

# The Frequency of Repeated Hospitalization and Sociodemographic Parametres Among Patients with Schizophrenia During 2006-2009

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## ORIGINAL PAPER

### SUMMARY

Researches have proved that multiple and extended hospitalizations were noted among examinees with schizophrenia. Aim of this work is to determine and show the frequency re-hospitalization for patients with schizophrenia during 2006.-2009. Gender, year, education level, duration of the treatment were analyzed as well. This retrospective-descriptive and epidemiological study covered randomly selected 85 repeatedly hospitalized patients with schizophrenia according to DSM-IV. Subjects were selected out of total number of 727 who get diagnose of Schizophrenia Structural Clinical Interview (SCID) was used as instrument of research. From total number of hospitalized patients with Schizophrenia 85(11.7%) has had re-hospitalization, out of which in 2006; 26 (12.3%), 2007; 24(14.5%), 2008; 14 (8.1%), 2009; 21 (11.9%). Two repeated hospitalization during 2006 had 24 (92.3%) subjects; with three; 2 (7.7%). During 2007 with two hospitalization were 21 (87.5%) subjects; three repeated hospitalizations 3 (12.5%). In the year 2008 two hospitalization had 13 (92.9%); three 1 (7.1%) subjects. In the year 2009 two hospitalization had 21 (100%) subjects. Males had more repeated hospitalization then females. Results show ages, education level, and duration of hospitalization as well. **Conclusion:** There is a need of repeated hospitalizations among patients with schizophrenia, because of chronic course of disease.

**Key words:** schizophrenia, re-hospitalization, duration of hospitalization, sociodemographic

## 1. INTRODUCTION

Schizophrenia is in many ways the most severe and the most common mental disorder, and therefore became the most attractive topic in the psychiatric research. Symptoms of schizophrenia are manifested by disturbances of perception, affect, will, thought and behavior (1).

The disease has a chronic course with exacerbation and remissions and as such represent major medical and social problem (2,3,4,5).

When the diagnosis of schizophrenia is set or is even suspected that it is a case of this serious mental disorder, the patient should be hospitalized. Hospitalization is essential in order that with clinical and additional research diagnosis is confirmed or excluded. The need for the hospitalization is not only at the beginning of illness, but also during its deterioration and from numerous other reasons, such as severe psychomotor agitation and aggressive behavior of patients, the potential danger to others and the patient's inability care of itself, inadequate family or sub-social environment, etc.

Numerous studies in the scientific literature indicate that the hospitalizations are longer and more frequent in patients with schizophrenia with positive heredity (6,7,8,9,10). From schizophrenia suffer both male and female, and in most patients it begins at the age from 15 to 25 years. Given that in

women symptoms appear somewhat later than men and it is rarely diagnosed in adolescence among women (11). Less economically developed countries have lower prevalence rates compared to developed countries. Current prevalence of schizophrenia ranges from less than 0.01% to 3% in different populations (12).

## 2. GOAL

Determine the total number of hospitalized patients with schizophrenia during the period from 2005-2008;

Determine the number of patients with repeated hospitalizations compared to all hospitalized patients with schizophrenia in the specified period of investigation;

Determine the percentage of patients with repeated hospitalizations in relation to gender, age, education;

Determine the number of repeated hospitalizations in patients with schizophrenia hospitalized during the period 2005-2008, as well as the duration of hospitalization.

## 3. MATERIAL AND METHODOLOGY

The study was conducted at the Psychiatric Clinic, Clinical Center of University in Sarajevo. Necessary data are collected from the history of the disease at the Psychiatric Clinic in period from 2005-2008. The method of research

is a retrospective-prospective, descriptive analytical, epidemiological. Of the total number of 727 hospitalized patients with schizophrenia we have chosen and analyzed 85 patients with multiple hospitalizations. Diagnosis of schizophrenia was made using the SCID-I interview for DSM-IV mental disorders criteria (13).

Based on the goals selected are the following variables: gender, age, educational level, frequency of repeated hospitalizations, duration of hospitalization for patients with multiple hospitalizations.

#### 4. RESULTS

During the period of four years there were a total of 727 patients with schizophrenia (14.7%). Prevalence of schizophrenia in comparison with other diagnoses varies during the observed period, from 12.9% in 2007 to 16.7% in 2006, but without statistically significant differences between years.

Male respondents in the sample have a larger number of repeated hospitalizations.

During all the years observed the most patients with schizophrenia and repeated hospitalizations is at age from 30 to 50 years. The least represented age group in all years is at age over 60 years.

Patients with repeated hospitalizations usually have a high school, and the least number of them have graduated university.

Table 1 shows the number of patients with schizophrenia and repeated hospitalizations according to the study period: in 2006–26 (12.3%), 2007–24 (14.5), 2008–14 (8.1%), and 2009–21 (11.9 %). It shows the patients with a single hospitalization in observed period: during 2006–186 (87.7%), 2007–142 (85.5%), 2008–158 (91.9%), and 2009–156 (88.1%).

