Lapalme-Remis S, Harnden B (2008). Previously suicidal adolescents: predictors of six-month outcome. *Journal of the Canadian Academy of Child & Adolescent Psychiatry* 17, 197–201.
- Gunnell D, Harbord R, Singleton N, Jenkins R, Lewis G (2009). Is low IQ associated with an increased risk of developing suicidal thoughts? A cohort study based on an 18-month follow-up of the national psychiatric morbidity survey. *Social Psychiatry & Psychiatric Epidemiology* 44, 34–38.
- Gunnell D, Hawton K, Ho D, Evans J, O'Connor S, Potokar J, Donovan J, Kapur N (2008). Hospital admissions for self harm after discharge from psychiatric inpatient care: cohort study. *British Medical Journal* 337, a2278-a2284.
- Haggarty JM, Cernovsky Z, Bedard M, Merskey H (2008). Suicidality in a sample of arctic households. *Suicide & Life Threatening Behavior* 38, 699–707.
- Hara E, Akanuma N, Adachi N, Hara K, Koutroumanidis M (2009). Suicide attempts in adult patients with idiopathic generalized epilepsy. *Psychiatry & Clinical Neurosciences* 63, 225–229.
- Hardt J, Sidor A, Nickel R, Kappis B, Petrak P, Egle UT (2008). Childhood adversities and suicide attempts: a retrospective study. *Journal of Family Violence* 23, 713–718.
- Hershey AD (2009). Teens, migraine, suicide, and suicidal thoughts. *Neurology* 72, e61-e62.
- Hicks KM, Hinck SM (2008). Concept analysis of self-mutilation. *Journal of Advanced Nursing* 64, 408–413.
- Hintikka J, Koivumaa-Honkanen H, Lehto SM, Tolmunen T, Honkalampi K, Haatainen K, Viinamäki H (2009). Are factors associated with suicidal ideation true risk factors? A 3-year prospective follow-up study in a general population. *Social Psychiatry & Psychiatric Epidemiology* 44, 29–33.
- Hintikka J, Tolmunen T, Rissanen ML, Honkalampi K, Kylmä J, Laukkanen E (2009). Mental disorders in self-cutting adolescents. *Journal of Adolescent Health*. Published online: 9 January 2009. doi: 10.1016/j.jadohealth.2008.10.003.
- Hirsch JK, Duberstein PR, Unützer J (2009). Chronic medical problems and distressful thoughts of suicide in primary care patients: mitigating role of happiness. *International Journal of Geriatric Psychiatry*. Published online: 14 January 2009. doi: 10.1002/gps.2174.
- Hirsch JK, Wolford K, Lalonde SM, Brunk L, Parker-Morris A (2009). Optimistic explanatory style as a moderator of the association between negative life events and suicide ideation. *Crisis* 30, 48–53.

- Horesh N, Nachshoni T, Wolmer L, Toren P (2009). A comparison of life events in suicidal and nonsuicidal adolescents and young adults with major depression and borderline personality disorder. *Comprehensive Psychiatry*. Published online: 12 March 2009. doi: 10.1016/j.comppsy.2009.01.006.
- Huas C, Hassler C, Choquet M (2008). Has occasional cannabis use among adolescents also to be considered as a risk marker? *European Journal of Public Health* 18, 626–629.
- Ilgén MA, Chermack ST, Murray R, Walton MA, Barry KL, Wojnar M, Blow FC (2009). The association between partner and non-partner aggression and suicidal ideation in patients seeking substance use disorder treatment. *Addictive Behaviors* 34, 180–186.
- Ilgén MA, Czyz EK, Welsh DE, Zeber JE, Bauer MS, Kilbourne AM (2009). A collaborative therapeutic relationship and risk of suicidal ideation in patients with bipolar disorder. *Journal of Affective Disorders*. 115, 246–251.
- Ilgén MA, Zivin K, McCammon RJ, Valenstein M (2008). Pain and suicidal thoughts, plans and attempts in the United States. *General Hospital Psychiatry* 30, 521–527.
- Innamorati M, Pompili M, Lester D, Tatarelli R, Girardi P (2008). Recreational drug use and suicidality among Italian young adults. *Journal of Addictive Disorders* 27, 51–59.
- Jablonska B, Lindberg L, Lindblad F, Hjern A (2009). Ethnicity, socio-economic status and self-harm in Swedish youth: a national cohort study. *Psychological Medicine* 39, 87–94.
- Jeon HJ, Roh MS, Kim KH, Lee JR, Lee D, Yoon SC, Hahm BJ (2009). Early trauma and lifetime suicidal behavior in a nationwide sample of Korean medical students. *Journal of Affective Disorders*. Published online: 26 March 2009. doi:10.1016/j.jad.2009.03.002.
- Jokinen J, Nordstrom P (2008). HPA axis hyperactivity and attempted suicide in young adult mood disorder inpatients. *Journal of Affective Disorders*. Published online: 2 December 2008. doi: 10.1016/j.jad.2008.10.015.
- Juriscic B, Marusic A (2009). Suicidal ideation and behavior and some psychological correlates in physically disabled motor-vehicle accident survivors. *Crisis* 30, 34–38.
- Katsumata Y, Matsumoto T, Kitani M, Takeshima T (2008). Electronic media use and suicidal ideation in Japanese adolescents. *Psychiatry & Clinical Neurosciences* 62, 744–746.
- Kim D-S (2008). Body image dissatisfaction as an important contributor to suicidal ideation in Korean adolescents: gender difference and mediation of parent and peer relationships. *Journal of Psychosomatic Research* 66, 297–303.
- Kim D, Kim H (2009). Body-image dissatisfaction as a predictor of suicidal ideation among Korean boys and girls in different stages of adolescence: a two-year longitudinal study. *Journal of Adolescent Health*. Published online: 12 February 2009. doi: 10.1016/j.jado-health.2008.11.017.
- Kim YS, Leventhal BL, Ko Y, Thomas Boyce W (2009). Bullying increased suicide risk: prospective study of Korean adolescents. *Archives of Suicide Research* 13, 15–30.
- Kiriakidis SP (2008). Bullying and suicide attempts among adolescents kept in custody. *Crisis* 29, 216–218.
- Kirkcaldy B, Richardson-Vejlgaard R, Siefen G (2009). Birth order: self-injurious and suicidal behaviour among adolescents. *Psychology, Health & Medicine* 14, 9–16.
- Klonsky ED (2009). The functions of self-injury in young adults who cut themselves: clarifying the evidence for affect-regulation. *Psychiatry Research* 166, 260–268.
- Kool N, van Meijel B, Bosman M (2009). Behavioral change in patients with severe self-injurious behavior: a patient’s perspective. *Archives of Psychiatric Nursing* 23, 25–31.
- Kulikowska A, Pokorski M (2008). Self-injuries in adolescents: social competence, emotional intelligence, and stigmatization. *Journal of Physiology & Pharmacology (Suppl.)* 59, 383–392.

