

Received: 08 March 2010; Accepted: 11 April 2010

Conflict of interest: none declared.

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DOI: 10.5455/msm.2010.22.81-84

# Rate of Bipolar Affective Disorder Registered According to Total Pattern of Morbidity at Psychiatry Clinic in Sarajevo from 2006–2008

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## ORIGINAL PAPER

### SUMMARY

Introduction: Affective disorders were known even in ancient times. Today is the official name of the ICD-10 bipolar affective disorder (F31) and represent sub category of mood disorders (affective disorders) with code F30-F39. Goal: The aim of this study was to examine and display the frequency of bipolar disorders in the total number of patients at the Psychiatric Clinic in the period 2006-2008, in order to examine the demographic profile of patients and to determine the length of hospitalization. One of the goals is also to show the number of patients with bipolar disorder compared to all other patients in the group F30-39, with respect to the research period. Patients and methods: During the research is used a retrospective-prospective study of clinical-epidemiological character. The study included all 3713 patients with different diagnoses, which were hospitalized at the Psychiatric Clinic of the Clinical Center in Sarajevo in the period from January 1st 2006 to December 31st 2008. From the total number of 3713 respondents selected are those with bipolar affective disorder, 63 (1.7%). The diagnosis was set according to ICD-10 Classification (F30-39). Results: Of the total number of patients 3713, there were 63 (1.7%) subjects with BD. From this number in 2006 was 21 (1.6%); in 2007–20 (1.7%), and in 2008–22 (1.7%) Patients with F31.1 was present in 2006 year as 5 (23.9%) cases and in 2007 the dominant group consists of respondents with F31.2–8 (40%), while in 2008 patients with F31.2 had 7 cases (31, 8%). The average duration of hospitalization in 2006 amounted to 43.7 days in 2007 to 40.9 and in 2008 to 37 days. Conclusion: Bipolar disorder is often incorrectly diagnosed as is also possible in this study given the small percentage of the disorder in relation to the total number of patients. Bipolar disorder has a direct impact on the quality of life of patients. Because of these facts, timely diagnosis and appropriate treatment are very important, and as a result, their suicide prevention.

**Keywords:** bipolar disorder, mania, depression, prevalence, gender.

## 1. INTRODUCTION

Affective disorders were known even in ancient times. Hippocrates used the names of mania and melancholia to describe mental disorders. Jules Falret in 1854 described an altered state of elevated and reduced affect titled Folie Circulaire. Karl Kahlbaum in 1882 under name cyclothymia described mania and depression as two states of the same disease. Sometime later, in 1899 Emil Kraepelin using experience of these psychiatrists, affective disorders called as manic-depressive psychosis (1).

Affective disorders (mood) are primarily damaged emotions, which leads to significant changes in the other mental health functions of the individual.

Today is the official name according the ICD-10 is bipolar affective disorder (F31) and belong to sub category of mood disorders (affective disorders) with code F30-F39.

According to DSM-IV differ in bipolar I and bipolar II disorders. Bipolar I disorder is characterized by one or more manic or mixed episodes usually associated with one or more major depressive episodes and bipolar II disorder with one or more major depressive episodes associated with at least one hypomanic episode.

The life prevalence of BD I in the general population is 0.4 to 1.6 %, a life prevalence of bipolar spectrum that includes BD II non specific forms of BD and cyclothymia is 2.6 to 6.5% (2).

If the patient manifested elevated mood, but functional, and does not require hospitalization, it is a case of hypomanic episode (3). In the case of hypomanic and depressive episodes during the disturbances, we are talking about bipolar disorder II (4,5). Etiology of BD is multi factorial and complex, where a

complex interaction of hereditary predisposition and unfavorable factors of biological, physiological and social nature contributes to the emergence of this disease.

The diagnosis of BD is set on the basis of ICD-10 criteria are given for manic and depressive episodes (1). BD was classified into disorders of the affect (mood) F30–F39, where the label for bipolar affective disorder is F31.

BD in most patients (75–90%) has a relapsing course of the disease, residual symptoms between episodes and functional impairment.

It is a known fact that BD is often unrecognized or wrongly diagnosed and wrongly treated disorder.

