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A Snapshot of Treatment of Inpatients with A Mood Disorder Episode: Does Theory Match Everyday Clinical Practice?

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Abstract

Mood disorders represent a major cause of hospitalization in psychiatric ward. We focused on sex differences, therapies and rehospitalization rates/length of stay in inpatients with mood disorders. Rehospitalization is often observed in patients with mental disorders, with rates up to 80%. Socio-demographic features, clinical features and treatment type influence the length of stay. The objective of this study was to assess how the literature findings match everyday clinical practice in an acute psychiatric ward. We performed a retrospective observational study extracting data from our medical records from 1st July 2012 to 1st July 2014. 85 patients were eligible for the study; the overall number of admittances to the ward was 103. We have not found any difference in the rates of Bipolar Disorder between males and females, we failed to find an higher frequency of Depressive disorders in females. In our sample the rates of early readmission is 17.5%. Patients with an involuntary admission included exclusively those with a manic or hypomanic episode; patients with depressive episodes were more likely to have committed a suicide attempt.

Keywords: Mood disorders; Rehospitalization

Introduction

Mood disorders represent a major cause of hospitalization in psychiatric wards. Depression is a widespread and serious disease, often with a high degree of suffering and burden of disease; Bipolar Disorder (BD) is a severe mental illness affecting 1-4% of the population worldwide, and is characterized by periods of (hypo) manic and depressive episodes [1]. Moreover, depressive and manic/hypomanic episodes may lead to hospitalization as well in subjects who have no lifetime diagnosis of a mood disorder yet, in patients with schizoaffective disorders, and may overlap other diagnoses. Several issues are explored in the existing literature about inpatient treatment of mood disorders. In this brief report, we have decided to focus on sex differences, and rehospitalization rates/length of stay. Moreover, we have assessed the patterns of hospital admission (voluntary, involuntary) and the possible differences between patients with mood episodes of opposite polarity. Regarding sex differences, these are widely acknowledged to be important in unipolar mood disorders, with clear evidence that depression is approximately twice as common in women as in men. Considering BD, no significant gender distinction seems to be and most studies report an almost equal prevalence of BD in males and females. Anyway there is the possibility of an increased risk of bipolar II/hypomania, rapid cycling and mixed episodes in women, and important gender distinctions in patterns of co-morbidity [2,3].

Rehospitalization is often observed in patients with mental disorders, with rates up to 80%. This is likely to depend both on patient-related and health policy-related variables. Regarding the latter variables, it should be considered that the Italian health policy advocates short hospital stays. Anyway, persistent symptoms after discharge from hospital may interfere with patients' daily functioning, and patients may experience difficulties accessing support services, which may lead to a higher risk of rehospitalization. Thus, paradoxically, the policy of short hospital stays risks to increase the likelihood of rehospitalization and, nevertheless, to impact on healthcare system costs. A part from healthcare costs, rehospitalization negatively affects patients and their families [4].

With respect to length of stay (LOS) in hospital for mood disorder patients, several correlates have been suggested, ranging from socio-demographic features (age, being a housewife, living alone), clinical features (correlation with life events as being in grief for a loss, number of previous episodes and admissions, melancholic features, negative symptoms, increased dependence for instrumental activities of daily living, comorbid alcohol or drug-related disorders) and treatment type [5-8].

As regards the admission status (voluntary or involuntary) in mood disorder patients, the literature describes some shared clinical features of involuntary admission: these patients have poorer insight, lower compliance to therapies, and higher levels of aggressiveness [9,10]. Involuntary admission more frequently involves patients with a diagnosis of mania or schizophrenia, who are more likely to receive lithium and antipsychotics; on the contrary, these patients are less likely to suffer from depression and to receive antidepressants and minor tranquilizers [11].

The objective of this study was to assess how the literature findings concerning the aforementioned issues match everyday clinical practice and real world impression in a psychiatric ward for acute psychiatric inpatients. Many of the published studies involve rather selected samples, which may distance themselves from real-life practice. We decided to analyze the records of inpatients retrospectively analyze in order to avoid a sample selection that, in some cases, can condition

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the results. For this purpose, we offer a snapshot of the mood disorder population admitted to our psychiatric ward during a 2-year period, focusing on: 1) sex differences; 2) correlates of rehospitalization; 3) pattern of hospital admission; 4) mood episode polarity.

Methods

We performed a retrospective observational study extracting data from the medical records of patients admitted to the psychiatric ward of the "Maggiore della Carità Hospital", Novara, Italy. The psychiatric ward can accommodate 14 patients at a time; the Maggiore Hospital is the second largest one in Piedmont and serves the population of the province of Novara and of North-Eastern Piedmont.

