Original Article

Factors Associated With Premature Discharge of Patients With Psychosis Against Medical Advice

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Objective: This study was conducted to identify the characteristics of patients with psychosis who had escaped from hospital or were discharged prematurely and against medical advice.
Method: We carried out this retrospective study on 72 patients with psychosis who were discharged prematurely over a 38-month period and compared them to 76 patients with psychosis who were discharged according to the physician's order, as the control group. In addition to the demographic factors, we assessed the following: the patient's and their care giver's level of education, in hospital stay, suicidal idea and attempt, smoking, substance abuse, psychiatric diagnosis, arrest record, imprisonment, positive history of psychiatric disorder in the first degree family members, first episode of psychosis, admission with police assistance, unemployment, and escape history (from hospital, school, military service, home, work and prison).
Results: The two groups of patients were comparable in regard to two factors: the in hospital stay, and a positive history of escape. The latter was defined as leaving home, quitting work, escaping from school and military service, and a positive history of escape from hospital.
Conclusion: Irregular discharge of patients with psychosis seems to be predictable by their positive escape history, and therefore preventable. Irregular discharge is more likely in the first few days of hospital admission. There is also a great tendency towards irregular discharge when in hospital stay gets long.
Keywords:
Consent forms, Hospitalization, Irregular, Patient discharge, Psychotic disorders

Iran J Psychiatry 2006; 27-30

It has not been long since great research interest has been focused on prevention in psychiatric care units (1-3). Now, it is taken for granted that regular risk assessments of a psychotic patient should be undertaken and the results communicated promptly to other staff members and caregivers involved in patient management. One of the most important risks is premature discharge (4) also referred to as unplanned (5) or irregular (6) discharge. This includes both against medical advice (AMA) discharge and absent without leave (AWOL) discharge. The most common risk factors for discharge against medical advice (AMA) are male sex (7,8) juvenile patient (7-10) prior psychiatric treatment (l0,11)or admission, and substance abuse (7). Emergency admission (8), in hospital stay of three days or less (8), a diagnosis of personality disorder or schizophrenia (8), not living with family (10), length of stay (11), time of discharge(11), and the attending physician (11), Juvenile court involvement (12), unsupportive family attitude towards treatment 12, and a diagnosis of conduct disorder (l2) have also been mentioned to be determining factors for AMA discharge in patients with psychosis. Furthermore, a lack of primary care physician (13) and previous AMA discharges have been significantly associated with leaving AMA (13).
The concept of irregular discharge of patients with psychosis is a controversial issue and more studies are needed. Moreover, patients with both AMA and AWOL discharges utilized a significant amount of hospital resources and have an adverse effect on ward milieu (4), whether or not these patients' outcomes were the same as regularly discharged patients (6).

Material and Methods

In this retrospective study 72 patients with psychosis who had been discharged irregularly were compared with 76 patients with psychosis who had been discharged according to their physician's order, as the control group. All the subjects met the Diagnostic and Statistical Manual of Mental Disorders 4th edition (14) criteria for one kind of disorder with psychotic symptoms including: schizophrenia, other psychotic disorders and mood disorders with psychotic features. Over a 38-month period from April 1998 to May 2001, all patients with psychosis that were admitted to Roozbeh

Table 1. Effect of different variable on irregular discharge of patients with psychosis that were admitted to Roozbeh Hospital