- Kwok SYCL, Shek DTL (2008). Socio-demographic correlates of suicidal ideation among Chinese adolescents in Hong Kong. *International Journal of Adolescent Medicine & Health* 20, 463–472.
- Ladwig KH, Klupsch D, Ruf E, Meisinger C, Baumert J, Erazo N, Wichmann HE (2008). Sex- and age-related increase in prevalence rates of death wishes and suicidal ideation in the community: results from the KORA-F3 Augsburg Study with 3154 men and women, 35 to 84 years of age. *Psychiatry Research* 161, 248–252.
- Laghi F, Baiocco R, D'Alessio M, Gurrieri G (2009). Suicidal ideation and time perspective in high school students. *European Psychiatry* 24, 41–46.
- Lamis DA, Ellis JB, Chumney FL, Dula CS (2009). Reasons for living and alcohol use among college students. *Death Studies* 33, 277–286.
- Lauer S, de Man AF, Marquez S, Ades J (2008). External locus of control, problem-focused coping and attempted suicide. *North American Journal of Psychology* 10, 625–632.
- Lee A, Wong SY, Tsang KK, Ho GS, Wong CW, Cheng F (2009). Understanding suicidality and correlates among Chinese secondary school students in Hong Kong. *Health Promotion International*. Published online: 21 March 2009. doi:10.1093/heapro/dap011.
- Lee E, Leung CM (2008). Clinical predictors of psychiatric and medical morbidities of charcoal-burning suicide attempt in Hong Kong. *General Hospital Psychiatry* 30, 561–563.
- Lee E, Leung CM (2009). High-risk groups for charcoal-burning suicide attempt in Hong Kong, China, 2004. *Journal of Clinical Psychiatry* 70, 431–431.
- Lee R, Petty F, Coccaro EF (2009). Cerebrospinal fluid GABA concentration: Relationship with impulsivity and history of suicidal behaviour, but not aggression, in human subjects. *Journal of Psychiatric Research* 43, 353–359.
- Levi Y, Horesh N, Fischel T, Treves I, Or E, Apter A (2008). Mental pain and its communication in medically serious suicide attempts: an 'impossible situation'. *Journal of Affective Disorders* 111, 244–250.
- Li J, Kuang W, Zou K, Deng W, Li T, Gong Q, Sun X (2009). A proton magnetic spectroscopy research on hippocampus metabolisms in people with suicide-attempted depressions. *Journal of Sichuan University (Medical Science Edition)* 40, 59–62.
- Li Y, Zhang J, McKeown RE (2009). Cross-sectional assessment of diet quality in individuals with a lifetime history of attempted suicide. *Psychiatry Research* 165, 111–119.
- Lindqvist D, Janelidze S, Hagell P, Erhardt S, Samuelsson M, Minthon L, Hansson O, Björkqvist M, Traskman-Bendz L, Brundin L (2009). Interleukin-6 is elevated in the cerebrospinal fluid of suicide attempters and related to symptom severity. *Biological Psychiatry*. Published online: 9 March 2009. doi: 10.1016/j.biopsych.2009.01.030.
- Lineberry TW, Allen JD, Nash J, Galardy CW (2009). Population-based prevalence of smoking in psychiatric inpatients: a focus on acute suicide risk and major diagnostic groups. *Comprehensive Psychiatry*. Published online: 12 March 2009. doi:10.1016/j.comppsy.2009.01.004.
- Ludäscher P, Greffrath W, Schmahl C, Kleindienst N, Kraus A, Baumgärtner U, Magerl W, Treede RD, Bohus M (2009). A cross-sectional investigation of discontinuation of self-injury and normalizing pain perception in patients with borderline personality disorder. *Acta Psychiatrica Scandinavica*. Published online: 6 January 2009. doi: 10.1111/j.1600-0447.2008.01335.x.
- Lukasiewicz M, Blecha L, Falissard B, Neveu X, Benyamina A, Reynaud M, Gasquet I (2009). Dual diagnosis: prevalence, risk factors, and relationship with suicide risk in a nationwide sample of French prisoners. *Alcoholism-Clinical & Experimental Research* 33, 160–168.

- Luukkonen AH, Räsänen P, Hakko H, Riala K (2009). Bullying behavior is related to suicide attempts but not to self-mutilation among psychiatric inpatient adolescents. *Psychopathology* 42, 131–138.
- McCloskey MS, Ben-Zeev D, Lee R, Berman ME, Coccaro EF (2009). Acute tryptophan depletion and self-injurious behavior in aggressive patients and healthy volunteers. *Psychopharmacology (Berl)* 203, 53–61.
- McDermott E, Roen K, Scourfield J (2008). Avoiding shame: young LGBT people, homophobia and self-destructive behaviours. *Culture, Health & Sexuality* 10, 815–829.
- MacDonald R, Taylor J, Clarke D (2009). The relationship between early suicide behaviors and mental health: Results from a nine-year panel study. *Journal of Adolescence*. Published online: 9 March 2009. doi: 10.1016/j.adolescence.2009.01.012.
- McLaren S, Challis C (2009). Resilience among men farmers: the protective roles of social support and sense of belonging in the depression-suicidal ideation relation. *Death Studies* 33, 262–276.
- Magaletta PR, Patry MW, Wheat B, Bates J (2008). Prison inmate characteristics and suicide attempt lethality: an exploratory study. *Psychological Services* 5, 351–361.
- Maimon D, Kuhl DC (2008). Social control and youth suicidality: situating Durkheim's ideas in a multilevel framework. *American Sociological Review* 73, 921–943.
- Malloy-Diniz LF, Neves FS, Abrantes SSC, Fuentes D, Correa H (2009). Suicide behavior and neuropsychological assessment of type I Bipolar patients. *Journal of Affective Disorders* 112, 231–236.
- Mather AA, Cox BJ, Enns MW, Sareen J (2008). Associations of obesity with psychiatric disorders and suicidal behaviors in a nationally representative sample. *Journal of Psychosomatic Research* 66, 277–285.
- Matsumoto T, Tsutsumi A, Izutsu T, Imamura F, Chiba Y, Takeshima T (2009). Comparative study of the prevalence of suicidal behavior and sexual abuse history in delinquent and non-delinquent adolescents. *Psychiatry & Clinical Neurosciences* 63, 238–240.
- Mikami K, Inomata S, Hayakawa N, Ohnishi Y, Enseki Y, Ohya A, Haruki Y, Kishi Y, Shinohara Y, Ichimura A, Matsumoto H (2009). Frequency and clinical features of pervasive developmental disorder in adolescent suicide attempts. *General Hospital Psychiatry* 31, 163–166.
- Mikolajczak M, Petrides KV, Hurry J (2008). Adolescents choosing self-harm as an emotion regulation strategy: the protective role of trait emotional intelligence. *British Journal of Clinical Psychology*. Published online: 2 December 2008. doi: 10.1348/014466508X386027.
- Montross LP, Kasckow J, Golshan S, Solorzano E, Lehman D, Zisook S (2008). Suicidal ideation and suicide attempts among middle-aged and older patients with Schizophrenia Spectrum Disorders and Concurrent Subsyndromal Depression. *Journal of Nervous & Mental Disease* 196, 884–890.
- Morishita S (2008). Oseltamivir induces suicidal ideation. *International Medical Journal* 15, 392–392.
- Morrison PJ (2009). Deliberate and accidental self-harm. *Ulster Medical Journal* 78, 1–1.
- Mota NP, Cox BJ, Katz LY, Sareen J (2009). Relationship between mental disorders/suicidality and three sexual behaviors: results from the National Comorbidity Survey Replication. *Archives of Sexual Behavior*. Published online: 14 February 2009. doi: 10.1007/s10508-008-9463-5.
- Muehlenkamp JJ, Engel SG, Wadeson A, Crosby RD, Wonderlich SA, Simonich H, Mitchell JE (2009). Emotional states preceding and following acts of non-suicidal self-injury in bulimia nervosa patients. *Behaviour Research & Therapy* 47, 83–87.