Number of repeated hospitalizations among patients with schizophrenia has varied over the years observed and after their increased number in 2006 from 12.3% to 14.5% in 2007 we notice a decline to 8.1% in 2008, and a slight

		Years				
		2006	2007	2008	2009	Total
Single hospitalization	N	186	142	158	156	642
	%	87.7	85.5	91.9	88.1	88.3
Multiple hospitalizations	N	26	24	14	21	85
	%	12.3	14.5	8.1	11.9	11.7
Total	N	212	166	172	177	727
	%	29.2	22.8	23.7	24.3	100.0

Table 1. Review of repeated hospitalizations number of patients with schizophrenia during research period,  $\chi^2=9.405$ ,  $p=0.033$

		Years				
		2006	2007	2008	2009	Total
Two repeated hospitalizations	N	24	21	13	21	79
	%	92.3	87.5	92.9	100.0	92.9
Three repeated hospitalizations	N	2	3	1	0	6
	%	7.7	12.5	7.1	0	7.1
Total	N	26	24	14	21	85
	%	30.6	28.2	16.5	24.7	100.0

Table 2 Review of repeated hospitalizations in patients with schizophrenia by years of research,  $\chi^2=2.694$ ,  $p=0.4412$ , ns

	N	Mean	Std. deviation	Std. error	Range	
2006	26	81.9231	31.94235	6.26441	39.00	162.00
2007	24	86.2500	30.75181	6.27719	35.00	157.00
2008	14	96.3571	36.69963	9.80839	49.00	159.00
2009	21	70.4286	24.89492	5.43252	24.00	118.00
Total	85	82.6824	31.48212	3.41472	24.00	162.00

Table 3. Overview of the hospitalization duration of schizophrenic patients with repeated hospitalizations by years of research,  $F=2.132$ ,  $p=0.103$

increase during 2009 to 11.9%. These differences were statistically significant.

Table 2 shows the number of repeated hospitalizations in patients with schizophrenia during the period studied: During 2006 with two repeated hospitalization was 24 (92.3%) patients, with three 2 (7.7%). In 2007 two repeated hospitalizations had 21 (87.5%) patients, with three 3 (12.5%) patients. During 2008 two repeated hospitalizations had 13 (92.9%) patients, with three (7.1%) patient; and in 2009 there were 21 (100.0%) patients with two repeated hospitalizations.

Analysis of repeated hospitalizations shows that patients have during the observed period have two or three repeated hospitalizations, and more often two. Statistical analysis using chi-square test did not show statistically significant difference in terms of repeated hospitalizations rates between the years observed.

Table 3 present the analysis of the mean hospitalization duration during tested period of patients with repeated hospitalizations. The longest hospitalization was during 2008 (on average 96 days) and shortest in 2009 (on average 70 days). Statistical analysis using analysis of variance showed that between the observed years there isn't any statistically significant difference in duration of hospitalization.

#### DISCUSSION

The results of this study show that male respondents have a higher number of repeated hospitalizations. Our findings are similar to results in the literature, which investigated many authors in terms of social and demographic characteristics (2-5). Also a study conducted at the Institute of Psychiatry, Clinical Center of Serbia, Belgrade, shows that schizophrenia occurs more frequently in men (14).

During all the years observed, majority of patients with repeated hospitalizations is in the age of 30 to 50 years. The least represented age group in all years is the one over 60 years. This is also similar to the results of studies which showing that the occurrence of schizophrenia in later life has a better prognosis (15-17). Group of authors with research proved that schizophrenia is most frequent at age between 20-30 years (5,18).

Patients with repeated hospitalization were mostly finished secondary school, and the least of them university education. The results are similar to studies from the world scientific literature (2-5,18). The results of this study correspond to data from the world scientific literature which also indicates that most patients have a high school education (19). The duration of hospital treatment and number of treatment is influenced among other things also by the level of education (6, 13, 16, 20-23).

A group of authors from Spain concluded that the oc-

currence of disease earlier in life has a better prognosis, which is contrary to our results. The same authors point out the unimportant role of socio-demographic factors in the onset of schizophrenia (24). Schizophrenia alternates with alcoholism at the top ranking cause of hospitalization for mental disorders in Croatia (25).

In our study, the number of multiple hospitalizations among patients with schizophrenia has varied during the observed period and after the increase in repeated hospitalizations rates since 2006 from 12.3% to 14.5% in 2007 it had a decline to 8.1% in 2008 and a slight increase during 2009 to 11.9%. These differences were statistically significant. The results are similar to previous studies in the world (6).

The retrospective research conducted for the 2003-2004, indicates that during the two-year follow-up were repeatedly hospitalized 52 patients (26).

Results in the literature suggest that in patients with multiple hospitalizations significant role has a positive heredity (18,27,28).

Longest hospitalization is recorded in 2008 (on average 96 days) and shortest in 2009 (on average 70 days). Numerous researches of the average duration of treatment are performed. According to the group of authors significant influence has numerous environmental factors (6).

Research for 2001 shows that according to the number of hospital days, schizophrenia had the average duration of treatment of 67.2 days (29). The literature states that in 2004 the average duration of hospital stay was 73.9 days (30).

Average duration of treatment of schizophrenia during 2007 in Zagreb hospitals was 53.1 days (31).

## 5. CONCLUSIONS

- During the period 2006-2009, 727 (14.7%) patients were hospitalized due to schizophrenia.
- The largest number of respondents was in 2006–212 (16.7%).
- Number of respondents with two or more repeated hospitalizations during this period was 85 (11.7%).
- Male patients have a higher number repeated hospitalizations compared to female.
- Most patients with repeated hospitalizations are at age from 30-50 years of life.
- The largest number of respondents is with secondary education.
- The analysis of the mean duration of hospitalization in tested period of patients with repeated hospitalizations shows that these patients was staying longest at the clinic during 2007 (on average 96 days).

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