Brief report

Suicide attempts: differences between unipolar and bipolar patients and among groups with different lethality risk

Michele Raja*, Antonella Azzoni

Servizio Psichiatrico di Diagnosi e Cura, Dipartimento di Salute Mentale, Ospedale Santo Spirito, Via Prisciano 26, 00136 Rome, Italy

Received 29 September 2003; received in revised form 2 February 2004; accepted 3 February 2004

Abstract

Background: The present naturalistic study aimed to distinguish between suicide attempts (SAs) of bipolar and unipolar patients, and among SAs characterized by different lethality risk. Methods: The records of 2395 consecutive admissions to our psychiatric intensive care unit (PICU) were assessed for presence of suicide attempt (SA). Cases of SA were rated for symptom severity with the brief psychiatric rating scale (BPRS), the scale for the assessment of positive symptoms (SAPS), the scale for the assessment of negative symptoms (SANS), the mini mental state examination (MMSE), the global assessment of functioning scale (GAF) and the clinical global impression (CGI). An original questionnaire was administered to explore clinical aspects related with suicidal behavior. Results: Among 2395 admissions, 80 (3.3%) had attempted suicide. Fifty-three cases (66.2%) suffered from a mood episode, including 22 (27.5%) with unipolar depression and 31 (38.7%) with bipolar depression (types I and II combined) or mixed state, while 27 (33.8%) cases received other diagnoses. Forty-eight (60%) cases had attempted suicide prior to the index episode. Ten cases (12.5%) had a relative who attempted or committed suicide. Thirty-nine cases (48.7%) described their SA as impulsive. Twenty cases (25.0%) reported alcohol ingestion before SA. In comparison with women, men used more violent methods. Cases characterized by a non-lethal risk SA had higher BPRS psychotic cluster and SAPS scores than cases with either low or high lethal risk SA. Bipolar cases were over-represented in the high lethality risk group. BPRS anxiety–depressive cluster score was higher in unipolar than in bipolar cases. Limitations: The sample may not be representative of all patients with SA. The questionnaire has not been standardized for use in psychiatric populations. Conclusions: The higher proportion of high lethal risk SA in bipolar cases suggests that the risk of completed suicide is higher in bipolar disorder than in unipolar depression. The risk of lethality in SA was not associated with the intensity of symptoms of anxiety and depression. © 2004 Elsevier B.V. All rights reserved.

Keywords: Suicide; Suicide attempt; Unipolar depression; Bipolar disorder

1. Introduction

The lifetime prevalence of a suicidal attempt (SA) is high in the general population: 4.3% in the epide-
It is important to distinguish the different aspects of suicidal behavior because literature on the subject may refer to suicidal ideation or purpose, to any SA or self-injurious behavior, to potentially lethal attempts or to completed suicides. The characteristics of each of these groups are substantially different (Lecrubier, 2001).

The aim of the present study was to describe a series of suicide attempts (SAs) admitted to the psychiatric intensive care unit (PICU). We focused our study on distinguishing among SAs characterized by different lethality risk, and between bipolar and unipolar patients.

2. Method

The records of 2395 consecutive admissions (January 1997–October 2002) to the PICU were assessed for presence of SA. The following data were ascertained for each patient: sex, age, years of education, social class, and age at the onset of the disorder. Clinical condition was assessed by use of the brief psychiatric rating scale (BPRS), the scale for the assessment of positive symptoms (SAPS), the scale for the assessment of negative symptoms (SANS), the mini mental state examination (MMSE), the global assessment of functioning scale (GAF) and the clinical global impression (CGI). For purposes of data analysis, we combined the BPRS symptom scales into four summary scores: (1) psychotic cluster (items: conceptual disorganization, grandiosity, hallucinatory behavior, and unusual thought content); (2) withdrawal–retardation cluster (items: motor retardation, emotional withdrawal, and blunted affect); (3) hostility–suspicousness cluster (items: hostility, suspiciousness, and uncooperativeness); (4) anxiety–depression cluster (items: anxiety, depression, and guilt). After obtaining consent, subjects were given a questionnaire composed of 22 questions exploring previous SAs, impulsivity of current SA, communication of suicidal intention to others before current SA, history of SAs or suicides in 1st and 2nd degree relatives, alcohol or substance ingestion before current SA, religious belief, and the emotional state at the time of the interview.

Considering degree of lethal intent, objective planning, medical damage, and degree of violence of suicide methods, we divided the SAs in three groups characterized by absent, low, or high lethal risk, and performed an analysis to find out possible differences among them. With the same purpose, we distinguished unipolar and bipolar cases. We conducted statistical analysis by means of t-test for continuous variables, with Bonferroni correction when called-for, and $\chi^2$-test for categorical variables. $P<0.05$ was considered statistically significant.

