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# Actual Tendency in Institutionalization of Patients with Schizophrenia

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## Abstract

Patients with schizophrenia requiring long-term institutionalization represent cases with poor outcome, often leading to high costs for patients and family and constituting a huge economical burden for society if patients are young. The aims of the study were identification of characteristics and predictors of institutionalization in schizophrenia. Retrospective study of all institutionalized patients with schizophrenia in Brasov County, Romania, with a DSM-IV-TR lifetime diagnosis of schizophrenia institutionalized between 1995 and 2014. Institutionalized patients between 2005 and 2014 (n=172) had lower age (51.15 vs. 57.08,  $p<0.05$ ) and lower age at institutionalization compared with patients admitted between 1995 and 2004. Lower education level (8.23 vs. 13.22,  $p<0.05$ ), only one parent, multiple antipsychotics treatments and suboptimal response under first generation long acting antipsychotics are predictors for institutionalization. Our study showed a tendency to institutionalize patients with schizophrenia at the younger age compared with other periods. Early intervention in psychosis, controlled treatment with SGAs should be solutions to avoid institutionalization of young patients with schizophrenia.

*Keywords:* schizophrenia, institutionalization, predictors, poor outcome

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## Introduction

At the beginning of the 20<sup>th</sup> century long stay institutional treatment was the norm for people with schizophrenia in absence of antipsychotic drugs. Hospitals with many beds were established in isolated forest or in rural areas where patients remained for extended periods of time. This situation has led to mental illness stigma amplification, particularly for schizophrenia. There were a lot of pictures in magazines and journals with disheveled and strange looking people, often assuming unusual poses or grimacing and gesturing in incomprehensible ways. There were a lot of scary stories about this patients and treatment used by physicians trying to cure them. As a result of these, society tried to isolate those patients and only in a few cases they manage to be accepted in local community.

When chlorpromazine was introduced for the treatment of people with schizophrenia in the middle of 50's, reduction of psychotic and disorganized symptoms had an enormous and significant impact on lengthy hospital stays for schizophrenic patients. As a consequence the number of beds for chronic patients was reduced in the majority of western countries by the late 1970s. Long-stay care was maintained only for those who were non-responsive to the effects of antipsychotic treatments. The treatment model for schizophrenia has changed during past decades, in terms of antipsychotics types and admission that averaged 6–12 weeks for acute patients 25 years ago, to up to 21 days in Romania or even 5–7 day stays in some countries like United States. In Brasov County, despite the development of private psychiatric sector there is a tendency to institutionalize patients with schizophrenia at young age. The factors involved in this situation could be economic status, short time allocated by parents, lack of support from institution and local authorities, low level of education, and treatment resistance. In contrast to non-institutionalized patients, they had substantial positive and negative symptoms (Davidson *et al.*, 1995), had cognitive impairments (Harvey *et al.*, 1998), significant functional impairments (Harvey *et al.*, 1997), and substantial levels of aggressive and unpredictable behaviors (Bowie *et al.*, 2001).

## Methods

The study was conducted in Psychiatry and Neurology Brasov Romania in 2015. The patients described in this report were admitted to a 120-bed, free-standing psychiatric teaching hospital located in Brasov, Romania. Patients referred for hospitalization are admitted, on alternate days, to one of the two units. The clinical care is coordinated by board-certified psychiatrists affiliated with the local medical school. There were collected all the data of 322 patients with schizophrenia according to the DSM-IV-TR (APA, 2004) who were institutionalized after discharge in Hospital for Chronic patients Vulcan, Brasov. The time

period was between 1995 and 2015. The data included demographics, age of onset, duration of illness, treatment, education, marital status and economic status and the age of institutionalization. From patient's files we obtained information regarding relapses in previous 2 years before institutionalization, time from discharge to the next admission, the length of stay and the reason for family request for this hospitalization.

We divided patients in two groups: A, admitted between 1995 and 2004 and B admitted between 2005 and 2014. The aims were to verify if the age of the patients admitted for long stay in a chronic setting is higher in group A compared with Group B. The hypothesis was that age of patients admitted in present days is lower than 15-20 years ago.