- Nakagawa A, Grunebaum MF, Oquendo MA, Burke AK, Kashima H, Mann JJ (2009). Clinical correlates of planned, more lethal suicide attempts in major depressive disorder. *Journal of Affective Disorders* 112, 237–242.
- Naved RT, Akhtar N (2008). Spousal violence against women and suicidal ideation in Bangladesh. *Women's Health Issues* 18, 442–452.
- Neves FS, Malloy-Diniz LF, Corrêa H (2008). Suicidal behavior in Bipolar Disorder: what is the influence of psychiatric comorbidities? *Journal of Clinical Psychiatry* 70, 13–18.
- Nock MK, Hwang I, Sampson NA, Kessler RC (2009). Mental disorders, comorbidity and suicidal behavior: Results from the National Comorbidity Survey Replication. *Molecular Psychiatry*. Published online: 31 March 2009. doi: 10.1038/mp.2009.29.
- O'Connor RC, Fraser L, Whyte M-C, MacHale S, Masterton G (2008). Self-regulation of unattainable goals in suicide attempters: the relationship between goal disengagement, goal reengagement and suicidal ideation. *Behaviour Research & Therapy* 47, 164–169.
- O'Donnell ML, Creamer M, Elliott P, Bryant R, McFarlane A, Silove D (2009). Prior trauma and psychiatric history as risk factors for intentional and unintentional injury in Australia. *Journal of Trauma* 66, 470–476.
- Oldershaw A, Grima E, Jollant F, Richards C, Simic M, Taylor L, Schmidt U (2009). Decision making and problem solving in adolescents who deliberately self-harm. *Psychological Medicine* 39, 95–104.
- Ozturk E, Sar V (2008). Somatization as a predictor of suicidal ideation in dissociative disorders. *Psychiatry & Clinical Neurosciences* 62, 662–668.
- Pagura J, Cox BJ, Sareen J, Enns MW (2008). Factors associated with multiple versus single episode suicide attempts in the 1990–1992 and 2001–2003 United States national comorbidity surveys. *Journal of Nervous & Mental Disorders* 196, 806–813.
- Payne RA, Oliver JJ, Bain M, Elders A, Bateman DN (2009). Patterns and predictors of re-admission to hospital with self-poisoning in Scotland. *Public Health* 123, 134–137.
- Peltzer K (2008). Drug involvement among secondary school students at suicide risk in Cape Town. *Studia Psychologica* 50, 323–334.
- Peltzer K (2008). Social support and suicide risk among secondary school students in Cape Town, South Africa. *Psychological Reports* 103, 653–660.
- Pena JB, Wyman PA, Brown CH, Matthieu MM, Olivares TE, Hartel D, Zayas LH (2008). Immigration generation status and its association with suicide attempts, substance use, and depressive symptoms among Latino adolescents in the USA. *Prevention Science* 9, 299–310.
- Perez-Rodriguez MM, Baca-Garcia E, Diaz-Sastre C, Garcia-Resa E, Ceverino A, Saiz-Ruiz J, Oquendo MA, de Leon J (2008). Low serum cholesterol may be associated with suicide attempt history. *Journal of Clinical Psychiatry* 69, 1920–1927.
- Phillips KA, Kelly MM (2009). Suicidality in a placebo-controlled fluoxetine study of body dysmorphic disorder. *International Clinical Psychopharmacology* 24, 26–28.
- Pillai A, Andrews T, Patel V (2009). Violence, psychological distress and the risk of suicidal behaviour in young people in India. *International Journal of Epidemiology* 38, 459–469.
- Plöderl M, Fartacek R (2009). Childhood gender nonconformity and harassment as predictors of suicidality among gay, lesbian, bisexual, and heterosexual Austrians. *Archives of Sexual Behavior* 38, 400–410.
- Pompili M, Innamorati M, Lester D, Akiskal HS, Rihmer Z, Del Casale A, Amore M, Girardi P, Tatarelli R (2009). Substance abuse, temperament and suicide risk: evidence from a case-control study. *Journal of Addictive Diseases* 28, 13–20.

- Pompili M, Lester D, Innamorati M, De Pisa E, Iliceto P, Puccinno M, Nastro PF, Tatarelli R, Girardi P (2008). Suicide risk and exposure to mobbing. *Work-A Journal of Prevention Assessment & Rehabilitation* 31, 237–243.
- Pompili M, Lester D, Innamorati M, De Pisa E, Amore M, Ferrara C, Tatarelli R, Girardi P (2009). Quality of life and suicide risk in patients with Diabetes Mellitus. *Psychosomatics* 50, 16–23.
- Raja M, Azzoni A, Koukopoulos AE (2009). Psychopharmacological treatment before suicide attempt among patients admitted to a Psychiatric Intensive Care Unit. *Journal of Affective Disorders* 113, 37–44.
- Ramchand R, Griffin BA, Harris KM, McCaffrey DF, Morral AR (2008). A prospective investigation of suicide ideation, attempts, and use of mental health service among adolescents in substance abuse treatment. *Psychology of Addictive Behaviors* 22, 524–532.
- Rasic DT, Belik SL, Elias B, Katz LY, Enns M, Sareen J (2009). Spirituality, religion and suicidal behavior in a nationally representative sample. *Journal of Affective Disorders* 114, 32–40.
- Restifo K, Harkavy-Friedman JM, Shrout PE (2009). Suicidal behavior in Schizophrenia: a test of the Demoralization hypothesis. *Journal of Nervous & Mental Disease* 197, 147–153.
- Rhodes A, Bethell J, Jaakkimainen RL, Thurlow J, Spence J, Links PS, Streiner DL (2008). The impact of rural residence on medically serious medicinal self-poisonings. *General Hospital Psychiatry* 30, 552–560.
- Riala K, Taanila A, Hakko H, Rasanen P (2009). Longitudinal smoking habits as risk factors for early-onset and repetitive suicide attempts: the Northern Finland 1966 Birth Cohort Study. *Annals of Epidemiology*. Published online: 20 February 2009. doi: 10.1016/j.annepidem.2008.12.004.
- Richardson-Vejlgaard R, Sher L, Oquendo MA, Lizardi D, Stanley B (2009). Moral objections to suicide and suicidal ideation among mood disordered Whites, Blacks, and Hispanics. *Journal of Psychiatric Research* 43, 360–365.
- Ries RK, Yuodelis-Flores C, Roy-Byrne PP, Nilssen O, Russo J (2009). Addiction and suicidal behavior in acute psychiatric inpatients. *Comprehensive Psychiatry* 50, 93–99.
- Rihmer A, Rozsa S, Rihmer Z, Gonda X, Akiskal KK, Akiskal HS (2008). Affective temperaments, as measured by TEMPS-A, among nonviolent suicide attempters. *Journal of Affective Disorders*. Published online: 26 November 2008. doi: 10.1016/j.jad.2008.10.024.
- Robinson J, Cotton S, Conus P, Schimmelmann BG, McGorry P, Lambert M (2009). Prevalence and predictors of suicide attempt in an incidence cohort of 661 young people with first-episode psychosis. *Australian & New Zealand Journal of Psychiatry* 43, 149–157.
- Rock DJ, Hallmayer JF (2008). The seasonal risk for deliberate self-harm: determined by place of birth, but occurrence determined by place of residence. *Crisis* 29, 191–201.
- Rogan RG (2009). Linguistic indicators of suicidality in crisis negotiations. *Journal of Police Crisis Negotiations* 9, 34–54.
- Romer M, Dougherty NJ (2009). Oral self-injurious behaviors in patients with developmental disabilities. *Dental Clinics of North America* 53, 339–350.
- Rosa AR, Franco C, Martinez-Aran A, Sanchez-Moreno J, Salamero M, Valenti M, Tabares-Seisdedos R, Gonzalez-Pinto A, Kapczinski F, Vieta E (2008). Functional impairment and previous suicide attempts in bipolar disorder. *Acta Neuropsychiatrica* 20, 300–306.
- Ross S, Heath NL, Toste JR (2009). Non-suicidal self-injury and eating pathology in high school students. *American Journal of Orthopsychiatry* 79, 83–92.
- Roy A (2009). Characteristics of Cocaine dependent patients who attempt suicide. *Archives of Suicide Research* 13, 46–51.

