

## Relationship between Attitude to Treatment in Patients with Schizophrenia on Discharge and Re-hospitalization

Fatemeh Ranjbar, MD<sup>1</sup>  
Hannaneh Taghizadeh, MD<sup>2</sup>

**1** Associate Professor of Psychiatry, Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran  
**2** Razi Hospital, Tabriz, Iran

### Corresponding author:

Fatemeh Ranjbar, MD  
Associate Professor of Psychiatry, Faculty of Medicine, Tabriz University of Medical Sciences, Faculty of Medicine, Tabriz, Iran.  
Tel: +98-441-3804486-90  
Fax: +98-441-5424407  
Email: ranjbarf@tbzmed.ac.ir

**Objective:** Non-compliance is one of the major problems in treatment of patients with schizophrenia. It is also the most significant risk factor for relapse and re-hospitalization. Previous studies showed that 25-70% of all patients with schizophrenia have negative attitudes to drugs. Therefore, the present study aimed to identify the relationship between drug attitude and discharge and the rate of re-hospitalization in patients with schizophrenia.

**Method:** This cohort study was carried out on 200 hospitalized patients with schizophrenia. Drug Attitude Inventory (DAI) was completed for all the patients at the time of discharge. All patients were followed-up for one year for re-hospitalization. Logistic regression was used to examine the association between drug attitude and specific risk factors.

**Results:** The Mean age of patients was 37.34±10.74 years. Positive and negative drug attitudes were 68%.5 and 27% respectively. The rate of re-hospitalization was 41.5% during the one year follow-up. The rate of negative attitude was not significantly different between the two groups with and without re-hospitalization. However, the mean DAI score was significantly lower in the re-hospitalized patients. Multivariate analysis showed that lower DAI score and being female were significant and independent risk factors for re-hospitalization.

**Conclusion:** The more negative attitude the patients with schizophrenia had towards drugs, the more rate of re-hospitalization they had. Moreover, female patients are at higher risk for re-hospitalization.

### Key Words:

*Attitude, Drug therapy, Patient readmission, Relapse, Schizophrenia*

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Medication compliance is considered very important in therapeutic programs including psychiatry since it can prevent patients' re-hospitalization. On the other hand, the patient's attitude may influence medication compliance (1). Multiple studies showed that poor insight is a strong predictor of weak therapeutic cooperation (2). One of the major problems in psychopharmacology of patients with schizophrenia is non-compliance, which is the most important risk factor for relapse and re-hospitalization. The majority of patients with schizophrenia show negative attitudes to treatment (3). This problem is a predictor of medication compliance during the next year of these patients' therapy and may be clinically useful (4). Drug Attitude Inventory (DAI) is a tool for evaluating patients' cooperation in therapeutic programs (5). This study aimed to identify the relationship between patients' attitude and re-hospitalization in a one-year follow-up.

### Materials and Method

This cohort study was carried out on 200 in-patients who were diagnosed as schizophrenic based on DSM-IV-TR criteria and took Risperidone.

The reliability and validity of DAI questionnaire were evaluated in 30 patients. Cronbach's  $\alpha$  was 0.61. This questionnaire was completed for all the patients upon discharge. Then, all of them were followed-up for one year for re-hospitalization. Patient characteristics and data were also collected.

Statistical analysis of the data was carried out using SPSS software version 11.5. Mean and standard deviation were presented for all the continuous variables, and  $X^2$  was performed to test associations of categorical variables. Student t-test was used to compare means of the variances between the two groups. The association of drug attitude with specific risk factors was assessed using a logistic regression model. All the calculated P-values were two-sided and p values less than 0.05 were considered statistically significant.

