Substance Use Among Psychiatric Inpatients and Distribution According to Disorders: A Retrospective Study

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ÖZET

Yatan psikiyatri hastalarında madde kullanımı ve hastalıklara göre dağılımı: Retrospektif bir çalışma

Amaç: Madde kullanım bozuklukları psikiyatrinin gün geçtikçe dikkati daha fazla çeken konularından biri olmaktadır. Psikiyatrik bozukluğu olan hastalarda da madde kullanımı dikkat çeken özelliktedir. Bu çalışmada, yatarak tedavi gören hastalarda madde kullanım oranları ve psikiyatrik hastalıklarla ilişkisinin gözden geçirilmesi amaçlanmaktadır.

Yöntem: Bu çalışma, Ocak 2007-Şubat 2009 tarihleri arasında Sağlık Bakanlığı Erenköy Ruh ve Sinir Hastalıkları Eğitim Araştırma Hastanesi Psikiyatri Kliniklerine yatarak tedavi görmüş olan 5524 hastanın dosyası incelenerek yapılmış retrospektif bir çalışmadır.

Bulgular: 5524 hasta'dan 203'ünün (%3.7) hayatının herhangi bir döneminde madde kullanmış olduğu tespit edildi. Madde kullanan hastalarda kötüye kullanım %22.2, bağımlılık %15.8 oranında iken, kullanan fakat tanı almayanlar ise %18.7 oranındaydı. Hayatı boyunca birkaç kez kullananların oranı %13.3, uzun süreli kullanıp bıraktığını söyleyenlerin oranı %30.0 idi. Tüm yatan hastalarda madde kullananların tanılarına bakıldığında, en yüksek madde kullanma oranlarının, sırasıyla, kısa psikotik bozukluk (%5.9), başka türlü adlandırılamayan psikotik bozukluğu (%3.9), bipolar afektif bozukluk (%3.5), şizofreni (%3.2), şizoafektif bozukluk (%2.6), depresif bozukluklar (%1.5), anksiyete bozuklukları (%1.2) olduğu saptanmıştır. En çok kullanılan maddenin ise esrar olduğu görülmüştür.

Sonuç: Hasta grubunda madde kullanım oranları beklenenden düşük bulunmuştur. En yüksek oranlar psikotik bozukluklar ve bipolar bozuklukta görülürken, sonuçlarımız, başlangıçtaki psikiyatrik görünüme sonradan eklenmiş madde kullanımı hipotezini desteklemektedir.

Anahtar kelimeler: Madde kullanım bozukluğu, eş tanı, yatan hasta

ABSTRACT

Substance use among psychiatric inpatients and distribution according to disorders: a retrospective study

Objective: Substance abuse (SA) is an important issue that attracts more and more attention in the psychiatric area. It is also important that substance misusing take place in psychiatric patients. This study was performed to evaluate substance abuse ratio of inpatients and its relation with psychiatric manifestation.

Method: This was a retrospective study evaluating files of all inpatients treated between January 2007 and February 2009 in Sağlık Bakanlığı Erenköy Mental Health Research and Training Hospital in the psychiatric wards.

Results: A total of 5524 inpatients were evaluated. It was detected that 203 patients (3.7%) had abused a substance in their life period. Among the SA group, 22.2% were diagnosed as having abuse, 15.8% as dependency, and 18.7% had no diagnosis although they were using substance. According to patients in the remaining group, 13.3% of them used rarely and were not active, and 30% of them believed they were in remission. When the SA ratio of all inpatients according to their psychiatric disorders was investigated, it was found that 5.9% were brief psychotic disorder, 3.9% psychotic disorder not otherwise specified, 3.5% bipolar disorder, 3.2% schizophrenia, 2.6% schizoaffective disorder, 1.5% depressive disorder, and 1.2% anxiety disorder. The most commonly used substance was cannabis.

Conclusions: It was found that the ratio of substance abuse was unexpectedly low among psychiatric inpatients. Our results showed that SA was most frequent among patients with psychotic and affective disorder. These results support also the model of primary mental illness with substance abuse at least in psychiatric wards.

Key words: Substance abuse, co-morbidity, inpatients

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INTRODUCTION

Substance abuse (SA) is an important issue in psychiatry, as such abuse is becoming more and more widespread. Psychoactive substance abuse is considered a significant public health issue in our country, as well as worldwide, due to the problems it causes. Substance abuse is on the rise in particular

among youth (1). A nationwide study carried out in 2003 with the support of the United Nations Office on Drugs and Crime revealed that 6.0 percent of the population engaged in substance use, 5.1 percent in cannabis use, 5.2 percent in volatile substance use, 3.2 percent in ecstasy use, and 2.8 percent in heroin use (2).