			90% comfidence interval for OR				Omitting the effect of hospital days	
Variabie	Chi-square	p-value	OR	Lower limit	Upper limit	The ratio in computation of OR	Chi-square	p-value
Scjozp[jremoa diagnopsis sis	0.035	0.85	0.06	0.56	2.03	Schizophrenia/non schizophrenia	0.53	0.47
Sex	2.7	0.1	1.8	0.89	3.46	Female/ married	0.16	0.69
Marital status	0.99	0.32	0.39	0.73	2.65	Single/ married	0.01	0.32
Way of attending the hospital	0.15	0.7	0.21	0.45	3.27	Police coordination/family coordination	0.08	0.77
Patiant's education	0.89	0.35	1.42	0.69	2.94	Diploma &higher/under diploma	0.59	0.44
Employment	0.17	0.68	1.15	0.59	2.26	Yes/no	1.08	0.30
Suicidal ideation	2.71	0.1	2.04	0.86	4.82	Yes/no	2.72	0.10
Suicidal attempt	1.79	0.18	1.68	0.78	3.58	Yes/no	1.95	0.16
Cigarette smoking	0.07	0.8	1.09	0.56	2.12	Yes/no	3.30	0.07
Opium addiction	4.71	0.03	2.43	1.08	5.51	Yes/no	4.77	0.03
Heroin addiction	1.53	0.22	2.76	0.52	14.71	Yes/no	0.77	0.38
Canbis addictiln	3.72	0.054	2.43	0.97	6.09	Yes/no	2.91	0.09
Alchohol drinking	4.22	0.04	2.82	1.02	7.79	Yes/no	3.79	0.52
Escape history	5.96	0.02	2.86	1.20	6.81	Yes/no	4.74	0.03
Education of the closest caregiver	0.05	0.82	0.91	0.42	2.00	Yes/no	0.47	0.49
Income	0.12	0.73	1.14	0.55	2.33	Yes/no	0.03	0.86
First episode of psychosis	3.8	0.051	1.94	0.99	3.79	Yes/no	0.01	0.93
Arrest record	0.58	0.45	1.34	0.63	2.82	Yes/no	1.92	0.17
Imprisonment	2.32	0.13	2.05	0.80	5.24	Yes/no	3.05	0.08
Psychiatric diseases in the first grade family members	0.18	0.67	0.87	0.45	1.69	Yes/no	1.03	0.31

Psychiatric Hospital (Tehran, Iran), and had been discharged irregularly were included. Irregular discharge includes both against medical advice discharge and absent without leave discharge. Cases and controls were matched for their date of admission so that the controls were selected from the closest admissions possible. Four cases got two control matches, as they were both admitted at the same time.

We used a questionnaire to collect patient information from the patient charts. When data was lacking, interviews with patients or their caregivers were performed. In addition to the demographic factors, we assessed the following: patient's and their care giver's level of education, in hospital stay, suicidal idea and attempt, smoking, alcohol use, drug abuse (heroin, cannabis, opium), psychiatric diagnosis, arrest record, imprisonment, positive history of psychiatric disorder in the first degree family members, first episode of psychosis, admission with police assistance, unemployment, and escape history (from hospital, school, military service, home, work and prison).

Only the patients who drank regularly and at a dosage sufficient to make the diagnosis, were considered positive for alcohol use. Migraine and epilepsy were not counted as positive psychiatric family history.

The chi-square test, logistic regression analysis, Mantel-Hanzel chi-square test and the computation of odds ratio and confidence interval were used for data analysis using SPSS. A saturated model was used for omitting the confounders (15).

Results

Twenty-five percent of cases and 37% of the control group were males. Forty-four percent of the former group

and 47 % of the latter were single. Within the case group, 13 patients had escaped AWOL while 59 were discharged AMA subsequent to their families' signed consent.. First, we examined the effects of different variables on premature discharge (Table 1) and noticed that opium and alcohol use, and a positive escape history had a significant impact on irregular discharges ($p<0.05$). Other variables had no statistically significant effect.

As we assumed that in hospital stay might be a confounding factor, we divided the patients into four subgroups regarding their in hospital stay: 0 to 10 days, 11 to 30 days, 31 to 50 days and more than 50 days. By using Mantel-Hanzel test, and omitting the hospital stay variable, only opium abuse and a positive escape history (Table 1) had a remarkable association with premature discharge ($p<0.05$).

In order to examine the effects of all qualitative variables on premature discharge, we used the logistic regression model, backward type, and found that only a positive escape history and the first episode of psychosis had a significant relationship with a premature discharge (Table 2).