## 2. GOALS

- Determine the frequency of bipolar affective disorder in the total number of registered patients of the Psychiatric Clinic, Clinical Center of University in Sarajevo during the period 2006–2008;
- Evaluate the demographic characteristics of patients with bipolar disorder (sex, age, employment status) of patients with a diagnosis of bipolar disorder compared to other patients in the group F30–39;
- Determine the duration of hospitalization of patients with bipolar affective disorder;
- Compare obtained data with data published in the relevant literature.

## 3. RESPONDENTS, METHODS AND TASKS

The study included all patients with bipolar affective disorder, which were hospitalized in the Psychiatric Clinic Clinical Center of University in Sarajevo, during the period from January 1<sup>st</sup> 2006 to December 31<sup>st</sup> 2008. Taken into account is the total number of patients hospitalized at the Psychiatric Clinic in the three-year period (3713).

Total number of hospitalized with bipolar disorder in this three-year period is 63 (100%), of which 31 (49.2%) are male and 32 (50.8%) female. All respondents were after a thorough psychiatric interview, neurological examination of the conditions treated in the hospital. Diagnosis is set according to ICD-10 Classification (F30–39).

The study was clinical, epidemiological, and retrospective-prospective.

For all three years of research dominant age group is a group of patients 46–65 years, employed (in 2006). In 2007 dominant group are unemployed, and in 2008 dominant group are retired.

In all three years of research the dominant group is patients with secondary education. Data for the study were obtained by examining the protocol of the hospital, and patient history of illness at the Psychiatric Clinic.

	2006 N %	2007N %	2008N %	TotalN %
No. of hospitalized at the Psychiatric clinic CCU Sarajevo with leading diagnosis F31	21 1.6	20 1.7	22 1.7	63 1.7
No. of hospitalized at the Psychiatric clinic CCU Sarajevo with other leading diagnoses	1251 98.4	1166 98.3	1233 98.3	3650 98.3
Total	1272 34.3	1186 31.9	1255 33.8	3713 100

Table 1. Number of patients with a diagnosis of bipolar disorder in relation to the total morbidity at the Psychiatric Clinic CCUS, Chi-square=0.041, p=0.979

	2006N %	2007N %	2008N %	TotalN %
No. of patients with primary diagnosis–F31	21 10.2	20 8.1	22 10.8	63 9.6
No. of patients with primary diagnosis from group F30 – F39, except F31	184 89.8	226 91.9	182 89.2	592 90.4
Total	205 31.3	246 37.6	204 31.2	655 100

Table 2. The number of patients diagnosed with bipolar disorder compared to other patients in the group F30–39, Chi-square=1.038, p=0.5951

Data processing methods used are standard and non-parametric statistics and significance levels are set using the X<sup>2</sup>-test (chi-square test), a correlation has been determined using Pearson's correlation coefficient. The level of significance is defined as p < 0.05. The results are presented in tables.

## 4. RESULTS

In the period from January 1<sup>st</sup> 2006 to December 31<sup>st</sup> 2008 at the Psychiatric Clinic were hospitalized a total of 3713 patients, who manifested a variety of mental and behavioral disorders (according to ICD-10).

Table No. 1 shows the relationship between the overall morbidity and bipolar disorders registered at the Psychiatric Clinic CCUS, with respect to the research period. From the total number (63) of patients with BD in 2006 there was 21 (1.6%) in 2007–20 (1.7%) and in 2008–22 (1.7%). Total number of hospitalized at the Psychiatric Clinic in 2006, with the exception of those with bipolar

Bipolar affective disorder F31	2006N %	2007N %	2008N %	TotalN %
Current hippomanic episode F31.0	4 19	--	4 18.2	8 12.6
Current episode manic without psychotic symptoms F31.1	5 23.9	--	1 4.5	6 9.5
Current episode manic with psychotic symptoms F31.2	4 19	8 40	7 31.8	19 30.2
Mild or moderate depression F31.3	3 14.3	3 15	3 13.7	9 14.3
Severe depression without psychotic symptoms F31.4	2 9.5	6 30	3 13.7	11 17.5
Severe depression with psychotic symptoms F31.5	--	1 5	2 9.1	3 4.8
Current episode mixed F31.6	3 14.3	2 10	1 4.5	6 9.5
Remission F31.7	-	--	1 4.5	1 1.6
Other bipolar disorders F31.8	-	--	--	--
Bipolar affective disorder, non specified F31.9	-	--	--	--
Total	21 33.3	20 31.8	22 34.9	63 100