3. Results

In the considered period, 80 SAs were found among 2395 admitted cases (3.3%).
interval between the SA and the administration of the questionnaire was 9.0 (± 12.1) days. Fifty-three cases suffered from a mood episode (66.2%), including 22 with unipolar depression (27.5%) and 31 with bipolar depression (types I and II combined) or mixed state (38.7%), while 27 cases received other diagnoses (33.8%). A total of 48 cases (60.0%) had attempted suicide prior to the index episode of SA. Ten cases (12.5%) had a relative who had displayed suicidal behavior. SA was performed by poisoning with chemicals or gas (N = 48), cutting (N = 15), hanging or strangulation (N = 8), jumping from a height (N = 5), drowning (N = 3), electrocution (N = 1). Thirty-nine cases (48.78%) described their SA as impulsive. Twenty cases (25.0%) reported alcohol ingestion before the SA. Thirty-eight cases (47.5%) had disclosed their suicidal ideation to physicians, relatives, or friends before their SA. At the time of interview, patients expressed: relief (68.8%) or surprise (61.3%) to be alive, guilt (57.5%), shame (51.3%), remorse (50.0%), and joy (7.5%).

3.1. Differences between men and women

In the considered period, 28 men and 52 women were admitted for a SA out of 1067 admitted men (2.6%) and 1328 admitted women (3.9%). The difference was not statistically significant. The differences between men and women are shown in Table 1.

3.2. Differences among the groups with different lethal risk

The differences among the three groups are shown in Tables 2 and 3. Men tended to be over-represented

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Differences among suicide attempters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seriousness of SA</td>
<td>Absent lethal risk group: 15 cases</td>
</tr>
<tr>
<td>Variable</td>
<td></td>
</tr>
<tr>
<td>Male sex (n)</td>
<td>4</td>
</tr>
<tr>
<td>Previous SA (n)</td>
<td>9</td>
</tr>
<tr>
<td>Impulsive current SA (n)</td>
<td>6</td>
</tr>
<tr>
<td>Suicidal familiarity (n)</td>
<td>1</td>
</tr>
<tr>
<td>Diagnosis (unipolar/bipolar/other diagnoses) (n)</td>
<td>5/3/7</td>
</tr>
<tr>
<td>Age (years)</td>
<td>41.5 (± 15.7)</td>
</tr>
<tr>
<td>GAF (current, total score, mean)</td>
<td>20.7 (± 5.8)</td>
</tr>
<tr>
<td>GAF (best in the last year, total score mean)</td>
<td>50.9 (± 12.6)</td>
</tr>
<tr>
<td>BPRS (total score, mean)</td>
<td>57.3 (± 12.4)</td>
</tr>
<tr>
<td>BPRS psychotic cluster (mean)</td>
<td>9.3 (± 5.2)</td>
</tr>
<tr>
<td>BPRS withdrawal–retardation cluster (mean)</td>
<td>8.1 (± 4.9)</td>
</tr>
<tr>
<td>BPRS hostility–agitation cluster (mean)</td>
<td>6 (± 2.7)</td>
</tr>
<tr>
<td>BPRS anxiety–depression cluster (mean)</td>
<td>12.9 (± 3.8)</td>
</tr>
<tr>
<td>SAPS (total score, mean)</td>
<td>31.3 (± 29.9)</td>
</tr>
<tr>
<td>SANS (total score, mean)</td>
<td>46.9 (± 24.8)</td>
</tr>
<tr>
<td>MMSE (total score, mean)</td>
<td>27.8 (± 1.5)</td>
</tr>
</tbody>
</table>

SA, suicide attempt suicide; *, statistically significant.
in the high lethal risk group. Obviously, the GAF current score was lower in the high lethal risk group, since a severe SA is an important criterion to give a patient a low GAF score. Unexpectedly, cases with no lethal risk SA received BPRS psychotic cluster and SAPS scores higher than cases with low or high lethal risk SA, i.e. they were affected by more severe psychotic symptoms. Bipolar cases were over-represented in the high lethal risk group.

3.3. Differences between bipolar and unipolar cases

The seriousness of SA was higher in bipolar cases (see Table 2). Not only current GAF score \[12.3 \pm 5.5\] vs. \[16.0 \pm 7.1\]; \(t = 2.118\); \(df = 50\); \(P = 0.039\) but also last year GAF best score \[52.6 \pm 10.2\] vs. \[61.0 \pm 15.0\]; \(t = 2.380\); \(df = 49\); \(P = 0.021\] was lower in bipolar cases in comparison with unipolar cases. BPRS anxiety–depressive cluster score was higher in unipolar than in bipolar cases \[14.1 \pm 3.4\] vs. \[11.9 \pm 3.7\]; \(t = 2.191\); \(df = 50\); \(P = 0.033\]. No other significant difference was found between bipolar and unipolar cases.

4. Discussion

4.1. Methodological considerations

The strengths of the study include: (1) the large sample of serious SAs considered; (2) the possibility of studying the patients intensively, just after their SA. There are also some problems with our method that need to be acknowledged, however. (1) As in all non-epidemiological studies, the sample may not be representative for all patients with SA. (2) Some data on suicidal behavior were gathered with a questionnaire that has not been standardized in psychiatric populations.