We examined the records of all patients admitted to our ward from 1st July 2012 to 1st July 2014. Patients were included when matching the following inclusion criteria: age ≥ 18; current diagnosis of a mood disorder episode, including Manic, Hypomanic, Major Depressive Episode, and Depressive Episode (according to DSM-IV-TR criteria) [1]. Exclusion criteria were: all other reasons for admission; symptoms due to a medical condition; patients with no complete data available, i.e. those who were moved from our ward to other hospitals prior to symptom remission (mainly because of territorial jurisdiction, for instance patients from other regions).

Data extracted from the records included: demographic features (age and sex); clinical variables (current and lifetime diagnosis; voluntary/involuntary admission to hospital; suicide attempts; pharmacological treatment during hospital stay); length of stay (LOS), and rehospitalization defined as early readmissions occurring within 3 months following the first hospitalization [12].

Some brief notes about the organization of psychiatry wards in Italy are warranted. Psychiatric wards in Italy are very close to an Emergency Psychiatric Service setting, where hospitalization is typically transitory and provides dispositional solutions to stabilize life-threatening conditions as attempted suicide, substance abuse, depression, psychosis, violence or other abnormal changes in behavior. Psychiatry wards accept a small number of patients (from ten to fourteen) and only for a short time, with the main objective of starting or adjusting treatment and stabilizing the condition of patients with acute and severe psychiatric disorders. Patients can be admitted to the psychiatry ward on voluntary or involuntary basis, and may be referred by the general practitioner, by psychiatrists working in the community or after a consultation in the Emergency Room department of the Hospital. The Involuntary Medical Treatments are authorized by law and have to be proposed from a physician and convalidated by another physician; the Mayor authorizes admission and will notify the Tutelary Judge. The duration of this treatment cannot exceed 7 days and, at the end, the psychiatrist may request an extension if needed.

This project was approved by the Institutional Review Board of our University as a part of the research duties of the Psychiatry Institute.

The Statistical Package for Social Sciences (SPSS) package, version 20.0 [13] was used for all analyses. The significance level was set at a two-tailed alpha = 0.05. Fisher's exact test and the Wilcoxon test were used to compare categorical and continuous variables, respectively.

Results

Considering the inclusion criteria, 85 patients were eligible for the study; 15 of them were readmitted twice or more and the overall number of admittances to the ward was 103. Regarding gender, 36.5% (n=31) were males and 63.5% (n=54) females; the mean age of the sample was 50.30 ± 13.66 years. Repeated admissions represented the 17.5% (n=18) of all hospitalizations, while the rate of patients undergoing rehospitalizations was 17.6% (n=15). Mean LOS was 19.78 ± 9.72. Clinical features are described in Table 1.

The comparison between males and females did not give any significant results with the exception of a tendency towards significance for depot medications (16.2% of male is prescribed long acting antipsychotics vs 4.5% of females; p=.067). Patients with repeated admissions and patients without early rehospitalization (within 3 months) showed the following differences: older age (tendency towards significance, p=.054, Mann-Whitney test); longer LOS (p=.046). Differences according to pattern of admission (voluntary vs involuntary) are reported in Table 2. Considering patients with involuntary admission: 80% patients were treated with mood stabilizers (p=.020), none of the patients was under treatment with antidepressants (p=.000), 40% patients had a hypomanic current episode and 60% a manic current episode (p=.000).

In Table 3 is described the comparison between patients with a current elevated mood episode (including hypomanic and manic

Variable		%, n admission
Current diagnosis at admission	Hypomanic episode Manic episode Depressive episode, major Depressive episode	14.6% (n=15) 22.3% (n=23) 12.6% (n=13) 50.5% (n=52)
Lifetime diagnosis	None Bipolar disorder Depressive disorder Schizoaffective disorder Personality disorder Cognitive disorder/dementia	25.2% (n=26) 31.1% (n=32) 11.7% (n=12) 9.7% (n=10) 18.4% (n=19) 3.9% (n=4)
Involuntary admission	No Yes	90.3% (n=93) 9.7% (n=10)
Suicide attempt	No Yes	88.3% (n=91) 11.7% (n=12)
Variable		**%, n treatment**
Medications	Depot Mood stabilizers Antidepressants Benzodiazepines Antipsychotics	8.7% (n=9) 43.7% (n=45) 57.3% (n=59) 79.6% (n=82) 81.6% (n=84)

Table 1: Sample description.

