Research Article

Predictors of patients with high suicidality during the post-discharge period in the early phase of schizophrenia

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Abstract

Background: Suicide is seen in 20–25% patients with psychiatric disorder and suicide is most common in the phase when discharge occurs from a psychiatric hospital.

Objective: The purpose of this study was to investigate the nature of suicidal risk, which might be present among sufferers from early psychosis at the time of discharge from hospital.

Material and Methods: Briefly, 60 patients diagnosed with schizophrenia admitted to a psychiatric facility were participants for the study. Psychopathology was assessed by Brief Psychiatric Rating Scale (BPRS) and Hamilton Depression Rating Scale (HDRS) while current level of stress/functioning was assessed by Global Assessment of Functioning scale (GAF). The level of suicidality was assessed using Scale of Impact of Suicidality – Management, Assessment and Planning of Care (SIS-MAP). On the basis of the scores on the SIS-MAP the patients were divided into two groups – low severity of suicidality (SIS-MAP < 30) and high severity of suicidality (SIS-MAP ≥ 30).

Results: It was found that the two groups did not differ in suicidality, which was measured by the SIS-MAP. We also compared low and high SIS-MAP scorers in the entire sample. It was found that male gender, older age of onset of illness, the presence of alcohol dependence, and cannabis abuse with greater acuity of the clinical state were predictive of higher suicidality scores ($P < 0.02$ on all factors mentioned).

Conclusion: Certain factors like gender, age of onset of illness, and the presence of substance abuse may be greater acuity in predicting suicide risk in the post discharge phase of schizophrenia.

KEY WORDS: Suicide attempt, suicidality, SIS-MAP, GAF, HDRS, BPRS, post-discharge, schizophrenia

Introduction

Suicide is a major problem amongst patients suffering from psychiatric disorders and is more common in patients who are repeatedly hospitalized.[1] Studies report that around 80% patients attempting suicide are known to have a psychiatric disorder while 20–25% patients with psychiatric disorders attempt suicide during their lifetime.[2,3] Approximately 1% of all suicide attempts take place during admission in a psychiatric facility and about 5–6% of such attempts occur during outpatient treatment.[4] There is an increased incidence of suicide in psychiatric patients reported in the period after they are discharged from hospital.[5] Specific mortality rate of post discharge psychiatric patients is about 40 times higher than patients in other phases of treatment and the risk is highest during first week, first month, and before the first follow-up post-discharge.[6,7] Suicide is particularly high in schizophrenia with 5–6% of patients attempting suicide. This phenomenon is more in the early phase of the psychotic disorder and around 5–8% patients attempt suicide before developing frank psychotic symptoms.[8,9] Recent large-scale meta-analyses

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shows that about 5% of psychiatric patients will commit suicide in their lifetime with a sharp peak of suicide occurring in the first week after discharge from a psychiatric hospital.[10]

With advances in the treatment of psychiatric disorder, the focus has shifted from hospital based to a community-based treatment.[11] Community-based treatment of severe mental illnesses has been successful in preventing suicide as well as rehospitalization and also provides continuity of care, increased compliance, better rehabilitation, opportunities of monitoring, and improvement in social functioning of patients discharged from psychiatry hospital.[12] Prevention of suicide in post-discharge period remains one of the major clinical challenges and despite exhaustive research in this area, identification of vulnerable candidate remains difficult.[13] A number of risk factors have been identified for the same and include admission due to a suicide attempt, admission as an involuntary patient and suicide attempt during admission.[14] These risk factors vary due to patient characteristics, nature of their psychiatric illness, nature of the treatment provided, and health care resources available to them along with geocultural conditions.[15] If the variability and determinants of post-discharge suicide are widely distinct, it is likely that identification of vulnerable patients may be beneficial in reducing suicide rate in that particular system. In the present study, we attempt to explore risk factors for suicide in post-discharge period during the early phase of schizophrenia.