- Ruesch N, Spoletini I, Wilke M, Martinotti G, Bria P, Trequattrini A, Bonaviri G, Caltagirone C, Spalletta G (2008). Inferior frontal white matter volume and suicidality in schizophrenia. *Psychiatry Research Neuroimaging* 164, 206–214.
- Sánchez-Gistau V, Colom F, Mané A, Romero S, Sugranyes G, Vieta E (2009). Atypical depression is associated with suicide attempt in bipolar disorder. *Acta Psychiatrica Scandinavica*. Published online: 12 January 2009. doi: 10.1111/j.1600-0447.2008.01341.x.
- Sandman CA, Touchette PE, Marion SD, Chicz-DeMet A (2008). The role of proopiomelanocortin (POMC) in sequentially dependent self-injurious behaviour. *Developmental Psychobiology* 50, 680–689.
- Sarchiapone M, Jaussent I, Roy A, Carli V, Guillaume S, Jollant F, Malafosse A, Courtet P (2009). Childhood trauma as a correlative factor of suicidal behavior - via aggression traits. Similar results in an Italian and in a French sample. *European Psychiatry* 24, 57–62.
- Schilling EA, Aseltine RH Jr, Glanovsky JL, James A, Jacobs D (2009). Adolescent alcohol use, suicidal ideation, and suicide attempts. *Journal of Adolescent Health* 44, 335–341.
- Schützmann K, Brinkmann L, Schacht M, Richter-Appel H (2009). Psychological distress, self-harming behavior, and suicidal tendencies in adults with disorders of sex development. *Archives of Sexual Behavior* 38, 16–33.
- Scoliers G, Portzky G, Madge N, Hewitt A, Hawton K, de Wilde EJ, Ystgaard M, Arensman E, De Leo D, Fekete S, van Heeringen K (2008). Reasons for adolescent deliberate self-harm: a cry of pain and/or a cry for help? - findings from the child and adolescent self-harm in Europe (CASE) study. *Social Psychiatry & Psychiatric Epidemiology*. Published online: 21 November 2008. doi: 10.1007/s00127-008-0469-z.
- Segal J, Schenkel LC, Oliveira MHD, Salum GA, Bau CHD, Manfro GG, Leistner Segal S (2009). Novel allelic variants in the human serotonin transporter gene linked polymorphism (5-HTTLPR) among depressed patients with suicide attempt. *Neuroscience Letters* 451, 79–82.
- Serretti A, Calati R, Giegling I, Hartmann AM, Moller HJ, Rujescu D (2009). Serotonin receptor HTR1A and HTR2C variants and personality traits in suicide attempters and controls. *Journal of Psychiatric Research* 43, 519–525.
- Shahar G, Scotti M-A, Rudd MD, Joiner TE (2008). Hypomanic symptoms predict an increase in narcissistic and histrionic personality disorder features in suicidal young adults. *Depression & Anxiety* 25, 892–898.
- Sher L (2008). Sleep disturbances, synaptic homeostasis and suicidal behaviour. *Australian & New Zealand Journal of Psychiatry* 42, 1072–1073.
- Sher L (2008). Childhood abuse, suicidal behavior and the concept of post-traumatic mood disorder. *Medical Hypotheses* 71, 809–810.
- Sher L (2009). Aggression, suicidal behavior, and the concept of post-traumatic mood disorder. *Psychiatry & Clinical Neurosciences* 63, 254–255.
- Sher L, Oquendo MA, Richardson-Vejlgaard R, Makhija NM, Posner K, Mann JJ, Stanley BH (2009). Effect of acute alcohol use on the lethality of suicide attempts in patients with mood disorders. *Journal of Psychiatric Research*. Published online: 25 February 2009. doi:10.1016/j.jpsychires.2009.01.005.
- Sim L, Adrian M, Zeman J, Cassano M, Friedrich WN (2009). Adolescent deliberate self-harm: linkages to emotion regulation and family emotional climate. *Journal of Research on Adolescence* 19, 75–91.
- Simonson RH (2008). Religiousness and non-hopeless suicide ideation. *Death Studies* 32, 951–960.

- Sirey JA, Bruce ML, Carpenter M, Booker D, Reid MC, Newell KA, Alexopoulos GS (2008). Depressive symptoms and suicidal ideation among older adults receiving home delivered meals. *International Journal of Geriatric Psychiatry* 23, 1306–1311.
- Sisask M, Varnik A, Kolves K, Konstabel K, Wasserman D (2008). Subjective psychological well-being (WHO-5) in assessment of the severity of suicide attempt. *Nordic Journal of Psychiatry* 62, 431–435.
- Smith EG (2009). Association between antidepressant half-life and the risk of suicidal ideation or behavior among children and adolescents: Confirmatory analysis and research implications. *Journal of Affective Disorders* 114, 143–148.
- Sunnqvist C, Westrin A, Traskman-Bendz L (2008). Suicide attempters: biological stress-markers and adverse life events. *European Archives of Psychiatry & Clinical Neuroscience* 258, 456–462.
- Symons FJ, Harper VN, McGrath PJ, Breau LM, Bodfish JW (2009). Evidence of increased non-verbal behavioral signs of pain in adults with neurodevelopmental disorders and chronic self-injury. *Research in Developmental Disabilities* 30, 521–528.
- Symons FJ, Wendelschafer-Crabb G, Kennedy W, Heeth W, Bodfish JW (2008). Degranulated mast cells in the skin of adults with self-injurious behavior and neurodevelopmental disorders. *Brain, Behavior & Immunity* 23, 365–370.
- Taliaferro LA, Rienzo BA, Pigg RM, Miller MD, Dodd VJ (2009). Associations between physical activity and reduced rates of hopelessness, depression, and suicidal behavior among college students. *Journal of American College Health* 57, 427–436.
- Tang TC, Ko CH, Yen JY, Lin HC, Liu SC, Huang CF, Yen CF (2009). Suicide and its association with individual, family, peer, and school factors in an adolescent population in southern Taiwan. *Suicide & Life-Threatening Behavior* 39, 91–102.
- Thompson M, Kuruwita C, Foster EM (2009). Transitions in suicide risk in a nationally representative sample of adolescents. *Journal of Adolescent Health*. Published online: 4 January 2009. doi: 10.1016/j.jadohealth.2008.10.138.
- Thorell LH (2009). Valid electrodermal hyporeactivity for depressive suicidal propensity offers links to cognitive theory. *Acta Psychiatrica Scandinavica* 119, 338–349.
- Thoresen S, Mehlum L (2008). Traumatic stress and suicidal ideation in Norwegian male peacekeepers. *Journal of Nervous & Mental Disease* 196, 814–821.
- Thorlindsson T, Bernburg JG (2009). Community structural instability, anomie, imitation and adolescent suicidal behavior. *Journal of Adolescence* 32, 233–245.
- Tikkanen V, Alaräisänen A, Hakko H, Räsänen P, Riala K (2009). The STUDY-70 workgroup, psychotic boys performing well in school are at increased risk of suicidal ideation. *Psychiatry & Clinical Neurosciences* 63, 30–36.
- Tournier M, Grolleau A, Cougnard A, Molimard M, Verdoux H (2009). Factors associated with choice of psychotropic drugs used for intentional drug overdose. *European Archives of Psychiatry & Clinical Neuroscience* 259, 86–91.
- Tuisku V, Pelkonen M, Kiviruusu O, Karlsson L, Ruuttu T, Marttunen M (2009). Factors associated with deliberate self-harm behaviour among depressed adolescent outpatients. *Journal of Adolescence*. Published online: 23 March 2009. doi:10.1016/j.adolescence.2009.03.001
- Tzang RF, Hong CJ, Liou YL, Yu YWY, Chen TJ, Tsai SJ (2008). Association study of p11 gene with major depressive disorder, suicidal behaviors and treatment response. *Neuroscience Letters* 447, 92–95.
- Ullman SE, Najdowski CJ (2009). Correlates of serious suicidal ideation and attempts in female adult sexual assault survivors. *Suicide & Life-Threatening Behavior* 39, 47–57.