Table 3. Distribution of individual episodes in the bipolar affective disorder, Chi-square=19.792, p=0.1368

	≤ 30 days N %	31-60 days	61-90 days	≥ 91 days	Total N %
2006	4 19	15 71.4	1 4.8	1 4.8	21 33.3
2007	6 30	13 65	1 5	- -	20 31.8
2008	8 36.4	13 59.1	1 4.5	- -	22 34.9
Total	18 28.6	41 65	3 4.8	1 1.6	63 100

Table 4. Duration of hospitalization of patients with bipolar affective disorder, Chi-square=3.404, p=0.7566

	N	Mean	Std. deviation	Std. error	Range
2006	21	43.7619	18.78804	4.09989	3.00 95.00
2007	20	40.9500	18.56277	4.15076	3.00 73.00
2008	22	37.0909	18.06050	3.85051	2.00 65.00
Total	63	40.5397	18.37760	2.31536	2.00 95.00

Table 5. Duration of hospitalization, F=0.708, p=0.496

disorder, is 1251 (98.4%) in 2007–1166 (98.3%), and 2008 is 1233 (98.3%). Statistical analysis of the number of hospitalized patients with affective disorders during the years of monitoring by Chi-square test shows that between them there are no statistically significant differences.

Table No. 2 shows the number of patients with bipolar disorder compared to all other patients in the group F30-39, with respect to the research period. Number of hospitalized with a diagnosis of bipolar disorder in 2006 is 21 (10.2%), in 2007 is 20 (8.1%) and in 2008 22 (10.8%). Total number of hospitalized with a diagnosis from the group F30-39, except for bipolar disorder, in 2006 year is 184 (89.8%) in 2007- 226 (91.9%) in 2008 this number is 182 (89.2%). Analysis of hospitalized patients diagnosed with leading F31 shows that there is no statistically significant differences by years of research.

Table No. 3 shows the frequency of certain episodes in the bipolar disorder, given the research period. In 2006 the largest number of respondents is in manic episode without psychotic symptoms F31.1, 5 cases (23.9%). In 2007 the dominant group is those in manic episode with psychotic symptoms F31.2, 8 (40%). In the 2008 dominant group are those in manic episode with psychotic symptoms F31.2, 7 (31.8%). In 2006 there isn't a single patient hospitalized in an episode of severe depression with psychotic symptoms, F31, or one with a diagnosis of F31.7, F31.8, and F31.9. In 2007 there isn't a single patient hospitalized with a diagnosis of F31.0, F31.1, F31.7, F31.8, and F31.9. In the 2008 there isn't a single patient hospitalized with a diagnosis of F31.8, F31.9. Statistical analysis shows that there are no statistically significant differences in the distribution of affective disorder according to the observed years ( $p > 0.05$ ).

Table No.4 shows the duration of hospitalization of patients with regard to the research period. In 2006 the largest number of patients at the Psychiatric Clinic stayed for 31 to 60 days, 15 (71.4%), and the smallest number 1 (4.8%) more than 90 days. In 2007 most patients stayed 31 to 60 days, 13 (65%), and no patient was hospitalized for more than 90 days. In 2008 largest number of patients were hospitalized 31 — 60 days, 13 (59.1%), and the smallest number of patients spent more than 90 days, 1 (1.6%). Analysis by Chi-square test shows that the duration of

hospitalization between the years observed has no statistically significant difference.

Table No. 5 show the mean duration of hospitalization in observed years. In 2006 mean duration of hospitalization is 43.7 days; in 2007 this is somewhat smaller value of 40.9 days, while the lowest was in 2008 and is 37 days. Analysis of the mean deviation of hospitalization during the years of research by analysis of variance showed that between the years observed there are no statistically significant differences.