Material and Methods

Participants and Methods

The present study has been carried out in a tertiary hospital setup, offering inpatient, outpatient, and community care programs. The study was carried out in the psychiatric ward of the Regional Mental Health Care Centre, St. Thomas, Canada. This was a cross sectional naturalistic study of patients discharged from inpatient care. Briefly, 60 patients of early phase of schizophrenia were randomly selected. Psychiatrists diagnosed patients as having schizophrenia according to DSM-IV criteria.[16] The criteria for inclusion in this study were (1) diagnosis of schizophrenia diagnosis and (2) age 18–65 years. The exclusion criteria were (1) diagnosed organic mental disorder; (2) mental retardation; and (3) the presence of any serious medical condition. The cohort was later divided into two groups based on the scores on the SIS-MAP scale in favor of high (SIS-MAP ≥ 30) ($n = 25$) or low Suicidality (SIS-MAP < 30) ($n = 35$).

Measures

The patients were assessed using a semi-structured proforma for socio-demographic and clinical variables. The following scales were used in the assessment

Brief Psychiatric Rating Scale (BPRS)

This scale was used to assess the overall psychopathology of the patient. The scale is rapid in administration and easy to use. It consists of 18 items using a likert-type scale from 0 to 7 with 0 being not present and 7 being extremely severe. It is considered as the individual's behavior over the previous 2–3 days and this can be reported by the patient's family as well. It is a widely used measures and has been used across studies with good reliability and validity.[17,18]

Hamilton Depression Rating Scale (HDRS)

This scale was used to assess the severity of depression in patients that were part of the study. The scale consists of 17 items. Eight items are scored on a 5-point scale, ranging from 0 = not present to 4 = severe while nine are scored from 0 to 2. It has a good specificity and sensitivity in the measurement of depression.[19,20]

Global Assessment of Functioning Scale (GAF)

This scale based on the axis V of the DSM-IV was used to assess the current level of stress/functioning. In addition the presence (or not) of an Adjustment Disorder was also assessed. The scale is a clinician rated scale which ranges from 0 to 100 and higher score indicates better functioning.[21]

Scale of Impact of Suicidality – Management, Assessment and Planning of Care (SIS-MAP)

This scale was used for the assessment of the risk of suicide in psychiatric patients. The scale is based on concept of 'trait' and 'state' risk. The scale has been assessed in studies and demonstrates a specificity of 78.1% while the sensitivity of the scale has been shown as 66.7%.[22,23]

Statistical Analysis

The entire data was analyzed using computerized statistical software. Chi-square test and independent sample *t*-test were used where applicable. Two tailed *P*-values were calculated and $P < 0.05$ was considered to be significant.

Results

The overall sample consisted of 60 patients diagnosed with schizophrenia. The sample was further divided into two groups using the scores on the SIS-MAP whether more or less than 30. The group thus formed were a high suicidality group ($n = 25$) and a low suicidality group ($n = 35$). The mean age of the sample was 26.5 ± 4.6 years and mean age of onset of the illness was 21.5 ± 2.5 years. The average total duration of illness in the entire sample was 32.5 ± 9.4 months. The sample was compared on the basis of high or low suicidality across various parameters. The risk of suicide was high amongst post-discharge patients with scores on the SIS-MAP scores towards the high suicidality range (Mean 28.5 and $SD = 10.2$). The results showed significant difference in the characteristic of patients with high and low SIS-MAP risk scores across various factors. The predictive factors found were male gender, older age of onset, alcohol use, cannabis

Table 1: Psychopathology at the time of discharge among low and high scorers (all patients with early psychosis) on the SIS-MAP suicidality scale[a]