		Involuntary Psychiatric Admission		P
		No	Yes	
Attempted suicide	No	87.1% (n=81)	100% (n=10)	.601
	Yes	12.9% (n=12)	0% (n=0)	
Mood stabilizers	No	60.2% (n=56)	20% (n=2)	**.020**
	Yes	39.8% (n=37)	80% (n=8)	
Antidepressants	No	36.6% (n=34)	100% (n=10)	**.000**
	Yes	63.4% (n=59)	0% (n=0)	
Benzodiazepines	No	20.4% (n=19)	20% (n=2)	1.000
	Yes	79.6% (n=74)	80% (n=8)	
Antipsychotics	No	20.4% (n=19)	0% (n=0)	.201
	Yes	79.6% (n=74)	100% (n=10)	
Long-acting therapies	No	91.4% (n=85)	90% (n=9)	1.000
	Yes	8.6% (n=8)	10% (n=1)	
Current episode	Hypomanic	11.8% (n=11)	40% (n=4)	**.000**
	Manic	18.3% (n=17)	60% (n=6)	
	Major depressive	14% (n=13)	0% (n=0)	
	Depressive	55.9% (n=52)	0% (n=0)	

Table 2: Comparison of patients according to pattern of hospital admission.

		Diagnosis		p
		Elevated Episode	Depressive Episode	
Sex	Females	60.5% (n= 23)	66.2% (n=43)	.671
	Males	39.5% (n= 15)	33.8% (n=22)	
Involuntary admission	No	73.7% (n= 28)	100% (n=65)	**.000**
	Yes	26.3% (n= 10)	0% (n=0)	
Attempted suicide	No	100% (n= 38)	81.5% (n=53)	**.003**
	Yes	0% (n= 0)	18.5% (n=12)	
Mood stabilizers	No	15.8% (n= 6)	80% (n=52)	**.000**
	Yes	84.2% (n= 32)	20% (n=13)	
Antidepressants	No	100% (n= 38)	9.2% (n=6)	**.000**
	Yes	0% (n= 0)	90.8% (n= 59)	
Benzodiazepines	No	21.1% (n= 8)	20% (n 13)	1.000
	Yes	78.9% (n= 30)	80% (n 52)	
Antipsychotics	No	2.6% (n= 1)	27.7% (n 18)	**.101**
	Yes	97.4% (n= 37)	72.3% (n 47)	
Long-acting therapies	No	78.9% (n= 30)	98.5% (n 64)	**.101**
	Yes	21.1% (n= 8)	1.5% (n 1)	

Table 3: Comparison of patients according to polarity of current mood episode.

episodes) and those with a current depressive episode. No patients with a manic/hypomanic episodes attempted suicide (p=.003). Our data underline different therapeutic approaches between elevated and depressive episode, except for benzodiazepines.

Discussion

As described in the title and introduction, our aim was to offer a snapshot of treatment of inpatients with a mood disorder episode, according to the experience and data of our psychiatry ward, and to investigate how what we know from theory matches everyday clinical practice.

As regards differences between the sexes, the only gender-related difference found was a tendency to a higher frequency of use of long-acting medication in males (p=.067). While it is not surprising to find no difference in the rates of BD between males and females, we failed to find the widely acknowledged higher frequency of Depressive Disorder in females [2,3]. Anyway, it should be considered that we did not perform an epidemiological study involving the general population, but rather focused on psychiatric ward hospitalizations. Probably we failed to find an higher frequency of Depressive Disorders in females because this is a single-unit study, the sample size is small and patients recruited had different diagnoses. Surely an epidemiological study with a much larger sample size is warranted. Since sex differences have been suggested in service utilization on behalf of mood disorder patients [14-16], this issue is interesting and deserves to be deepened. Depressed women have been reported to be much more likely than men to receive a prescription for antidepressants [14], and to use significantly more outpatient services than males [15]. Thus women seem to be more likely than men to use mental healthcare services [16], especially as regards outpatient one. Gender differences in help-seeking behavior may vanish when the mood disorder is so severe to require inpatient treatment, and this might explain our findings.

