

Frequent Users of an Acute Psychiatric Inpatient Unit: a 5-year retrospective study

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Abstract

Objective: This study examined demographic and clinical characteristics of frequent users of a psychiatric inpatient unit.

Methods: Retrospective data of all 1348 patients admitted to a psychiatric inpatient unit from January 2004 to December 2008, corresponding to 2018 admissions, were reviewed. Frequent users were defined as patients with 3 or more admissions and non-frequent users as those with less. The two groups were compared in terms of age, gender, ethnicity, psychiatric diagnosis, and compulsory admissions. The data were analyzed with Chi-square and Student's t-test.

Results: Frequent users were significantly younger and had more compulsory admissions than non-frequent users. Diagnosis of bipolar disorder and schizophrenia prevailed in this group.

Conclusions: Understanding the characteristics of psychiatric units' high users could help organize more appropriate services. Future research should address other variables that may impact frequent admission such as socio-economic factors, medical and psychiatric co-morbidities, and treatment compliance.

Introduction

With the deinstitutionalization of psychiatric patients, a small subset of patients with above-average admissions to acute psychiatric inpatient units has been recognized in clinical practice and reported in the literature (1-11). These frequent users, also named “revolving-door patients”, constitute an important bulk of total admissions and health-care costs, and pose a challenge to both their families and mental health workers (1,2).

This phenomenon seems to be stable over time (1,3) and occurs even in areas with extensive community mental health centers (2,4), despite optimal medication and psychoeducation (5).

There is little consensus on the definition of frequent users, ranging from three or more admissions within one year to a lifetime period (3,6), but most authors define them as having more than 3 or 4 admissions in a 5 to 10-year period (5).

These patients tend to be younger (2-5), have more often a primary diagnosis of schizophrenia (1,7), affective (1,4,7) or personality disorder (3,5) and most studies reveal a male predominance

(2,5,7,8,9). The influence of ethnicity and type of admission differs in the literature. Increased frequency of both black (7) and white ethnicity (1), and of voluntary (4,7) and involuntary admissions (10) has been reported.

Disadvantaged social conditions and the severity of the patient's psychiatric illness appear to be associated with this increased number of admissions (11). The latter is reflected in the findings of a lower educational level (3), being more frequently unmarried (3,5,10), unemployed (3,7), homeless (3), and having less intense family contacts (2) in the frequent users. Illness severity can be related to younger age at first admission (3,6), chronic course of illness (5), disability (3,9,10), treatment resistance (9), as well as psychotic symptoms (2,9), and disturbed or aggressive behavior (9, 11).

An increased number of previous admissions (2,3,4,7) and longer length of stay (4,5,7,10) have also been reported as predictors of readmission. Additional factors include non-compliance with treatment (3,8,9), substance use (3,8,9), and premature discharge

due to pressure on bed availability (9), which may diminish opportunities for a sustained recovery (12).

The aims of this study were to compare demographic and clinical characteristics of frequent users and non-frequent users of a Portuguese acute psychiatric inpatient unit.

Methods

The present study was held in a public general hospital-based psychiatric department with comprehensive community services. Of notice, Portuguese health care system is almost entirely state funded, covers the entire population and is set up in a model akin to the United Kingdom's national health system.

The psychiatric department's main goal is to provide care for the more severe mentally ill by a close articulation between the different functional units (inpatient unit, day-hospital, multidisciplinary community mental health teams, and liaison psychiatry), and a diversity of programs and interventions (outpatient clinics, day-care centers, home visits, first psychotic episode intervention, rehabilitation and psychoeducation programs),

collaborative care with local primary care services, and close articulation with local non-governmental organizations and municipalities. The department was one of the first to implement the model of intervention established by the recent National Mental Health Plan (13). It serves a highly urban and multi-ethnic population of over 300 000 people, in the suburbs of Lisbon (Portugal), with over 10% of residents being legal foreign citizens (4% from Cape Verde, 2% from Brazil, 1% from Guinea-Bissau, 1% from Angola, 1% from other African countries, and 1% from other European countries). An undetermined number of illegal immigrants also use the psychiatric service.

The 29-bed acute psychiatric inpatient ward is located in the general hospital and provides standard psychiatric inpatient care that includes clinical evaluation, psychopharmacological treatment, nursing care and occupational therapy. Patients are then discharged to the community level of care after the stabilization of the acute symptoms that accounted for admission.

Retrospective data of all patients consecutively admitted to the acute psychiatric inpatient unit, from January 2004 to December 2008, were reviewed using a computerized database. Assessed variables included age, gender, ethnicity, diagnosis, number of admissions, and having at least one compulsory admission during the study's time frame.

The mean number of admissions per patient was 1.5 ± 1.15 . Frequent users were defined as having more than one standard deviation above the average ($1.5 + 1.15 = 2.65$), meaning at least 3 admissions in the 5-year period, while non-frequent users had less than 3. The two groups were compared regarding the above-mentioned variables.

Major diagnostic categories (Table 1) were defined according to the ICD-10 criteria and attributed through several psychiatric interviews performed regularly by a senior psychiatrist and through clinical discussion in the weekly rounds of the unit and the community mental health teams. Only the main diagnosis at discharge was inserted into the database.

The group “schizophrenia and other non-affective psychosis” included the diagnoses of schizophrenia, delusional disorder and acute and transient psychotic disorders.