	Overall sample	SISMAP > 30	SISMAP < 30	Statistics for SISMAP group comparisons
	n = 60	*n* = 25	*n* = 35	
Age (years)	26.5 (4.6)	28.3 (5.8)	24.7 (4.3)	$t = 2.76^{**}$
Illness deviation (months)	32.5 (9.4)	30 (10.4)	35 (5.0)	$t = 2.48^{*}$
Age of onset of illness (years)	21.5 (2.5)	24.5 (2.3)	18.5 (2.1)	$t = 10.19^{***}$
Sex—Male	31.5 (51%)	19 (76%)	12 (34.4)	$\chi^2 = 8.56^{**}$
Suicide attempt (pre-admission)	27 (45%)	19 (76%)	12 (34.4)	$\chi^2 = 8.56^{**}$
HDRS	21.2 (2.5)	24.6 (3.7)	17.8 (7.9)	$t = 4.00^{***}$
BPRS	82.5 (12.4)	95 (8.5)	70 (6.7)	$t = 12.73^{***}$
GAF	59.2 (17.5)	67.6 (7.0)	50.8 (8.3)	$t = 8.23^{****}$
Adjustment disorder	21 (35%)	5 (20%)	16 (45.7%)	$\chi^2 = 3.18$
Substance abuse (co-morbid)	40 (66.6%)	21 (84%)	13 (37.1%)	$\chi^2 = 11.2^{***}$
Alcoholism (co-morbid)	35 (58.3%)	25 (100%)	10 (28.5%)	$\chi^2 = 27.7^{****}$
Cannabis abuse (co-morbid)	47 (78.3%)	24 (96%)	23 (65.7%)	$\chi^2 = 6.24^{**}$
SISMAP scores	28.5 (10.2%)	38.5 (3.2%)	18.5 (2.1%)	$\chi^2 = 29.24^{****}$

[a] Mean and (standard deviation) are given for continuous variables.
Chi square test and *t*-test used wherever applicable.
$^{*}P < 0.02$, $^{**}P < 0.01$, $^{***}P < 0.001$, $^{****}P < 0.0001$.

use, and clinical symptoms which were all associated with higher suicide risk scores. Those admitted with a previous attempt (Mean = 29.5, *SD* = 12.0) did not differ significantly in suicide risk from those admitted without a previous attempt [Mean = 27.5, *SD* = 12.5, $t(58) = 0.63$, $P = 0.53$] (see Table 1).

Discussion

Post-discharge suicide is one of the main causes of increased rates of rehospitalization.[24] It has also been documented that out of the overall suicide related to mental disorder 7–8% takes place during first year after discharge.[25] The context of post-discharge suicide is inseparable from that of rehospitalization and it should be seen from that perspective. A number of aspects related to post-discharge suicide and rehospitalization was found easily, viz., loss of life, increased cost of health care, increased inability and loss of productivity due to prolonged period of hospitalization and reduced productivity, more demands on resources in community care, and devastating experience of professionals involved in care in both inpatient and outpatient settings.[26] The psychopathology of post-discharge suicide arises from factors related to patients' characteristics, illness characteristics, treatment-related factors and system- or hospital- or resource-related factors which involves both hospitalized and community care.[27] Some of the causes of post-discharge suicide are non-compliance and it has been shown that non-compliance to atypical antipsychotics for 4 weeks increases the rates of suicide to 3 times.[28]

Acute exacerbation of symptoms may lead to attempted suicide and in one of our studies, it was found that in an acute psychiatric ward about 33% patients get admitted due to an attempt of suicide and another 34% due to suicidal crisis, thus leading to about 70% patients' admission due to suicide alone.[29] Suicide rates are almost equal in acute as well as in chronic phases of schizophrenia, however persistent suicidal ideas are present in about 25% patients in long-term follow-up.[30] It has also been shown that very early discharge is one of the main cause of post-discharge suicide. This can happen due to lack of funding and resources that compromise community care.[31]

Conclusion

The present study helped us to understand some factors that may be predictors of suicide occurring in the post-discharge period in the early phases of schizophrenia. Identification of these factors shall help the clinician in identifying the patients vulnerable to suicide in the post-discharge period and shall help preventing suicide amongst these patients via stringent clinical monitoring and follow-up. This would help further to reduce the long-term morbidity and overall mortality in an illness like schizophrenia. The present study was limited to just 60 patients of a single center and further larger studies are warranted to establish the findings of this paper.

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