- van Bergen D, Smit JH, van Balkom AJLM, Saharso S (2009). Suicidal behaviour of young immigrant women in the Netherlands. Can we use Durkheim's concept of 'fatalistic suicide' to explain their high incidence of attempted suicide? *Ethnic & Racial Studies* 32, 302–322.
- van Renen LJ, Wild LG (2008). Family functioning and suicidal ideation/behaviour in adolescents: a pilot study. *Journal of Child & Adolescent Mental Health* 20, 111–121.
- Vance DE, Moneyham L, Farr KF (2008). Suicidal ideation in adults aging with HIV: neurological and cognitive considerations. *Journal of Psychosocial Nursing & Mental Health Services* 46, 33–38.
- Vuksan-Cusa B, Marcinko D, Nad S, Jakovljevic M (2009). Differences in cholesterol and metabolic syndrome between bipolar disorder men with and without suicide attempts. *Progress in Neuro-Psychopharmacology & Biological Psychiatry* 33, 109–112.
- Wang J, Deng X-J, Wang J-J, Wang X-W, Xu L (2009). Substance use, sexual behaviours, and suicidal ideation and attempts among adolescents: findings from the 2004 Guangzhou Youth Risk Behaviour Survey. *Public Health* 123, 116–121.
- Wang SJ, Fuh JL, Juang KD, Lu SR (2009). Migraine and suicidal ideation in adolescents aged 13 to 15 years. *Neurology* 72, 1146–1152.
- Wasserman D, Wasserman J, Rozanov V, Sokolowski M (2009). Depression in suicidal males: genetic risk variants in the CRHR1 gene. *Genes, Brain & Behavior* 8, 72–79.
- Weissman MM (2009). Teenaged, depressed, and treatment resistant: what predicts self-harm? *American Journal of Psychiatry* 4, 385–387.
- Westling S, Ahren B, Sunnqvist C, Traskman-Bendz L (2009). Altered glucose tolerance in women with deliberate self-harm. *Psychoneuroendocrinology*. Published online: 1 February 2009. doi: 10.1016/j.psychneuen.2008.12.015.
- Wilcox HC, Storr CL, Breslau N (2009). Posttraumatic stress disorder and suicide attempts in a community sample of urban American young adults. *Archives of General Psychiatry* 66, 305–311.
- Williams D, Padmanabhan V (2009). Deliberate self-harm. *Foundation Years* 5, 72–74.
- Wilson ST, Stanley B, Brent DA, Oquendo MA, Huang YY, Mann JJ (2009). The tryptophan hydroxylase-1 A218C polymorphism is associated with diagnosis, but not suicidal behavior, in borderline personality disorder. *American Journal of Medical Genetics. Part B, Neuropsychiatric Genetics* 150B, 202–208.
- Witte TK, Timmons KA, Fink E, Smith AR, Joiner TE (2009). Do major depressive disorder and dysthymic disorder confer differential risk for suicide? *Journal of Affective Disorders* 115, 69–78.
- Wojnar M, Ilgen MA, Czyz E, Strobbe S, Klimkiewicz A, Jakubczyk A, Glass J, Brower KJ (2009). Impulsive and non-impulsive suicide attempts in patients treated for alcohol dependence. *Journal of Affective Disorders* 115, 131–139.
- Wojnar M, Ilgen MA, Wojnar J, Mccammon RJ, Valenstein M, Brower KJ (2009). Sleep problems and suicidality in the National Comorbidity Survey Replication. *Journal of Psychiatric Research* 43, 526–531.
- Woolley SB, Fredman L, Goethe JW, Lincoln AK, Heeren T (2008). Headache complaints and the risk of suicidal thoughts or behaviors. *Journal of Nervous & Mental Disease* 196, 822–828.
- Wright F, Bewick BM, Barkham M, House AO, Hill AJ (2009). Co-occurrence of self-reported disordered eating and self-harm in UK university students. *British Journal of Clinical Psychology*. Published online: 27 February 2009. doi: 10.1348/014466509X410343.

- Wu C-S, Liao S-C, Lin K-M, Tseng MM-C, Wu EC-H, Liu S-K (2008). Multidimensional assessments of impulsivity in subjects with history of suicidal attempts. *Comprehensive Psychiatry*. Published online: 25 November 2008. doi: 10.1016/j.comppsy.2008.09.006.
- Yen C-F, Lee Y, Tang T-C, Yen J-Y, Ko C-H, Chen C-C (2009). Predictive value of self-stigma, insight, and perceived adverse effects of medication for the clinical outcomes in patients with depressive disorders. *Journal of Nervous & Mental Disease* 197, 172–177.
- Yen S, Shea MT, Sanislow CA, Skodol AE, Grilo CM, Edelen MO, Stout RL, Morey LC, Zanarini MC, Markowitz JC, McGlashan TH, Daversa MT, Gunderson JG (2009). Personality traits as prospective predictors of suicide attempts. *Acta Psychiatrica Scandinavica*. Published online: 3 March 2009. doi: 10.1111/j.1600-0447.2009.01366.x.
- Yoon HK, Kim YK (2009). TPH2 -703G/T SNP may have important effect on susceptibility to suicidal behavior in major depression. *Progress in Neuro-psychopharmacology & Biological Psychiatry* 33, 403–409.
- Yoon JD, Arora VM (2009). Is there a connection between high educational debt and suicidal ideation among medical students? *Annals of Internal Medicine* 150, 285–285.
- Yumru M, Savas HA, Herken H, Kokacya MH (2008). Suicide and personality. *Anadolu Psikiyatri Dergisi — Anatolian Journal of Psychiatry* 9, 232–237.
- Zisook S, Trivedi MH, Warden D, Lebowitz B, Thase ME, Stewart JW, Moutier C, Fava M, Wisniewski SR, Luther J, Rush AJ (2009). Clinical correlates of the worsening or emergence of suicidal ideation during SSRI treatment of depression: an examination of citalopram in the STARD study. *Journal of Affective Disorders*. Published online: 14 February 2009. doi: 10.1016/j.jad.2009.01.002.

Prevention

- Ahmadi A, Mohammadi R, Schwebel DC, Hassanzadeh M, Yari M (2009). Classic philosophy lessons and preventing self-inflicted burns: a call for action. *Burns* 35, 154–155.
- Bongiovi-Garcia ME, Merville J, Almeida MG, Burke A, Ellis S, Stanley BH, Posner K, Mann JJ, Oquendo MA (2009). Comparison of clinical and research assessments of diagnosis, suicide attempt history and suicidal ideation in major depression. *Journal of Affective Disorders* 115, 183–188.
- Dear GE (2008). Ten years of research into self-harm in the Western Australian prison system: where to next? *Psychiatry, Psychology & Law* 15, 469–481.
- Deisenhammer EA, Ing CM, Strauss R, Kemmler G, Hinterhuber H, Weiss EM (2009). The duration of the suicidal process: how much time is left for intervention between consideration and accomplishment of a suicide attempt? *Journal of Clinical Psychiatry* 70, 19–24.
- Holi MM, Pelkonen M, Karlsson L, Tuisku V, Kiviruusu O, Ruuttu T, Marttunen M (2008). Detecting suicidality among adolescent outpatients: evaluation of clinicians' suicidality assessment against a structured diagnostic assessment made by trained raters. *BMC Psychiatry* 8, 97–102.
- Hutchinson JW, Greene JP, Hansen SL (2008). Evaluating active duty risk-taking: military home, education, activity, drugs, sex, suicide, and safety method. *Military Medicine* 173, 1164–1167.
- Hvid M, Wang AG (2009). Preventing repetition of attempted suicide - I. Feasibility (acceptability, adherence, and effectiveness) of a Baerum-model like aftercare. *Nordic Journal of Psychiatry* 63, 148–153.
- Kawanishi C, Kawano K, Ito H (2008). Guide to guideline preparation for suicide attempters

- in Japan. *Psychiatry & Clinical Neurosciences* 62, 754–754.
- Kerth DM, Progar PR, Morales S (2009). The effects of non-contingent self-restraint on self-injury. *Journal of Applied Research in Intellectual Disabilities* 22, 187–193.
- Klonsky ED, Glenn CR (2008). Resisting urges to self-injure. *Behavioural and Cognitive Psychotherapy* 36, 211–220.
- Mills JF, Kroner DG (2008). Predicting suicidal ideation with the Depression Hopelessness and Suicide Screening Form (DHS). *Journal of Offender Rehabilitation* 47, 74–100.
- Muehlenkamp JJ, Cowles ML, Gutierrez PM (2009). Validity of the Self-Harm Behavior Questionnaire with diverse adolescents. *Journal of Psychopathology & Behavioral Assessment*. Published online: 19 February 2009. doi: 10.1007/s10862-009-9131-7.
- Roswarski TE, Dunn JP (2009). The role of help and hope in prevention and early intervention with suicidal adolescents: implications for mental health counsellors. *Journal of Mental Health Counseling* 31, 34–46.
- Shneker BF, Cios JS, Elliott JO (2009). Suicidality, depression screening, and antiepileptic drugs: reaction to the FDA alert. *Neurology* 72, 987–991.
- Stein BD, Kataoka SH, Hamilton AB, Schultz D, Ryan G, Vona P, Wong M (2009). School personnel perspectives on their school's implementation of a school-based suicide prevention program. *Journal of Behavioral Health Services & Research*. Published online: 17 March 2009. doi: 10.1007/s11414-009-9174-2.
- Wachter CA, Barrio Minton CA, Clemens EV (2009). Crisis-specific peer supervision of school counsellors: the P-SAEF model. *Journal of Professional Counselling, Practice, Theory, & Research* 36, 13–24.