A spectrum definition, broader than the ICD-10, was used for “bipolar disorders” (14), that includes hypomanic or manic episodes associated with antidepressant or stimulant use, and depressive episodes on patients with baseline hyperthymic or cyclothymic temperament.

“Organic conditions” referred to medico-surgical diagnoses that required transfer of patients to another hospital department. “Other psychiatric diagnosis” included mental retardation, substance abuse (coded as the main reason of the admission and included alcohol and heroin dependence, psychosis induced by alcohol), anorexia nervosa, Asperger syndrome, generalized anxiety, panic, somatoform, and obsessive-compulsive disorders, and malingering. “Missing diagnosis” was coded when the diagnosis was absent in the medical record.

The study was approved by the hospital IRB. Data were made anonymous and confidentiality was assured.

Statistical analysis was performed using the SPSS for Windows, version 14.0, and statistical significance was tested, using the Chi-square and Student's t-test, for nominal and continuous variables, respectively.

Results

A total of 1348 patients accounted for 2018 admissions. The average number of admissions was 564 per year, and the average length of stay 16 days. The frequent users group represented 137 (10%) patients and 584 (29%) admissions.

Frequent users were significantly younger than non-frequent users (39 ± 14 vs. 44 ± 17 years, $p<.001$) and had significantly more compulsory admissions (28% vs. 14%, $p<.001$). No significant differences were found in relation to gender (50% of frequent users vs. 46% non-frequent users males, $p=.57$) or ethnicity (respectively, 77% vs. 80% caucasians, $p=.58$).

Table 1 illustrates the nosological differences between the two groups. The frequent users received significantly more diagnoses of bipolar disorder, schizophrenia and other non-affective psychosis, and significance was even stronger when looking at the diagnosis of schizophrenia alone (excluding delusional and acute and transient psychotic disorders). Non-frequent users received significantly more diagnoses of depressive episode and other psychiatric diagnosis. The two groups did not differ in the frequency of personality disorders (mainly cluster B), dementia, organic conditions or missing diagnosis.

Table 1 should be included here

Discussion

Our results showed that, compared to the non-frequent users, the frequent users group was significantly younger, which is consistent with the general consensus (2-5). Additionally, most frequent users had a diagnosis of bipolar disorder, schizophrenia or other non-affective psychosis and the significance of this association was even stronger when narrowed down to schizophrenia alone. These results are consistent with previous studies (1,4,7) and implicate the

severity of primary illness as a major predictive factor for readmission. We hypothesize that the presence of psychotic symptoms, poor insight and poor treatment adherence, a chronic course of the illness but also the unfavorable social conditions could account for these results, as previously suggested (5, 11).

Unlike other studies that highlighted the contribution of personality disorders to the revolving door-phenomenon (3,5), our analysis did not find a significant association possibly owing to the incorporation of some cases of personality disorders within the bipolar spectrum, namely those with a personal and family history of affective disorders (14).

Compulsory admissions were significantly more common in frequent users, confirming previous data (10). An earlier study in the same psychiatric department (15) found a higher percentage of compulsory admissions in black patients which were also overrepresented in our sample. Although these two latter findings did not reach statistical significance, we could raise the question

about an enhanced vulnerability for unfavorable clinical outcomes in this ethnical group.

While frequent users constituted only 10% of the patients admitted, they were responsible for almost a third of admissions during the 5-year period. This finding bears important clinical and economic impact.

This retrospective study is one of the largest to explore the epidemiological and clinical characteristics of an acute psychiatric inpatient unit's frequent users and, unlike other studies focusing on specific diagnostic groups it targeted a sample of general psychiatric inpatients.

Limitations of the current study include the retrospective design and the lack of information regarding other social, clinical and treatment variables. Additionally, we could not confirm the results of previous studies on the predictive value of the length of stay (4,5,7,10) or the number of previous admissions (2,3,4,7), as markers of the revolving-door phenomena, for lack of available data.

Conclusion

Frequently admitted patients present major social, economic and mental health challenges. Therefore, services should seek to identify potential frequent users in order to anticipate and interrupt the revolving-door cycle. Mental health teams should be particularly mindful of this when facing young patients with severe bipolar disorder, schizophrenia or other psychosis and with a history of compulsory admission. These findings, however, should take into account the specific nature of our department, which has a strong community intervention philosophy and offers patients diverse alternatives to admission, including day-hospital, day-care centers and easy access to outpatient clinics.

Future research is needed to clarify other factors associated with frequent admissions to psychiatric units, namely socio-economic factors, medical and psychiatric co-morbidities, treatment compliance but also the model of inpatient psychiatric care itself, allowing better organization of services and care improvement to this vulnerable population.

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Table 1

Comparison of Psychiatric Diagnoses between Frequent and Non-Frequent Users

	Frequent users (n=137)		Non-frequent users (n=1211)		p value
	n	%	n	%	
Bipolar disorder	84	61%	561	46%	.001*
Schizophrenia and other non-affective psychosis	44	32%	334	28%	.026*
Schizophrenia (alone)	39	29%	216	18%	.003*
Depressive episode	3	2%	94	8%	.016*
Personality disorder	2	2%	40	3%	.239
Dementia	0	0%	33	3%	.050
Organic conditions	1	1%	31	3%	.182
Other psychiatric	3	2%	100	8%	.011*

diagnosis					
Missing diagnosis	0	0%	18	1%	.150

*statistically significant using Chi-Square test (p<.050)