4.2. Epidemiological and clinical data

Although acute suicidality is the justification for many admissions (Sederer and Summergrad, 1993), the proportion of admissions to our PICU for SA was low (3.3% of the total), similar to that (2.8%) reported in the study of Pajonk et al. (2002). The high percentage of SAs with a mood diagnosis was similar to that reported by Balazs et al. (2003).

Most cases had not disclosed their suicidal ideation prior to their SA, underscoring the difficulty of preventing SAs. It has been suggested that the lack of willingness for self-disclosure might differentiate the serious from the mild SAs (Apter et al., 2001). However, we did not find any difference on this point among the groups characterized by different lethality risk.

In relatives of people who have committed or attempted suicide, a high prevalence of suicidal behavior has been reported, with rates ranging from 14% (Murphy and Wetzel, 1982) to 17% (Gould et al., 1996), to 40% (Runeson, 1998). The rate of familial SA (12.8%) reported in this sample is probably underestimated. We did not systematically investigated this point with patients’ relatives and other informants.

In accordance with previous studies, many cases (60%) had previously attempted suicide. Both suicidal ideation and SA are predictive of completed suicide (Robins and Kulbok, 1988). Patients with a prior history of SA have a 5- to 6-fold increased risk of trying again. The risk is highest in the 3 months following a first attempt (Hyman, 1994). Therefore, intensive treatment of cases discharged after a SA is mandatory.

In this sample, most SAs (60%) were by poisoning. Some methods (hanging or jumping from a height) may be underrepresented, since these methods are associated with a higher rate of completed suicide or with hospitalization in surgical/orthopedic wards.

<table>
<thead>
<tr>
<th>Seriousness of SA</th>
<th>Absent lethal risk group: 15 cases</th>
<th>Low lethal risk group: 18 cases</th>
<th>High lethal risk group: 47 cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) Method of SA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Drowning 0 0 3 0.335 | Fall by a height 0 0 5 0.154 | Drug overdose 9 14 18 0.013* |
| Poison 1 1 0 0.227 | Gas 0 0 5 0.154 | Electrocnution 0 0 1 0.701 |
| Hanging or strangling 0 0 8 0.044* | Cutting 5 3 7 0.272 |

SA, suicide attempt; *, statistically significant.
The lower scores of BPRS psychotic cluster and SAPS in SAs with higher lethal risk suggest that the absence of psychotic symptoms in patients with other suicidal risk factors may be related to higher lethality of the SA. The weight of evidence in the literature suggests that the presence of psychotic symptoms does not increase the risk of suicide (Angst et al., 1998; Black et al., 1988; Coryell and Tsuang, 1982; Dilsaver et al., 1994) or SA (Grunebaum et al., 2001). Suicide attempters without psychotic symptoms could be more able to carry out their tragic purpose. These results are consistent with the higher rate of completed suicide observed in bipolar II patients in comparison not only with unipolar but also with bipolar I patients who are often affected by psychotic symptoms (Rihmer and Kiss, 2002).

Nearly half of cases reported their SA as “impulsive”. Furthermore, 1/4 of cases drank alcohol before SA, further lessening self-control. In previous studies, objective planning was correlated with lethal intent, suicidal ideation, and medical damage (Mieczkowski et al., 1993), and with completed suicide (Beck et al., 1974). In the present study, a similar percentage of impulsive SA was observed in the groups with different lethal risk. However, as Soloff et al. (2000) note, objective planning is not necessarily inconsistent with impulsive SA. One may act on sudden impulse to complete a long planned suicide.

4.3. Differences between men and women

In accordance with previous studies (Hjemeland et al., 2002), the present results suggest that men and women engaging in SA may be more similar than different. The only differences found in the present study were: (1) older age in women, (2) more frequent use of violent methods in men, and (3) more frequent report of joy as current feeling at the interview in men. The use of more violent methods of SA in men observed in our study is consistent with the results of previous studies (Kucharska-Pietura et al., 2000; Pajonk et al., 2002) and may account for the higher number of committed suicides in men.

4.4. Differences between bipolar and unipolar cases

It is uncertain whether the risk of suicide is higher in unipolar or bipolar patients with studies reporting higher risk in unipolar patients (Angst et al., 1998; Black et al., 1987), in bipolar patients (Axelsson and Lagerkvist-Briggs, 1992; Dunner et al., 1976; Perris and D’Elia, 1966; Rihmer and Kiss, 2002; Roy, 1993), or no significant difference between the two groups (Martin et al., 1985; Nasser and Overholser, 1999). The present non-epidemiological study does not allow for accurate assessment of SA rates, however, the higher proportion of high lethal risk SAs in bipolar cases suggests that the risk of completed suicide is higher in bipolar disorder.

Acknowledgements

The authors wish to thank Dr. Albert Matthew for his advices and for the revision of the English text.

References


Dunner, D.L., Gershon, E.S., Goodwin, F.K., 1976. Heritable fac-