The high rate of substance abuse among psychiatric patients shows that understanding the problem is as difficult as solving it. In general, when patients with a psychiatric disorder are compared with the overall population, their SA ratio is much higher (3). Studies that examine the rate of SA co-morbidity among psychiatric patients show current alcohol and substance abuse in almost half of psychiatric inpatients (4–9). In a study on psychotic disorder patients who had had their first episode, the rate of non-alcohol substance abuse for one year among the patients was 19.5 percent (10). Another study found 53 percent of psychiatric inpatients reported lifelong cannabis abuse, 25 percent reported cocaine abuse, and 20 percent opiate abuse, while an analysis of ongoing substance abuse among psychiatric inpatients indicated that the rate of cannabis abuse was 17 percent (11).

Looking at the issue from another point of view, the rate of other psychiatric disorders among patients with psychoactive substance abuse or addiction is 2.7 times higher than in patients without SA (12).

The relation between psychiatric diseases and substance abuse has not been sufficiently clarified. In their reviews, Lehman et al. (13) defined this relation as dual diagnosis and explained it in four points. First, individuals with psychiatric disorder may begin to abuse substances long after the onset of the psychiatric disease (primary mental illness with substance abuse). This condition may occur in relation to the self-medication of psychiatric symptoms and can be attributed to such factors as impaired judgment and social withdrawal caused by the disease. Second, the psychiatric disorder may occur as a result of primary substance abuse (substance abuse with psychiatric deficit). This condition is thought to occur as a result of intoxication or withdrawal. Although the existence of the problem after detoxification would lead one to believe that this diagnosis should be excluded, substance abuse, together with the influence of predispositions, may trigger the occurrence of a permanent psychiatric disorder. Third, and in contrast, the co-morbidity of psychiatric disorders and substance abuse may be coincidental (dual primary diagnosis). The two diseases may interact and increase the other's severity. Finally, psychiatric disorders and substance abuse may share a common etiology. This factor may be genetic and psychosocial. Some psychiatric disorders, such as major depressive disorder, bipolar affective disorder (BAD), schizophrenia, anxiety disorder, and antisocial personality disorder, have been associated with substance abuse, thus supporting the theory of common etiology (14).

When the psychiatric patients with comorbid SA are compared with psychiatric patients without SA, those with comorbid SA are associated with more negative outcomes (15,16). For instance, these patients are more likely to display aggression leading to crimes of violence and homicide (including attempted homicide). Additionally, SA comorbidity is associated with non-adherence to treatment, relapse, re-hospitalization, higher number of suicide attempts, greater stress for the caregiver, homelessness, and a higher rate of HIV infection (17-20). Another negative result of substance abuse is that situations leading to a loss of ability, such as high treatment costs, unemployment, financial problems, social isolation, and interpersonal discordance, are more frequent in the patient group with comorbid SA than in the patient group without SA (21–30).

Substance abuse is an important confounding factor, which directly or indirectly affects the psychiatric diagnosis, treatment, and prognosis of inpatients in psychiatric wards. A great number of studies have been carried out on this condition in inpatient groups, given its importance. We believe it may be important to replicate the results of previous studies and to obtain local information to clarify the nature of this co-morbidity. This study was performed to identify the rates of substance abuse and the demographic and clinical characteristics of inpatients treated in S.B. Erenköy through retrospective file evaluation.

METHOD

This was a retrospective study evaluating the files of all inpatients treated between January 2007 and February 2009 in the psychiatric wards of Ministry of Health Erenköy Mental Health and Neurology Training and Research Hospital.

Sample and Pattern of Study

Ministry of Health Erenköy Mental Health and Neurology Training and Research Hospital, where the study took place, provides service to a region covering the Anatolian side of Istanbul, Kocaeli, Sakarya, Yalova, Bilecik, and Eskişehir. Patients are hospitalized from outpatient clinic or emergency department. Inpatients are generally admitted through forced hospitalization by the emergency department for psychotic, manic or depressive episodes, and suicide risk. Since the hospital does not have a treatment unit for alcohol and substance dependency, when patients with an alcohol and substance abuse problem check in to the hospital, they are given assistance for the complaints

accompanying their addiction or are referred to other treatment centers for addictions. Thus while inpatients in this hospital may have substance addiction/abuse problem, they are expected to be hospitalized according to another group of criteria listed in Axis I of the DSM-IV –TR that requires forced hospitalization. This study screened 5,568 archival files of all the inpatients treated in the psychiatric wards from January 2007 to February 2009. Forty-four files were excluded from the evaluation for having incoherent or missing information. The diagnosis recorded as the reason for the patient's hospitalization was considered the primary diagnosis.

The files of the SA patients were evaluated according to information collected at the time of hospitalization. The SA patients were then divided into four groups as follows: a) those who were diagnosed with addcition, b) those had no Axis I diagnosis although they were using a substance, c) those who had used a substance before but stated they were in remission at the time of hospitalization, and d) those who used a substance rarely but were not active users.