## 5. DISCUSSION

Our research, conducted at the Psychiatric Clinic CCU in Sarajevo, included 63 patients with the diagnosis of bipolar affective disorder, hospitalized in the period from January 1<sup>st</sup> 2006 to December 31<sup>st</sup> 2008.

Bipolar disorder is a serious mental disorder whose life prevalence in the general population is 0.4 to 1.6% (2). Our research has shown similar results, so it is with respect to the year of our study, prevalence of bipolar disorder was in 2006 1.6%, in 2007 1.7% and in 2008 1.7%.

If we look at the results of our research related to the gender structure of patients with bipolar disorder, we see minor predominance of women 32 (50.8%) compared to men 31 (49.2%). These results are in coincidence with the results of other authors, where most studies bipolar disorder almost equally represented among the sexes (6-10).

The largest percentage of people with bipolar disorder, hospitalized at the Psychiatric Clinic CCUS, is in the age group of 46–65 years, 34 (54%). The smallest percentage of are those with 66 years or more (3.2%). Average age of our sample was 46 years. These results do not correlate with the results of other authors. According to the authors of Italian research the sample mean age was 32.7 years (11). According to the authors from Singapore was the largest age group of 20-39 years, which does not conflict with our results (12). Possible explanation for this difference may represent the timeliness in the diagnosis bipolar disorder, because the number of these patients is for a long time under a different diagnosis.

If we observe the results related to the employment status of patients with bipolar disorder, we see that the dominant group are employed 28 (44.4%); 23 (36.5%) patients were retired, and 12 (19.1%) were unemployed. Analysis of the statistical significance of differences by employment status for years of research shows that the same exists in favor of a greater number of pensioners in 2008, as well as a number of employed during 2006. Other authors found similar results (13). Group of authors from Singapore has the same dominant group as well, with fact that their percentage value is greater, amounting to 58% of employed (14). Possible reasons for this difference lie in the society, as well as wealth of the country. According to authors from the Netherlands the dominant group is employed 35%; the unemployed is 39% and 9% of pensioners (15).

The largest percentage of patients in our study is with secondary school education. These results correlate with the results of the group of authors from the U.S., where they are also the dominant group (41.4%) of patients with secondary education (13).

Given the duration of hospitalization of patients at the Psychiatric Clinic CCUS, led to results that the mean duration of hospitalization is 40 days. Dominant group of patients are those who have stayed at the Psychiatric Clinic 31-60 days, 41 (65%). Only 1 (1.6%) patient stayed longer than 90 days. Our results are similar to the results of other studies (13). Authors from Italy found a mean value of 36.5 days of hospitalization (14).

The results of our study showed that the number of patients are hospitalized due to episodes of mania with psychotic symptoms, 19 (30.2%). Those who are hospitalized due to episodes of severe depression without psychotic symptoms was 11 (17.5%), 9 (14.3 %) with the episode mild or moderate depression. Statistical analysis shows that there are no significant differences in the distribution of types of bipolar disorder by years of research. Our results do not match to a research by the group of authors from the U.S., where the number of patients with current episode of mania is significantly lower 16.4%, than those with higher depressive episode. Possible reason for this could be undue diagnosed bipolar disorder, where the depressive episode within it separates as an independent, field-effect, which is a possible reason why in our country it does not prevail as a reason for hospitalization (11,13). In contrast, our results agree with the results of the group of authors from Denmark where there is the same prevalence of patients hospitalized in manic phase (15).

## 6. CONCLUSIONS

- Conducted research has shown that in the period from January 1<sup>st</sup> 2006 until December 31<sup>st</sup> 2008 at the Psychiatric Clinic CCU in Sarajevo there was a total of 3713 hospitalized patients (54% men and 46% of women). From the total number of patients bipolar affective disorder in a three-year period had a share of 63 (1.7%).
- In our sample are mostly female patients (50.8%;49.2%), age group of 46-65 years, employed (44.4%) with secondary school education (49.2%).
- Given the total number of patients with bipolar affective disorder, most of them (30.2%) at admission to the Psychiatric Clinic were in manic episode with psychotic symptoms.
- Dominant group consists of respondents with the duration of hospitalization of 31-60 days (65%), and only 1.6% of patients who stayed  $\geq$  91 days.

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