Statistical analyses were performed using SPSS version SPSS 15.0. The differences between the two groups were compared using Student's t test. The chi squared and Fisher's exact tests were used to assess categorical variables. Age adjusted odd ratio (OR) and 95% confidence interval (CI) were calculated by multivariate analysis using multiple, unconditional, logistic regression. P values less than 0.05 were considered to be statistically significant.

## Results

Of 322 patients 189 were female (58.7%) with the mean age of 54.31 years (SD=9.32) and 133 male (41.30%) with mean age 52.60 years (SD=11.22). In group A of patients admitted between 1995 and 2004 were 150 cases, with mean age 57.08 years (SD=5.67), age of onset 21.73 years (SD=3.34), and age of institutionalization 49.34 years (SD=8.86). In group B of patients admitted between 2005 and 2014 were 172 cases, mean age 51.15 (SD=9.15), age of onset 23.56 years (SD=4.11), and mean age of institutionalization 42.22 years (SD=7.76). The number of patients with age below 40 years was 12 (8%) in group A and 28 in group B (16.2%). In the table 1 are presented the demographic data of institutionalized patients.

Table 1. Demographics

Variables	All patients N=322	Institutionalized patients				p value
		Group A 1995-2004 (N=150)		Group B 2005-2014 (N=177)		
		N	%	N	%	
Age (mean, SD)	53.45 (8.23)	57.08 (5.67)	-	51.15 (9.15)	-	p<0.05
Age of onset	20.95 (2.47)	21.73 (3.34)	-	23.56 (4.11)	-	NS
Age at institutionalization	45.78 (8.22)	49.34 (8.86)	-	42.22 (7.76)	-	p<0.05
Duration of illness	21.67 (9.33)	25.16 (7.56)	-	18.18 (8.54)	-	p<0.05
Patients with age below 40	40	12	8.00	28	16.2	p<0.05
Number of admission in 2 years period before institutionalization (mean)	-	6	-	7	-	NS
Type of schizophrenia						
paranoid	217	105	70.00	112	65.11	NS
disorganized	71	30	20.00	41	23.83	NS
undifferentiated	27	14	9.33	13	7.55	NS
other	7	1	0.66	6	3.48	NS
Place before institutionalization						
home	253	120	80.00	133	77.32	NS
hospital	50	20	13.33	30	17.44	NS
other	19	10	6.66	9	5.24	NS
Patient living						
alone	37	14	9.33	23	13.37	NS
with husband/wife	25	13	8.66	6.97	1.16	NS
with one parent	78	33	22.00	45	26.16	NS
with both parents	23	11	7.33	12	6.97	NS
with son/daughter	35	17	11.33	18	10.46	NS
with brother/sister	80	33	22.00	47	27.32	p<0.05
other	44	22	14.66	22	12.79	NS
Education						
1-4 years	45	23	15.33	22	12.79	NS
5-8 years	175	87	58.00	88	51.16	NS
9-12 years	80	33	22.00	47	27.32	NS
more than 12 years	22	9	6.00	13	7.55	NS

The Cox analysis for the middle aged sample showed that persons with schizophrenia aged 40–55 in 2005–2014 have 3.40 times the risk institutionalization compared with individuals of similar age in 1995–2004 period (table 3). Other risk factors for institutionalization among the middle-aged cohort are age (HR = 1.23), being female (HR = 1.45), and having only one parent (HR = 1.72). The patients living with brothers are at the higher risk for institutionalization.

Table 2. Cox Proportional Hazards Models of institutionalization

Variable	Group A, 1995-2004 (N = 150)		Group B, 2005-2014 (N = 172)		P value
	HR	95% CI	HR	95% CI	
Disorganized type	3.40	2.77–4.98	1.43	1.15–2.44	<i>p</i> < 0.05
Age (years)	1.11	1.08–1.12	1.23	1.11–1.15	NS
Charlson score >0	1.21	0.88–1.66	1.10	1.06–1.41	<i>p</i> < 0.05
Female	1.36	1.05–1.76	1.49	1.17–1.46	<i>p</i> <0.05

All the patients were treated with antipsychotics (table 3). The vast majority of patients received haloperidol, even if the second generation antipsychotic were available. There were few patients treated with clozapine before 1995. The treatment was not available, underutilized due to fear of agranulocytosis, myocarditis and seizures.