Care and support

- Abood A, Jain S, Zhong J (2008). Self-harm and the surgeon. *Journal of Plastic Reconstructive Aesthetic Surgery*. Published online: 13 November 2008. doi: 10.1016/j.bjps.2008.07.019.
- Anonymous (2008). Self-harm audit reveals communication loophole. *Nursing Standard* 23, 14–14.
- Baguelin-Pinaud A, Seguy C, Thibaut F (2008). Treating patients who self-harm. *Emergency Nurse: The Journal of the RCN Accident and Emergency Nursing Association* 16, 7–7.
- Berg R, Hendricks B, Bradley L (2009). Counselling suicidal adolescents within family systems: ethical issues. *Family Journal* 17, 64–68.
- Bergmans Y, Links PS (2009). Reducing potential risk factors for suicide-related behavior with a group intervention for clients with recurrent suicide-related behavior. *Annals of Clinical Psychiatry* 21, 17–25.
- Borgquist O, Friberg H (2009). Therapeutic hypothermia for comatose survivors after near-drowning — a retrospective analysis. *Resuscitation* 80, 210–212.
- Bowers L, Whittington R, Nolan P, Parkin D, Curtis S, Bhui K, Hackney D, Allan T, Simpson A (2008). Relationship between service ecology, special observation and self-harm during acute in-patient care: City-128 study. *British Journal of Psychiatry* 193, 395–401.
- Brabant S, Kalich D (2008/2009). Who enrolls in college death education courses? A longitudinal study. *Omega* 58, 1–18.
- Brock G, Gurekas V, Gelinas AF, Rollin K (2009). Use of a “secure room” and a security guard in the management of the violent, aggressive or suicidal patient in a rural hospital: a 3-year audit. *Canadian Journal of Rural Medicine* 14, 16–20.

- Craigien LM, Foster V (2009). "It was like a partnership of the two of us against the cutting": Investigating the counseling experiences of young adult women who self-injure. *Journal of Mental Health Counseling* 31, 76–94.
- Crane C, Barnhofer T, Duggan DS, Hepburn S, Fennell MV, Williams JMG (2008). Mindfulness-based cognitive therapy and self-discrepancy in recovered depressed patients with a history of depression and suicidality. *Cognitive Therapy & Research* 32, 775–787.
- Finn SD, Uncles DR, Willers J, Sable N (2009). Early treatment of a quetiapine and sertraline overdose with Intralipid. *Anaesthesia* 6, 191–194.
- Greene SL, Wood DM, Gawarammana IB, Warren-Gash C, Drake N, Jones AL, Dargan PI (2008). Improvement in the management of acutely poisoned patients using an electronic database, prospective audit and targeted educational intervention. *Postgraduate Medical Journal* 84, 603–608.
- Harned MS, Chapman AL, Dexter-Mazza ET, Murray A, Comtois KA, Linehan MM (2008). Treating co-occurring Axis I disorders in recurrently suicidal women with Borderline Personality Disorder: a 2-year randomized trial of Dialectical Behavior Therapy versus community treatment by experts. *Journal of Consulting & Clinical Psychology* 76, 1068–1075.
- Hawton K, Rodham K, Evans E, Harriss L (2009). Adolescents who self harm: a comparison of those who go to hospital and those who do not. *Child & Adolescent Mental Health* 14, 24–30.
- Hold PM, Brackley P, Procter D, James MI (2009). Self-harm, the psychiatric inpatient and the plastic surgeon. *Journal of Plastic, Reconstructive & Aesthetic Surgery*. Published online: 20 February 2009. doi: 10.1016/j.bjps.2008.12.032.
- Ito H, Kawano K, Kawashima D, Kawanishi C (2008). Responses to patients with suicidal ideation among different specialties in general hospitals. *General Hospital Psychiatry* 30, 578–580.
- Johannessen HA, Dieserud G, Jakhelln F, Zahl PH, De Leo D (2009). Changes in institutional psychiatric care and suicidal behaviour: a follow-up study of inpatient suicide attempters in Baerum, Norway. *Social Psychiatry & Psychiatric Epidemiology*. Published online: 27 February 2009. doi: 10.1007/s00127-009-0006-8.
- Khundkar R, Mukadam N, Estela C (2009). Management of self-harm patients: a case for a joint approach. *Journal of Plastic, Reconstructive & Aesthetic Surgery*. Published online: 3 January 2009. doi: 10.1016/j.bjps.2008.11.065.
- Law GU, Rostill-Brookes H, Goodman D (2009). Public stigma in health and non-healthcare students: attributions, emotions and willingness to help with adolescent self-harm. *International Journal of Nursing Studies* 46, 107–118.
- Little J, Rouhan J (2009). An organizational and community-based approach to deliberate self harm. *Australasian Psychiatry* 17, 169–170.
- Livesey AE (2009). Self-harm in adolescent in-patients. *Psychiatric Bulletin* 33, 10–12.
- Mcallister M, Billett S, Moyle W, Zimmer-Gembeck M (2009). Use of a think-aloud procedure to explore the relationship between clinical reasoning and solution-focused training in self-harm for emergency nurses. *Journal of Psychiatric and Mental Health Nursing* 16, 121–128.
- Nakagawa M, Yamada T, Yamada S, Natori M, Hirayasu Y, Kawanishi C (2009). Follow-up study of suicide attempters who were given crisis intervention during hospital stay: pilot study. *Psychiatry & Clinical Neurosciences* 63, 122–123.
- Ougrin D, Ng AV, Low J (2008). Therapeutic assessment based on Cognitive – Analytic therapy for young people presenting with self-harm: pilot study. *Psychiatric Bulletin* 32, 423–426.
- Palmer L, Strevens P (2008). Services for people who self-harm. *Emergency Nurse* 16, 16–18.

- Palmer L, Nijjar S (2009). Involving users in self-harm services. *Emergency Nurse* 16, 14–17.
- Perry CJ, Fowler JC, Bailey A, Clemence AJ, Plakun EM, Zheutlin B, Speanburg S (2009). Improvement and recovery from suicidal and self-destructive phenomena in treatment-refractory disorders. *Journal of Nervous & Mental Disease* 197:28–34.
- Pitman A, Tyrer P (2008). Implementing clinical guidelines for self harm – highlighting key issues arising from the NICE guideline for self-harm. *Psychology & Psychotherapy: Theory, Research & Practice* 81, 377–397.
- Plakun EM (2009). Dynamic therapy with suicidal and self-destructive borderline patients alliance based therapy can be a powerful intervention. *Psychiatric Times* 26, 24–26.
- Raja M, Azzoni A (2008). Are antidepressants warranted in the treatment of patients who present suicidal behavior? *Human Psychopharmacology* 23, 661–668.
- Roberts DM, Heilmair R, Buckley NA, Dawson AH, Fahim M, Eddleston M, Eyer P (2009). Clinical outcomes and kinetics of propanil following acute self-poisoning: a prospective case series. *BMC Clinical Pharmacology*. Published online: 16 February 2009. doi: 10.1186/1472–6904–9–3.
- Rogers BA, Pease F, Ricketts DM (2009). The surgical management of patients who deliberately self-harm. *Annals of the Royal College of Surgeons of England* 91, 59–62.
- Shahid M, Khan MM, Naqvi H, Razzak J (2008). Cost of treatment of deliberate self-harm a study from Pakistan. *Crisis* 29, 213–215.
- Simon R, Gutheil TG (2009). Sudden improvement among high-risk suicidal patients: should it be trusted? *Psychiatric Services* 60, 387–389.
- Taylor TL, Hawton K, Fortune S, Kapur N (2009). Attitudes towards clinical services among people who self-harm: systematic review. *British Journal of Psychiatry* 194, 104–110.
- Williams DE, Kirkpatrick-Sanchez S, Enzinna C, Dunn J, Borden-Karasack D (2009). The clinical management and prevention of Pica: a retrospective follow-up of 41 individuals with intellectual disabilities and Pica. *Journal of Applied Research in Intellectual Disabilities* 22, 210–215.
- Youssef NA, Angarita GA (2008). Dialectical Behavior Therapy with suicidal adolescents. *Annals of Clinical Psychiatry* 20, 244–245.
- Ystgaard M, Arensman E, Hawton K, Madge N, van Heeringen K, Hewitt A, Jan de Wilde E, De Leo D, Fekete S (2008). Deliberate self-harm in adolescents: comparison between those who receive help following self-harm and those who do not. *Journal of Adolescence*. Published online: 22 November 2008. doi: 10.1016/j.adolescence.2008.10.010.