Regarding rehospitalization it should be underscored that in our sample the rate of early readmission (within 3 months) is 17.5%, much lower than that reported by other recent studies (for instance, 60%) [17]. Regrettably, the comparability of our results to those of other studies is limited by the fact that we did not gather information about, for instance, marital, socio-economic status, which have been suggested to be associated with the likelihood of rehospitalization [17]. Nonetheless, we found that patients with rehospitalization compared to those without were older (tendency to statistical significance), which is not surprising, considering that the older patients get, the more likely they are to have a history of hospital admissions. Moreover, in our sample patients with repeated hospital admissions had a longer hospital stay. This suggests that the clinical condition of those being rehospitalized may be so severe to require a longer period of inpatient treatment to obtain clinical remission. These patients may be the target of specific interventions aimed at integrating the different levels of treatment approach and at supporting patients and their relatives in the delicate post-discharge phase, which may be helpful reducing the phenomenon of rehospitalization [4]. Last, a positive association may exist between antidepressants use and rehospitalization needs in patients with BD [18]. Noteworthy, only a very small rate of bipolar patients in our sample (12.5%, n=4) were prescribed antidepressants.

Considering compulsory treatment as a marker of severity, at least regarding patients' awareness of their need of being treated and their compliance, we compared patients according to the pattern of hospital admission: voluntary vs. involuntary. Differences were found in current episode diagnosis, use of mood stabilizers and antidepressants. With more detail, patients with a compulsory admission included exclusively those with a manic or hypomanic episode (p=.000), who are typically characterized by a lack of insight and by a subjective perception of "wellbeing". Hence it is not surprising to find out that those with a compulsory hospitalization are also more likely to receive mood stabilizers (p=.020), while of course none of them received antidepressants (p=.000). By the way, no significant difference was found between the two groups of voluntary vs. involuntary admission regarding prescription of benzodiazepines, antipsychotics and depot medication.

Grouping patients together according to the polarity of their mood episode (hypomanic and manic vs. all depressive episodes), we found that patients with episodes of elevated mood were more likely to undergo an involuntary hospital admission (p=.000), as already described above. Moreover, we found that patients with depressive episodes were more likely to have committed a suicide attempt (p=.003), compared those with manic/hypomanic episodes, consistently with the literature reporting that suicidal acts usually take place during major depressive episodes [19].

As expected, patients with elevated mood episodes were more likely to receive mood stabilizers (p=.000) and those with depressive episodes were more likely to receive antidepressants (p=.000). Patients with manic/hypomanic episodes were more often treated also with antipsychotics (p=.101) and depot medication (p=.101). In manic patients, antipsychotics may be used for their moodstabilizing property in monotherapy as well as an adjunct to mood stabilizers (such as lithium, valproate, carbamazepine); in depressive episodes, antipsychotics are usually avoided in order not to worsen depressive symptoms, even in cases of severe episodes with psychotic features. This explains why in our sample, antipsychotic prescription in manic/hypomanic patients, regardless of possible concomitant treatment with mood stabilizers, significantly outweighed the use of these medications in depressed patients.

Regarding depot medication, their choice is usually due to a lacking compliance, so it is fairly clear that, as for involuntary admission, these were used more commonly in patients with elevated mood episodes.

Strengths and Limitations

The retrospective observational design of our study entails some limitations. For instance, we did not gather information about marital and socio-economic status, which have been suggested to be associated

with the likelihood of rehospitalization. Moreover, this is a single-unit study, and the sample size is small. Last, we have to point out that local hospital regulation and doctors' decision may bias our findings.

Surely, an epidemiological study with a much larger sample size would offer different results; nonetheless the aim of our study was to give a picture of a real-life psychiatry ward in a General Hospital, adding to the paucity of studies with this kind of focus. Even if this is a single-unit based study, our Hospital is the second largest one in Piedmont, hence the population of patients we treat is representative of the whole district of North-Eastern Piedmont.

Conclusions

Some limitations of this research should be underscored as described in the section above. The sample has been recruited in only one psychiatric ward, and the range of variables assessed is limited; for instance, we did not include any psychometric measure. The observation period could be extended to include also the assessment of patients undergoing long-term readmissions, defined as rehospitalizations that occur 1-5 years following the first hospitalization [12]. Anyway, the sample size we recruited is large enough to allow drawing some conclusions; Last, our data are a fair picture of what happens in real, everyday clinical practice.

Briefly, theory matches what we have assessed in clinical practice for most of the issues discussed. Among our results, those distancing themselves most from the existing literature include the lack of gender-related differences in patients' diagnoses and the rehospitalization rate. The first is interesting because, as described above, it supports the possibility that different pathways to treatment exist for males and females. It may be interesting to further study the reasons of the low readmission rate we found, considering that our ward has a specific approach to patients' early rehabilitation, characterized by several, structured group activities. The identification and use of easy-to-measure predictors of remission and maintenance of remission at follow-up, whose assessment is feasible in routine clinical practice (for instance, the Beck Depression Inventory score) [20], may help identifying patients who are likely to require more support in the post-discharge phase.

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