Table 2. Logistic regression test test for factors associated with irregular discharge

Variable	beta	p-value	exp(beta)	lower limit	upper limit
escape history	1.247	0.007	3.481	1.417	8.547
first episode of psychosis	0.847	0.018	2.334	1.158	4.705
constant	-0.627	0.012	0.535		

Table 3. Complete Saturated Model Model used for omitting the confounders

variable	beta	p-value	exp(beta)	lower limit	upper limit
escape history	1.1743	3.236	0.33	1.098	9.54
hospital days	-0.792	0.0001	0.9239	0.901	0.948
constant	2.005	0.0001			

Finally, in a complete logistic regression model, considering all qualitative and quantitative variables, we noticed that the positive escape history and a long in hospital stay were the major risk factors for a premature discharge (Table 3).

Discussion

The first step of data analysis showed that opium and alcohol use, and a positive escape history were the risk factors for irregular discharge. There are some studies in support of this finding that opium addiction (16) or substance abuse in general (5,7) and alcoholism (16) increase the risk of irregular discharge. It seems that when the patients have the tendency to use opium or alcohol; they are unwilling to stay in hospital, as the hospital stay makes it difficult for them to obtain these substances. Yet, to answer why this does not hold true for heroin or cannabis requires further study. In conducting logistic regression on qualitative variables, which indeed was the most precise part of our analysis, the relevant variables to premature discharge were the positive escape history and the first episode of psychosis. This may be due to the fact that patients with the first episode of psychosis are not so familiar with the hospital environment and they or their families keep resisting the stay. However, some conversely claim that a prior psychiatric treatment is a risk factor for irregular discharge (11). We also assumed that a positive escape history could potentially repeat the behavior. So, we have to pay especial attention to patients in their first episode of psychosis or with a positive escape history. In our final analysis, we conducted logistic regression for both qualitative and quantitative variables and found that a positive escape history and the first few days of hospitalization were significantly relevant to a premature discharge. It seems that the more precise the analysis gets, the positive escape history variable keeps being effective on irregular discharge. The positive escape history was an original variable, being considered individually in our study. We propose that it is necessary to conduct further studies in order to see if this is reproducible. as Also, patient characteristics that leads to escape should be described.

In addition, the first ten days of hospitalization were considered a risk factor for irregular discharge. Also, In some previous studies the first 3 days 8, or the first 20 days (5) of hospitalization were found to affect the irregular discharge.

Our study did not reproduce the results of other studies on male sex (7,8) and juvenile patients (7-10) as risk factors for a premature discharge. We attribute this to the feasibility of rule of discharge in our hospital, which makes irregular discharge needless of having any special character. In our study the education level of the patient or their primary care giver did not affect their premature discharges. However, there is a study that states an association between patients' low level of education and a premature discharge. In another study (12) having an unsupportive family attitude toward treatment was associated with irregular discharge, but the retrospective essence of our study was a limitation to assess how unsupportive the family had been.

In our study the suicidal attempt, the suicidal ideas, arrest records, and being in prison had no association with a premature discharge. There are some studies showing association of the court involvement and irregular discharge (l2), or the association of having no arrest record and completing the hospital program (9). It is possible that because of social restraints, caregivers tend to conceal the history of arrest or imprisonment.

The role of intelligence (10), personality (5,16) or character disorders (8) and conduct disorders (12) have been reported; but due to the retrospective methodology of our study, we could not assess such factors. Prospective studies to assess such features of patients with psychosis who experience a premature discharge seem necessary.

Some propose that differences in hospital settings, client population and therapist variety (l1) might be the cause of differences between the risk factors of a premature discharge in different studies.

We know irregularly discharged patients utilize a significant portion of hospital resources and have an adverse effect on ward milieu (4). Therefore the best intervention to reduce such resource loss is preventing irregular discharges. To improve the discharge pattern, firstly we have to amend the patients' attitude towards hospitalization in a psychiatric hospital. It is shown that patients who believe that they themselves have terminated treatment judge the hospital in a more negative light (17). Secondly, we have to control staff behavior that actively or passively persuades the patients to leave the hospital (5, 7). Thirdly, we have to identify the patients having the risk factors of a premature discharge. Therefore, we have to give great attention to patients with psychosis who have a positive escape history, the patients with psychosis in their first ten days of hospitalization and those who experience their first episode of psychosis. By taking these items into account, we might be able to reduce the psychotic irregular discharge rates.

Acknowledgement

Valuable advice of Dr. A.A. Nejatisafa is gratefully acknowledged.

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