CASE REPORTS

- Allaire MT, Manhein MH (2008). Suicide by blasting caps: a case study of rare cranial trauma. *Journal of Forensic Sciences* 53, 1313–1315.
- Altintoprak AE, Ersel M, Bayrakci A (2009). An unusual suicide attempt: a case with psychosis during an acute porphyric attack. *European Journal of Emergency Medicine* 16, 106–108.
- Anestis MD, Craig J, Bryan M, Cornette M, Joiner TE (2009). Understanding suicidal behavior in the military: an evaluation of joiner's interpersonal-psychological theory of suicidal behavior in two case studies of active duty post-deployers. *Journal of Mental Health Counselling* 31, 60–75.
- Asano M, Nushida H, Nagasaki Y, Ueno Y (2008). Suicide by a circular saw. *Forensic Science International* 182, e7–e9.
- Bae JS (2009). Acute vocal fold palsy after acute Disulfiram intoxication. *Journal of Voice* 23, 125–127.
- Behera C, Rautji R, Dogra TD (2009). Appointed bullet—a premeditated murder followed by suicide: a case report. *Medicine, Science & Law* 49, 69–71.
- Buyuk Y, Cagdir S, Avsar A, Duman GU, Melez DO, Sahin F (2009). Fatal cranial shot by blank cartridge gun: two suicide cases. *Journal of Forensic and Legal Medicine*. Published online: 13 February 2009. doi: 10.1016/j.jflm.2009.01.011.
- Carson HJ, Eilers SG (2009). Letter to the editor - stuffed toy animals as transitional objects in an adult suicide. *Journal of Forensic Sciences* 54, 238–238.
- Chang CB, Chang CC (2009). Refractory cardiopulmonary failure after glyphosate surfactant intoxication: a case report. *Journal of Occupational Medicine & Toxicology*. Published online: 30 January 2009. doi: 10.1186/1745–6673–4–2.
- Chang LC, Hung SC, Yang CS (2009). The case: a suicidal woman with delayed high anion gap metabolic acidosis. *Kidney International* 75, 757–758.
- Christensen TJ, Ringdahl JE, Bosch JJ, Falcomata TS, Luke JR, Andelma MS (2009). Constipation associated with self-injurious and aggressive behavior exhibited by a child diagnosed with Autism. *Education & Treatment of Children* 32, 89–103.
- Dedouit F, Tournel G, Robert AB, Dutrieux P, Hedouin V, Gosset D (2008). An apple a day does not always keep the doctor away. *Journal of Forensic Sciences* 53, 1434–1436.
- Deniz T, Emeksiz C (2008). Isotretinoin intoxication in attempted suicide: a case report. *Marmara Medical Journal* 21, 269–272.
- Di Nunno N, Viola L, Colucci M, Di Nunno C, Costantinides F (2009). A case of suicide using a home-modified gun. *American Journal of Forensic Medicine & Pathology* 30, 52–56.
- Fink K, Kuehnemund A, Schwab T, Geibel-Zehender A, Bley T, Bode C, Busch HJ (2009). Suicide attempt by intravenous injection of gasoline: a case report. *Journal of Emergency Medicine*. Published online: 13 February 2009. doi: 10.1016/j.jemermed.2008.08.013.
- Fuller ET, Miller MA, Kaylor DW, Janke C (2009). Lantus overdose: case presentation and management options. *Journal of Emergency Medicine* 36, 26–29.
- Ghanizadeh A (2009). Copycat suicidal attempt by a 7 year old boy after watching homicidal behavior in media: a case report. *Cases Journal* 2, 43–44.
- Gloulou F, Allouche M, Khelil MB, Bekir O, Banasr A, Zhioua M, Hamdoun M (2009). Unusual suicides with band saws: two case reports and a literature review. *Forensic Science International* 183, e7–e10.
- Hejna P (2009). Multiple suicidal injuries with shotgun slugs. *International Journal of Legal Medicine*. Published online: 12 February 2009. doi: 10.1007/s00414–009–0325-z.

- Hocao lu C (2009). Double suicide attempt. *Singapore Medical Journal* 50, e81–e84.
- Kastanaki AE, Kranioti EF, Theodorakis PN, Michalodimitrakis M (2009). An unusual suicide inside a grave with two gunshot wounds to the head-the psychological approach. *Journal of Forensic Sciences* 54, 404–407.
- Kazzi ZN, Smith BC, Khoury CA (2009). Suicide attempt by multivitamin ingestion. *Journal of Emergency Medicine*. Published online: 7 March 2009. doi: 10.1016/j.jemermed.2008.09.035.
- Kintz P, Evans J, Villain M, Cirimele V (2009). Smoking cessation with varenicline: a suicidal fatality. *Journal of Analytical Toxicology* 33, 118–120.
- Korpi-Steiner NL, Hoyne JB, Hoyer JD, Saenger AK (2008). Hemolytic Anemia following attempted suicide. *Clinical Chemistry* 54, 2071–2074.
- Kuchta J, Klug N (2009). Multiple cranial gunshot injuries without skull penetration. *Journal of Forensic & Legal Medicine* 16, 159–161.
- Lenz D, Rothschild MA, Kroner L (2008). Intoxications due to ingestion of gamma-Butyrolactone: organ distribution of gamma-Hydroxybutyric Acid and gamma-Butyrolactone. *Therapeutic Drug Monitoring* 30, 755–761.
- Mackley P, Püschel K, Turk EE (2009). Suicide by shooting with a tiling hammer. *International Journal of Legal Medicine*. Published online: 10 February 2009. doi: 10.1007/s00414-009-0326-y.
- Mettananda KC, de Silva AP, de Silva HJ (2008). Acute systemic paraquat intoxication: survival without long-term complications. *Ceylon Medical Journal* 53, 136–137.
- Rossi R, De Giorgio F, Benucci G, Oliva A, Fucci N (2009). Acute intoxication by triazolam and promazine: a case report. *Medicine, Science & Law* 49, 65–68.
- Saint-Martin P, Prat S, Bouyssy M, O’Byrne P (2009). Plastic bag asphyxia - a case report. *Journal of Forensic & Legal Medicine* 16, 40–43.
- Schneider S, Diederich N, Appenzeller B, Schartz A, Lorang C, Wennig R (2009). Internet suicide guidelines: report of a life-threatening poisoning using tobacco extract. *Journal of Emergency Medicine*. Published online: 9 March 2009. doi: 10.1016/j.jemermed.2008.10.023.
- Shetty BSK, Jagadish Rao PP, Sameer KSM, Salian PR, Shetty M (2009). Forensic evaluation of occupational marks in establishing identity-a case report. *Forensic Science International* 183, e17–e20.
- Spirling LI, Stapleton JA, Sutherland G (2008). Suicidal ideation and varenicline: a possible case of mistaken adverse drug reaction? *Journal of Clinical Psychiatry* 69, 1834–1835.
- Stokes JV, Luiselli JK (2009). Applied behavior analysis assessment and intervention for health: threatening self-injury (rectal picking) in an adult with Prader-Willi syndrome. *Clinical Case Studies* 8, 38–47.
- Straka L, Novomesky F, Krajcovic J, Macko V (2009). Ritual suicide of Japanese girl in the Slovak Republic. *Legal Medicine (Tokyo)*. Published online: 1 April 2009. doi:10.1016/j.legalmed.2009.02.059.
- Thewjitharoen Y, Lekpittaya N, Himathongkam T (2008). Attempted suicide by massive insulin injection: a case report and review of the literature. *Journal of the Medical Association of Thailand* 91, 1920–1924.
- Thierauf A, Gnann H, Bohnert M, Vennemann B, Auwärter V, Weinmann W (2009). Suicidal poisoning with mercaptodimethur-morphological findings and toxicological analysis. *International Journal of Legal Medicine*. Published online: 16 January 2009. doi: 10.1007/s00414-008-0313-8.