Table 3. Treatment categories used in patients with schizophrenia

antipsychotics	All patients 322	discharged patients				<i>p</i> value
		1995-2004 (N=150)	%	2005-2014 (N=172)	%	
haloperidol	137 (42.54%)	67	44.66	70	40.69	NS
flupentixol	22 (6.83%)	12	8.00	10	5.9	NS
zuclopentixol	27 (8.35%)	17	11.00	10	5.9	NS
olanzapine	55 (17.08%)	23	15.33	30	17.44	NS
quetiapine	12 (3.72%)	5	3.3	7	4.12	NS
clozapine	33 (10.24%)	12	8.00	21	12.20	<i>p</i> <0.05
risperidone	23 (7.1%)	16	10.5	7	4.12	<i>p</i> <0.05
amisulprid	13 (4.1%)	6	4.00	7	4.12	NS

## Discussion

Our findings show that despite the relative reduction of hospitalization in acute settings there is a tendency of families to push institutionalization of patients with schizophrenia even if those patients are still young. There are some predictive factors which include: aggressive behavior, living with brother or sister, male gender and multiple admissions to the acute psychiatric units in short period of time. In the present days we noticed less time allocated by relatives to talk and spend time with schizophrenic patients. The main reason declared is the economic situation of those families.

Patients with schizophrenia requiring long-term institutionalization represent those with the worst outcome, leading to personal costs for patients and relatives and constituting a large economical burden for society (Uggerby *et al.*, 2011).

Aggressive and disruptive behavior remained the reasons for admission in “acute settings”, in the current days. In the same time represents a major difficulty to discharge patient due to fear of violent behavior towards relatives. When aggressive behavior is accompanied by cognitive impairment the delay of discharge are even longer (White *et al.*, 2006). In a systematic study of aggression (Bowie *et al.*, 2001) researchers found that the prevalence of aggression in long stay patients was equivalent to that seen in acutely admitted patients admitted within the last 3 days in earlier studies.

Several studies show that negative symptoms are associated with aggressive behavior (Krakowski, 2005). These negative symptom correlate results have been interpreted in terms of frontal lobe dysfunction as alterations in emotional functioning are common in individuals with frontal lobe damage. The majority of the participants showed enhancements in social functioning despite the fact that functional impairment is common in persons with schizophrenia, which indicates that even long-stay patients could achieve better functioning by deinstitutionalization. Although the stability in symptoms might be due to continuous schizophrenia course, moving to the community may also lead to improvement (Kunitoh, 2013). A recent study (OPUS) indicates that hospital-based rehabilitation together with weekly supportive psychodynamic therapy was associated with a continued increased use of psychiatric bed days and days in supported housing (Nordentoft *et al.*, 2010).

Discharged patients had more leisure activities, more often a “good friend”, and more frequent social contacts. They were less often victim of a crime within the last year. In a cross-sectional comparison, they were significantly more satisfied with their life than patients who were still in hospital (Hoffmann *et al.*, 2000). Our study show that the number of patients who were discharged after institutionalization in period 1995-2004 was significantly higher compared with period 2005-2014.

Despite the access to LAIs there are a large number of patients who was institutionalized before treatment with a depot antipsychotic or clozapine. Clozapine as well as LAIs remained highly underutilized in patients with schizophrenia even if they are non-adherent or nonresponsive to other antipsychotics (Ifteni *et al.*, 2014). In the vast majority of cases they were declared “schizophrenia treatment-resistant” but the evidence is for highly non-adherent to treatment patients. Further studies are needed to demonstrate de beneficial of treatment with LAIs in prevention of institutionalization of young patients with schizophrenia.

## Conclusions

Hospitalization for people with schizophrenia is a consequence of several different behavioral and social psychosocial factors. Middle-aged persons with schizophrenia have almost four times greater likelihood of early institutionalization in nursing homes compared with their same age peers with no mental illness. The chronic, highly debilitating and refractory nature of these disorders means that stabilization of an individual’s condition regularly requires long stays in hospital and often for lifetime.

Second generation LAIs can serve to prevent cognitive and functional decline in schizophrenia. Clozapine treatment has been shown in several studies to be efficient in treatment-resistant patients.

We concluded that continued efforts are needed to engage people with schizophrenia in treatment in order to prevent early institutionalization.

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