### Results

Age and sex characteristics of the patients with and without re-hospitalization are shown in table (1). Almost seventy percent of the patients were male. The rate of re-hospitalization was 41.5%. The mean age of

**Table 1. Comparison of demographic characteristics of patients with and without re-hospitalization**

Group	With re-hospitalization 83(41.5%)	Without re-hospitalization 117(58.5%)	P value
Male	49(59%)	92(78.6%)	0.004
Female	34(41%)	25(21.4%)	
Age (years) mean±SD	37.49±10.5	37.22±10.9	0.86

the patients was 37.34±10.74 years which was not statistically significant between patients with or without re-hospitalization (p=0.861). Positive and negative attitudes to therapeutic programs were 68.5 and 27 percent respectively, which were statistically significant (p<0.001). Four and half percent of the patients had no drug attitude .

In the re-hospitalized patients, positive and negative attitudes were 61.4% and 32.5% respectively which were statistically significant (p<0.001). In addition, 6% of the patients had no drug attitude .

In patients without re-hospitalization, positive and negative attitudes were 73.5% and 23.1% respectively ; this difference was statistically significant (p<0.001). Moreover, 3.4% of the patients had no drug attitude .

The prevalence of negative attitude was not statistically significant between the two groups. However, the mean DAI score was significantly lower in the re-hospitalized patients (p = 0.01).

The mean score of DAI in all the patients was 7.25±13.2. This score was 4.46±13.12 and 9.23±12.8 in patients with and without re-hospitalization respectively. Multivariate analysis revealed that being female (p=0.007, OR= 0.41) and the mean score of DAI (p=0.027) were associated with re-hospitalization, and were its independent risk factors.

**Discussion**

Positive and negative attitudes for therapeutic programs were 68.5 and 27 percent respectively, in our patients which were not in accordance with the results of Docherty and colleague that showed 10% negative attitude and 90% partial or positive attitude in their patients (6). Other studies showed a wide range of negative attitudes from 20 to 89% (7-13).

Although in our study, the score of negative attitude was not different between patients with or without re-hospitalization, the mean DAI score was significantly and independently lower in patients with readmission. The study of Kane et al., (14) and Leucht et al., (15) showed that negative attitude was correlated with relapse and re-hospitalization. Health beliefs influence health behaviors and have been shown to influence outcomes in a variety of illnesses, treatments and preventative interventions (16). In a recent study, beliefs about prescribing were positively associated with perceived knowledge of medications (17).

A patient's drug attitude probably reflects a weighing of benefits against experienced or anticipated side effects or risks associated with the medication.

Attitudes may be more positive in patients who recognize therapeutic drug effects (18).

In our study, there was no significant relationship between attitude and re-hospitalization and employment.

Nevertheless, some evidence showed that factors including being unaware of the need for treatment, presence of symptoms, presence of side-effects, lack of insight into the illness, and being employed were significantly associated with poor attitude toward medication (19, 20)

It is noteworthy to mention that non-adherence to prescribed medications is the leading cause of relapse or recurrence of psychotic illness(21, 22).

Tay et al., (22) found that non-adherence in patients with schizophrenia accounted for approximately 40% of the annual costs of re-hospitalization.

Little is known on whether the tendency of patients with schizophrenia to be involved in medical decisions affects their treatment. It is important to meet the participation needs of the patients who are dissatisfied with their psychiatric treatment (23).

Literature has shown that compliance therapy, a brief intervention based on motivational interviewing and cognitive approaches can lead to improved attitudes, adherence to treatment, and insight. This is one of the most important predictors of successful treatment of schizophrenia (21, 22, 24-26). Compliance therapy is advantageous to patients and improves their attitude towards treatment (22, 24, 27).

Being female was an independent factor for re-hospitalization in our study, and was not reported before.

**Conclusion**

The prevalence of negative attitude was not significantly different between patients with or without hospitalization. However, the mean DAI score was significantly lower in the re-hospitalized patients.

Low mean DAI score and being female were independent variables for the re-hospitalization of patients with schizophrenia in our study.

Special attention should be paid to attitudes and insights of patients with schizophrenia when evaluating their illness.

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