- Tseng J, Bartholomew SV, Wong MS** (2008). Multiple zone 2 flexor tendon injuries: an act of self-harm? *Journal of Plastic, Reconstructive & Aesthetic Surgery*. Published online: 11 December 2008. doi: 10.1016/j.bjps.2008.11.012.
- Tuka V, Ricarova B, Janota T, Malik J, Kotrlikova E** (2009). Surprisingly delayed escalation of severe verapamil poisoning. *European Journal of Emergency Medicine* 16, 100–102.
- Vevelstad M, Morild I** (2009). Lethal methemoglobinemia and automobile exhaust inhalation. *Forensic Science International*. Published online: 3 March 2009. doi:10.1016/j.forsciint.2009.01.023.
- Viel G, Cecchetto G, Montisci M** (2009). An unusual case of suicide by sharp force. *Forensic Science International* 184, e12–e15.
- Viel G, Schröder AS, Püschel K, Braun C** (2009). Planned complex suicide by penetrating captive-bolt gunshot and hanging: case study and review of the literature. *Forensic Science International*. Published online: 3 March 2009. doi: 10.1016/j.forsciint.2009.01.022.
- Wachtel LE, Contrucci-Kuhn SA, Griffin M, Thompson A, Dhossche DM, Reti IM** (2009). ECT for self-injury in an autistic boy. *European Child & Adolescent Psychiatry*. Published online: 7 February 2009. doi: 10.1007/s00787–009–0754–8.
- Yeh J, Lee A** (2009). Clozapine-induced pulmonary embolism: a case report and literature review. *Hospital Pharmacy* 44, 36–40.

MISCELLANEOUS

- Beautrais A (2009). Crisis — looking back down the road. *Crisis* 30, 1–5.
- Brants K, Bardoel J (2008). Death duties Kelly, Fortuyn and their challenge to media governance. *European Journal of Communication* 23, 471–489.
- Cholbi M (2009). Tonkens on the irrationality of the suicidally mentally ill. *Journal of Applied Philosophy* 26, 102–106.
- Cornette MM, de Roon-Cassini TA, Fosco GM, Holloway RL, Clark DC, Joiner TE (2009). Application of an interpersonal–psychological model of suicidal behavior to physicians and medical trainees. *Archives of Suicide Research* 13, 1–14.
- Dejong TM, Overholser JC (2009). Assessment of depression and suicidal actions: agreement between suicide attempters and informant reports. *Suicide & Life-Threatening Behavior* 39, 38–46.
- Doessel DP, Williams RF, Whiteford H (2009). A reassessment of suicide measurement. *Crisis* 30, 6–12.
- Duperouzel H, Moores P (2009). The good, the bad and the ugly: experiences of self-injury. *Learning Disability Practice*. Published online: 13 March 2009.
- Frisman LK, Griffin-Fennell F (2009). Commentary: suicide and incarcerated veterans — don't wait for the numbers. *Journal of the Academy of Psychiatry & the Law* 37, 92–94.
- Gubar S (2009). My Franziska, Charlotte Salomon, and the decision not to be: suicide before, during, and after the holocaust. *Georgia Review* 62, 691–724.
- Hewitt J (2009). Rational suicide: philosophical perspectives on schizophrenia. *Medicine, Health Care, & Philosophy*. Published online: 11 February 2009. doi: 10.1007/s11019-009-9183-1.
- Horne J, Wiggins S (2009). Doing being 'on the edge': managing the dilemma of being authentically suicidal in an online forum. *Sociology of Health & Illness* 31, 170–184.
- Iyer AA (2009). Corporate social responsibility and farmer suicides: a case for benign paternalism? *Journal of Business Ethics* 85, 429–443.
- Jackson E (2009). Seroxat and the suppression of clinical trial data: regulatory failure and the uses of legal ambiguity. *Journal of Medical Ethics* 35, 107–112.
- Katz-Sheiban B, Eshet Y (2008). Facts and myths about suicide: a study of Jewish and Arab students in Israel. *Omega* 57, 279–298.
- Knoll JL (2008). The psychological autopsy, part I: applications and methods. *Journal of Psychiatric Practice* 14, 393–397.
- Lakeman R, Fitzgerald M (2009). Ethical suicide research: a survey of researchers. *International Journal of Mental Health Nursing* 18, 10–17.
- Lakeman R, FitzGerald M (2009). The ethics of suicide research — the views of ethics committee members. *Crisis* 30, 13–19.
- Lawrence DW (2008). What is lost when searching only one literature database for articles relevant to injury prevention and safety promotion? *Injury Prevention* 14, 401–404.
- Lester, D (2008). 'Undecided' responses on the suicide opinion questionnaire. *Psychological Reports* 103, 661–662.
- Malkesman O, Pine DS, Tragon T, Austin DR, Henter ID, Chen G, Manji HK (2009). Animal models of suicide-trait-related behaviors. *Trends in Pharmacological Sciences*. Published online: 5 March 2009. doi: 10.1016/S0165-6147(02)02017-5.
- Marzano L, Rivlin A, Fazel S, Hawton K (2009). Interviewing survivors of near-lethal self-harm: a novel approach for investigating suicide amongst prisoners. *Journal of Forensic & Legal Medicine* 16, 152–155.

- Oquendo MA (2009). Suicidal behavior: the need for its documentation in Multiaxial DSM-V diagnoses- reply. *American Journal of Psychiatry* 166, 371–371.
- Oquendo MA, Baca-Garcia E, Mann JJ, Giner J (2008). Issues for DSM-V: suicidal behavior as a separate diagnosis on a separate axis. *American Journal of Psychiatry* 165, 1383–1384.
- Pollock GB, Cabrales A (2008). Suicidal altruism under random assortment. *Evolutionary Ecology Research* 10, 1077–1086.
- Pomara N (2009). Suicidal behavior: the need for its documentation in Multiaxial DSM-V diagnoses. *American Journal of Psychiatry* 166, 371–371.
- Pool R (2009). Why do people die that way? *New Scientist* 201, 37–39.
- Preti A (2008). School shooting as a culturally enforced way of expressing suicidal hostile intentions. *Journal of the American Academy of Psychiatry Law* 36, 544–550.
- Puffer P (2009). Durkheim did not say ‘normlessness’: the concept of anomic suicide for introductory sociology courses. *Southern Rural Sociology* 24, 200–222.
- Roen K, Scourfield J, McDermott E (2008). Making sense of suicide: a discourse analysis of young people’s talk about suicidal subjecthood. *Social Science & Medicine* 67, 2089–2097.
- Sharma BR (2009). Is attempted suicide an offense? *Aggression & Violent Behavior* 14, 139–145.
- Smith AR, Witte TK, Teale NE, King SL, Bender TW, Joiner TE (2008). Revisiting impulsivity in suicide: Implications for civil liability of third parties. *Behavioral Sciences & the Law* 26, 779–797.
- Wasserman IM, Stack S (2008). Lethal locations: an application of opportunity theory to motel suicide, a research note. *Death Studies* 32, 757–767.