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THE KRAEPELINIAN DICHOTOMY IN TERMS OF SUICIDAL BEHAVIOUR

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SUMMARY

The Kraepelinian dichotomy sees schizophrenia and bipolar disorder as two distinctly separate diseases each with its own pathogenesis and disease process. This study looks at the difference between patients with schizophrenia and bipolar disorder in terms of suicidal behaviour. Both schizophrenia and bipolar disorder have been identified as significant risk factors for suicide, while bipolar and major depressive disorder appear to be the greatest diagnostic indicators. This study also aims to look at any differences in suicidal behaviour between the two major classes of bipolar disorder (bipolar I and bipolar II) to possibly determine how distinct these two conditions are in this respect.

As expected, this study found that patients with a diagnosis of bipolar disorder were significantly more likely (OR=4.79) to have a history of suicidal behaviour than patients with a diagnosis of schizophrenia.

Neither bipolar I nor bipolar II patients were significantly more likely to have a history of suicidal behaviour. However, this study yielded a weak association between bipolar II patients and suicidal behaviour (OR=1.83) compared to bipolar I patients, which may have been more significant under different circumstances such as a greater sample size.

Key words: *schizophrenia - bipolar I disorder - bipolar II disorder*

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INTRODUCTION

The Kraepelinian dichotomy sees schizophrenia and bipolar disorder as two distinctly separate diseases each with its own pathogenesis and disease process. Though more recent speculation suggests that it is not as neat as this and that "recent findings are compatible with a model of functional psychosis in which susceptibility to a spectrum of clinical phenotypes is under the influence of overlapping sets of genes which, together with environmental factors, determine an individual's expression of illness" (Craddock & Owen 2005).

A number of attributes are being looked at in regard to the differences between schizophrenia and bipolar disorder in order to further determine the nature of this relationship between the two diseases. So far, it seems they are quite distinct in several aspects. Though both schizophrenia and bipolar patients have difficulty returning to work after acquiring their illness, schizophrenia patients seem to have significantly more difficulty doing so (Dissanayake et al. 2011). Also, neuroimaging has shown distinct grey matter deficits in schizophrenia patients not present in bipolar disorder patients (McDonald et al. 2005). Thus, in terms of cognitive function and recovery and diabetogenesis,as well as loss of grey matter, it appears that schizophrenia and bipolar disorder act as different conditions.

This study looks at the difference between patients with schizophrenia and bipolar disorder in terms of suicidal behaviour. Both schizophrenia and bipolar disorder have been identified as significant risk factors for suicide, while bipolar and major depressive disorder appear to be the greatest diagnostic indicators (Bertolote et al. 2004, Rihmer & Kiss 2002). This study also aims to look at any differences in suicidal behaviour between the two major classes of bipolar disorder (bipolar I and bipolar II) to possibly determine how distinct these two conditions are in this respect.

METHOD

All patients with a diagnosis of schizophrenia or bipolar disorder in the Bedford East database of psychiatric patients (up to date as of 23/04/2012) were included in this study. This database contains information about various factors including any history of suicidal behaviour, which was the focus of this study. Diagnoses were determined according to ICD-10 codes and suicidal behaviour as defined as any history of suicidal ideation (including suicidal thoughts and plans) or attempts.

Analysis was done using chi-square tests with Yates' correction on 2x2 contingency tables with suicidal behaviour as the outcome to determine the significance of any association. Odds ratios (OR) with 95% confidence intervals (CI) were then calculated to assess the size of any associations found.

RESULTS

Of the 201 bipolar patients in this study 38.3% (N=77) had a history of suicidal behaviour compared to 11.5% (N=24) of the 209 schizophrenia patients.

Analysis gave a chi square value of 32.38 ($p<0.0001$) and OR=4.79 (95% CI=2.87-7.98) that a bipolar patient has suicidal behaviour compared to a schizophrenia patient.

Of the 66 bipolar I patients in this study 30.3% (N=20) had a history of suicidal behaviour compared to 44.3% (N=39) of the 88 bipolar II patients. 49 bipolar patients had not received such classification, being diagnosed simply as bipolar disorder and were thus excluded from this part of the study. Analysis gave a chi square value of 2.57 ($p=0.11$) and OR=1.83 (95% CI=0.93-3.59) that a bipolar II patient has suicidal behaviour compared to a bipolar I patient.

DISCUSSION

As expected, this study found that patients with a diagnosis of bipolar disorder were significantly more likely (OR=4.79) to have a history of suicidal behaviour than patients with a diagnosis of schizophrenia. This adds further support to the dichotomy of schizophrenia and bipolar disorder as distinct diseases, along with differences in recovery, cognitive function as discussed in the introduction. Neither bipolar I nor bipolar II patients were significantly more likely to have a history of suicidal behaviour. However, current findings indicate that bipolar II patients are significantly more likely to have a history of suicidal behaviour and also commit suicide (Rihmer & Kiss 2002). Indeed, this study yielded a weak association between bipolar II patients and suicidal behaviour (OR=1.83) compared to bipolar I patients, which may have been more significant under different circumstances such as a greater sample size.

Although these findings reinforce the current view of schizophrenia and bipolar disorder as two distinctly separate conditions, they do not necessarily contradict the Craddock and Owen's view of a spectrum of clinical phenotypes with overlapping sets of genes. It may be that of the many overlapping shared genes, those predisposing patients to suicidal behaviour are somehow linked to those associated with more prominent mood symptoms, thus leading the patient more than often to receive a diagnosis of bipolar disorder or other affective disorders. However, the lack of difference in suicidal behaviour between the subtypes of bipolar disorder raises some doubt as to the viability of this sub-classification. Taking the spectrum view, they may simply be an unnecessary attempt to define a potentially huge number of phenotypes, brought about by many different combinations of overlapping genes, into a few broad categories. Put another way, whereas it seems logical, on the basis of differences in suicidality, to see schizophrenia and bipolar disorder as two separate entities, it seems reasonable by the same token, to see bipolar I and II as two varieties of a single entity-bipolar disorder- which express themselves in terms of their presentation in different ways. This is born out by the observations on which the difference between Bipolar I and Bipolar II is based and the observation that Bipolar II patients do over time convert to Bipolar I (Akiskal 1995).

An obvious limitation in this study was absence of any timescale of events in the source of the data. Thus, it was impossible to tell in the patients whether their suicidal behaviour came before or after their diagnosis. This has two major implications; it may be that the suicidal behaviour occurred before and is in no way associated to the diagnosis or that suicidal behaviour influenced the psychiatrists' diagnosis of a patient, for example, to bipolar disorder. Both of these add significant bias reducing severely the certainty that any suicidal behaviour arose from an existing underlying condition in the patient. Another limitation was the sample size used in this study, which was limited to those relevant patients in the database. Ideally a larger sample size would be used if the study were to be done again to increase the power and certainty of any associations found.

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