

# Predictors of hospitalization during home treatment on 1045 patients with schizophrenia in acute crisis

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## INTRODUCTION

Psychiatric hospitalization is the most restrictive placement resource and there is consensus that should be reduced or preferably avoided. Home treatment (HT) teams, also called Crisis resolution teams, have proven useful both in reducing the need for hospital admission and in decreasing the duration of hospital stays in patients with moderate and severe forms of any mental illness (1). Despite intensive home follow-up, sometimes psychiatric hospitalization is necessary. In case of psychotic patients, several socio-demographic and clinical factors related to the risk of requiring psychiatric hospitalization have been identified. A greater risk has been described in male, under-age, unemployed, unmarried patients and those who live alone and those with lower socio-economic status (2). Among the clinical factors, the most frequently associated with the need for hospitalization are having a previous history of psychiatric hospitalization, comorbid substance misuse, early non-adherence to treatment and lack of insight, and those who had higher global illness severity and positive symptoms of schizophrenia (3, 4). However, there are no studies describing which risk factors increase the likelihood of being hospitalized while undergoing home follow-up.

## AIMS OF THE STUDY

To identify socio-demographic and clinical factors associated with psychiatric hospitalization during the HT intervention in patients with schizophrenia.

## METHODS

All subjects visited by a home treatment team in Barcelona between January 2017 and December 2021 who had been diagnosed with schizophrenia at discharge using DSM-IV-criteria were included in the study. An observational and retrospective study has been conducted. Clinical and socio-demographic variables were collected through clinical and medical reports. Several scales were used to classify the severity of psychopathology at the time of first assessment. To assess schizophrenia severity we used the Positive and Negative Syndrome Scale (PANNS). To assess functional and psychopathological characteristics, the following scales were used: Clinical Global Impression Scale (CGI), the Severity of Psychiatric Illness Scale (SPI), Global Activity Assessment Scale (GAF), the World Health Organization Short Disability Assessment Schedule (WHO-DAS), the Overt Aggression Scale (OAS), and the Scale to Assess Unawareness of Mental Disorder (SUMD). First, a descriptive analysis was performed. Second, a comparative, bivariate analysis and a binary logistic regression analysis of socio-demographic and clinical factors was conducted on those who were hospitalized and those who were not hospitalized.

## RESULTS

A total of 1045 patients with schizophrenia were evaluated in this study. Table 1 shows the general characteristics of the sample and the comparative analysis between the patients who required hospitalization (552; 50.0%) and those who were not hospitalized (523; 50.0%). A low number of visits done at home, and worst scores in Global Clinical Impression scale, Global Assessing Functioning scale, PANSS Positive Symptoms subscale and Severity of Psychiatric Illness scale were the most consistent factors related to hospitalization (Table 2).

Table 1. General characteristics of the sample and baseline differences between hospitalized versus non-hospitalized patients.

Variable	Hospitalization (n=522)		Non Hospitalization (n=523)		P value
	N	%	N	%	
<b>Gender</b>					
Men	276	52.9	274	52.4	0.876
Women	246	47.1	249	47.6	
<b>Age mean (SD)</b>	46.40	16.455	44.58	16.768	0.076
<b>Living situation</b>					
Alone	160	30.7	104	19.9	<b>0.000</b>
Accompanied	362	69.3	419	80.1	
<b>Social network</b>					
None	266	93.0	294	78.4	<b>0.000</b>
Normalized	20	7.0	81	21.6	
<b>Educational level</b>					
Primary education	183	35.1	222	42.4	<b>0.034</b>
Upper studies	288	55.2	263	50.3	
Unknown	51	9.8	38	7.3	
<b>Employment</b>					
Unemployed	460	88.1	396	75.7	<b>0.000</b>
Actively employed	29	5.6	65	12.4	
Sick Leave	21	4.0	53	10.1	
Unknown	12	2.3	9	1.7	
<b>Psychiatric history</b>					
No	117	22.4	73	14.0	<b>0.000</b>
Yes	405	77.6	450	86.0	
<b>Previous aggressions*</b>					
No	178	67.4	312	85.5	<b>0.000</b>
Yes	86	32.6	53	14.5	
<b>Previous hospital admission</b>					
No	242	46.4	177	33.8	<b>0.000</b>
Yes	280	53.6	346	66.2	
<b>Adherence to outpatient follow-up</b>					
No	368	70.5	272	52.0	<b>0.000</b>
Yes	57	10.9	158	30.2	
First Episode	79	15.1	79	15.1	
Unknown	18	3.4	14	2.7	
<b>Treatment adherence</b>					
No	344	87.8	256	60.2	<b>0.000</b>
Yes	48	12.2	169	39.8	
<b>Alcohol misuse</b>					
No	457	87.5	479	91.6	<b>0.033</b>
Yes	65	12.5	44	8.4	
<b>Number of visits done mean (SD)</b>	3.16	3.276	5.90	5.043	<b>0.000</b>
<b>Duration of home treatment (days) mean (SD)</b>	35.41	51.830	57.18	71.290	<b>0.000</b>
<b>Global Clinical Impression Scale mean (SD)</b>	5.50	0.710	4.68	1.039	<b>0.000</b>
<b>SPI Scale mean (SD)</b>	16.83	4.494	11.67	4.608	<b>0.000</b>
<b>GAF Scale mean (SD)</b>	31.14	11.269	44.64	15.186	<b>0.000</b>
<b>WHODAS Scale mean (SD)</b>	34.41	9.276	30.25	9.076	<b>0.000</b>
<b>PANSS Positive Symptoms mean (SD)</b>	29.03	6.684	22.12	7.805	<b>0.000</b>
<b>PANSS Total Score mean (SD)</b>	99.08	19.804	85.56	22.342	<b>0.000</b>
<b>OAS Scale mean (SD)*</b>	6.86	2.625	4.99	1.697	<b>0.000</b>
<b>SUMD mean (SD)</b>	12.68	2.882	10.32	3.667	<b>0.000</b>

Table 2. Logistic regression assessing the relative contributions of different variables to patient hospitalization for 1012 patients with schizophrenia

Variable	B	Exp (B)	95% CI		p value
			Lower	Upper	
Number of visits	-0.184	0.832	0.790	0.875	<b>0.000</b>
GCI Scale	0.412	1.51	1.176	1.940	<b>0.001</b>
GAF Scale	-0.032	0.968	0.953	0.984	<b>0.000</b>
PANSS Positive Symptoms	0.045	1.046	1.018	1.074	<b>0.001</b>
SPI Scale	0.143	1.154	1.108	1.201	<b>0.000</b>
Constant	-3.337	0.036			<b>0.000</b>

## CONCLUSIONS

Home treatment teams are useful in the treatment of acute crises in psychotic patients, but clinicians must consider some factors that may predispose the patients to psychiatric hospitalization. The severity of symptoms, as well as global functioning, are related to a higher risk of hospitalization in patients with schizophrenia.

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