ELSEVIER

Journal of Affective Disorders 92 (2006) 253–260

JOURNAL OF AFFECTIVE DISORDERS

www.elsevier.com/locate/jad

Research report

Psychiatric comorbidity may not predict suicide during and after hospitalization. A nested case–control study with blinded raters

Fredrik A. Walby *, Erik Odegaard, Lars Mehlum

Suicide Research and Prevention Unit, Institute of Psychiatry, University of Oslo, Sognsvannsveien 21, building 12. N-0320 Oslo, Norway

Received 14 November 2005; received in revised form 31 January 2006; accepted 1 February 2006
Available online 20 March 2006

Abstract

Background: To investigate the differential impact of DSM-IV axis-I and axis-II disorders on completed suicide and to study if psychiatric comorbidity increases the risk of suicide in currently and previously hospitalized psychiatric patients.
Methods: A nested case–control design based on case notes from 136 suicides and 166 matched controls. All cases and controls were rediagnosed using the SCID-CV for axis-I and the DSM-IV criteria for axis-II disorders and the inter-rater reliability was satisfactory. Raters were blind to the case and control status and the original hospital diagnoses.
Results: Depressive disorders and bipolar disorders were associated with an increased risk of suicide. No such effect was found for comorbidity between axis-I disorders and for comorbidity between axis-I and axis-II disorders.
Limitations: Psychiatric diagnoses, although made using a structured and criteria-based approach, was based on information recorded in case notes. Axis-II comorbidity could only be investigated at an aggregated level.
Conclusions: Psychiatric comorbidity did not predict suicide in this sample. Mood disorders did, however, increase the risk significantly independent of history of previous suicide attempts. Both findings can inform identification and treatment of patients at high risk for completed suicide.

Keywords: Suicide; Mental disorders; Comorbidity; Diagnosis; Inpatients; Outpatients

1. Introduction

A history of inpatient psychiatric treatment is among the strongest known predictors of suicide, with a population attributable risk of about 40% (Qin et al., 2003). Still, the majority of people having been previously hospitalized for severe mental disorders do not die from suicide. Many studies (Black and Winokur, 1986; Dumais et al., 2005; Geddes and Juszczak, 1995; Geddes et al., 1997; Goldacre et al., 1993; Harris and Barraclough, 1997; Ho, 2003; Mortensen et al., 2000; Pokorny, 1983; Powell et al., 2000) have reported on suicide risk factors associated with different psychiatric disorders in former or current inpatients. Most studies find that the risk of suicide in this population is highest in patients with mood disorders, and points to the post-discharge period as the time of greatest risk. There are, however, several methodological limitations to this research. Nearly all studies in this field are based on clinical diagnoses from large case registries. All but one study (Powell et al., 2000) use diagnoses made according to ICD 8th or 9th revisions or DSM-II. Diagnostic data have almost invariably been collected through routinely clinical procedures, not through structured procedures. When made according to previous systems like the ICD-

* Corresponding author. Tel.: +47 913 45 195; fax: +47 22 92 39 58.
E-mail address: fredrik.walby@medisin.uio.no (F.A. Walby).

0165-0327/$ - see front matter © 2006 Elsevier B.V. All rights reserved.
doi:10.1016/j.jad.2006.02.005

8 or 9, such clinical diagnoses are generally regarded as having low reliability. According to a recent systematic review there is relatively little high quality research into the validity of diagnostic data from administrative registers (Byrne et al., 2005). This is of particular importance for the study of secondary diagnoses, and for other risk factors such as history of suicidal behavior seldomly recorded systematically in registers.

Comorbidity within axis-I and axis-II diagnoses or between axes are generally regarded as important risk factors for suicide, underlined in several recent clinical practice guidelines, e.g., the American Psychiatric Association guidelines for assessment and treatment of patients with suicidal behavior (American Psychiatric Association, 2003). Studies using suicide attempt either as an outcome to be predicted or starting point for investigation, have shown a higher prevalence of comorbidity among attempters than among non-attempters, and more among suicide attempt repeaters than among non-repeaters (Beautrais et al., 1996; Ferreira de Castro et al., 1998; Haw et al., 2001; Hawton et al., 2003; Suominen et al., 1996). Risk factors for suicide and suicide attempt, however, only partly overlap. The few controlled studies that have investigated the predictive value of comorbidity with completed suicide as an endpoint variable (Brent et al., 1993; Cheng, 1995; Cheng et al., 1997; Foster et al., 1999; Kim et al., 2003; Shaffer et al., 1996) have all shown a clear association between having more than one diagnosis, either on axis-I or axis-II, and increased risk for suicide. The combination of affective disorders and alcohol or substance abuse seems to be of special importance. All the mentioned studies have been conducted using samples of suicides from the general population who have then been compared to community controls using the psychological autopsy method where diagnoses have been based on interviews with next of kin after the case's death. Although the psychological autopsy method without doubt is a valuable tool in research into suicide (Isometsa, 2001), one serious difficulty with this approach is the danger of retrospective bias. This potential source of error is associated with raters' selective information seeking, interpretations of historical data, and informants' (such as next of kin) potentially biased reporting of such data. Finally, since information from cases and controls is often collected differently, this may lead to other forms of bias (Schulz and Grimes, 2002). The use of historical prospective data from case notes with raters blinded to the subject's final outcome would, however, eliminate these sources of bias. In addition to the mentioned case–control studies, a group conducting a clinical trial of antidepressants in a sample of previous inpatients with major depression has reported an increased risk of suicide with comorbid personality disorder, but this study is based on only 15 cases of suicide(Hansen et al., 2003). To our knowledge, no study has so far investigated whether comorbidity increases the risk of suicide in a consecutive sample of currently and previously hospitalized psychiatric patients. The importance of comorbidity as a risk factor for completed suicide in high risk groups such as psychiatric patients might certainly differ substantially from both suicide completers in the general population and patient groups engaging in non-fatal suicidal behavior.

The aims of this study are therefore i) to investigate the differential risk of suicide in currently and previously hospitalized psychiatric patients using contemporary criteria-based diagnostic categories, ii) to study whether the presence of any form of psychiatric comorbidity increases the risk of suicide, and iii) to study whether the combination of affective disorders and alcohol or substance abuse predicts completed suicide in this clinical population.

2. Methods and materials

The study was conducted using a nested case–control design based on data from medical records collected by blinded raters. The cases were either: a) current inpatient suicides defined as patients who committed suicide while they had a formal status as inpatients regardless of whether or not the they had physically been present in the ward at the time of suicide or b) previous inpatient suicides defined as patients who committed suicide within the time interval between the date of hospital discharge and three years thereafter. Controls were patients who had been treated at the same clinical units and at the same time as the suicides.

2.1. Identification of cases and controls

In Norway, all cases of death are reported to Statistics Norway and included in the national cause of death registry. The rate of inclusion to this registry is almost 100% and the validity and reliability of the cause of death classification is regarded as good (Ekeberg et al., 1985). For this study, we obtained name, date of birth, personal identity number, and place of residence for all suicide deaths in people over 18 years in the municipality of Oslo, Norway, from January 1, 1992 until December 31, 1998. The corresponding ICD codes for suicide used were E950–959 according to ICD-9 and X60–84 according to ICD-10. As many previous studies