The hospital used the DSM IV-TR diagnosis system, and Axis I and Axis II diagnoses were based on

Table 1: Distribution of psychiatric diagnosis within the entire group (Group T)

Group T (n=5524)	%	Diagnosis within the Cluster	%
Psychotic Disorders (n=2,352)	42.6	Schizophrenia (n=1,377)	24.9
		Schizoaffective Disorder (n=230)	4.2
		NOS Psychotic Disorders (n=587)	10.6
		Brief Psychotic Disorder (n=101)	1.8
		Delusional Disorder (n=57)	1.0
Mood Disorders (n=2,398)	43.4	Bipolar Affective Disorder (n=1370)	24.8
		Major Depressive Disorder (n=1028)	18.6
Alcohol and Substance Abuse (n=116)	2.1	Alcohol Abuse/Alcoholism (n=54)	1.0
		AI MBD (n=19)	0.3
		AI Psychotic Disorder (n=11)	0.2
		Substance-Induced Psychotic Disorder (n=23)	0.4
		Substance-Induced MBD (n=9)	0.2
Anxiety Disorders (n=167)	3.0	Obsessive Compulsive Disorder (n=57)	1.0
		Pervasive Anxiety Disorder (n=9)	0.2
		Posttraumatic Stress Disorder (n=7)	0.1
		NOS Anxiety Disorders (n=94)	1.7
Others (n=491)	8.9	Dissociative Disorders (n=97)	1.8
		Mental Retardation (n=75)	1.4
		Personality Disorders (n=70)	1.3
		Adjustment Disorders (n=40)	0.7
		Conduct Disorders (n=12)	0.2
		Somatoform Disorders (n=11)	0.2
		Organic Pathologies (n=117)	2.1
		Others (n=69)	1.3

NOS: Not Otherwise Specified, AI: Alcohol-Induced, MBD: Mental and Behavioral Disorder

Table 2: Demographic and clinical characteristics of the group (Group M) with substance use in their file records

Group M (n=203)

Age (Average year ± sd)	31.9±9.7
Gender (Male/Female, Male)	184/19 (90.6%)
Duration of education (Average year ± sd)	7.9±4.5
Marital status (Single, Married, Other)	70.0%, 22.7%, 7.3%
Duration of disease	7.3±6.4
Duration of substance abuse	6.9±7.4
Number of hospitalizations	4.0±4.5

SD: Standard deviation

anamnesis from the patients and their relatives along with clinical evaluations. The patients' diagnoses, however, were codified according to the ICD-10 diagnosis system used by the Ministry of Health. In ICD-10, patients diagnosed with psychotic disorders such as inorganic psychosis and organic-schizophrenia like psychosis were included under the group of not-otherwise-specified (NOS) psychotic disorders.

Statistical Analysis

The SPSS 9.0 software package was used for the statistical evaluation of data obtained from this study. Demographic data (age and length of education) and clinical data (duration of disease, duration of substance abuse, and number of hospitalizations) were shown with average and standard deviation. The SA rates, the distribution of psychiatric diagnoses within the substance abusers, and the distribution of SA rates within the psychiatric diagnoses were obtained via descriptive statistics.

RESULTS

The records of 5,524 inpatients were reviewed through retrospective file scanning. The diagnosis distribution of the group comprising all patients (Group A) is shown in Table 1. As a result of the review, 203 inpatients (3.7%) were found to have abused a substance at some point in their life. This SA group (Group S) was evaluated separately. Table 2 provides both their socio-demographic characteristics such as age, gender, educational status, and marital status, and their clinical characteristics such as duration of disease, duration of substance abuse, and number of hospitalizations. The distribution of Group S according to diagnosis and their ratio to Group A are given in Table 3 to enable a comparison.

Among the SA group, 22.2 percent were diagnosed as being in a state of abuse, 15.8 percent as being in a state of addiction, and 18.7 percent had no diagnosis although they were using a substance. According to patients in the remaining group, 13.3 percent of them used a substance only rarely and were not active, and 30 percent of them believed they were in remission.

According to the results of the screening of records,

Table 3: Distribution of psychiatric diagnosis within the group (Group M) with substance use in their file records and its ratio to the entire group (Group T)

Group M (n=203)	%	Group M/Group T	
		203/5524	%3.7
Schizophrenia (n=44)	21.7%	44/1,377	3.2%
Schizoaffective Disorder (n=6)	3.0%	6/230	2.6%
NOS Psychotic Disorder (n=23)	11.3%	23/587	3.9%
Brief Psychotic Disorder (n=6)	3.0%	6/101	5.9%
Bipolar Affective Disorder (n=48)	23.6%	48/1,370	3.5%
Depressive Disorders (n=15)	7.4%	15/1,028	1.5%
MSU Psychotic Disorder (n=15)	7.4%		
MSU MBD (n=5)	2.5%		
VSI Psychotic Disorder (n=4)	2.0%		
VSI MBD (n=2)	1.0%		
CI Psychotic Disorder (n=4)	2.0%		
CI ZDB (n=2)	1.0%		
AI MBD (n=1)	0.5%		
Anxiety Disorders (n=2)	1.0%	2/167	1.2%
Others (n=26)	12.8%	26/491	5.3%

NOS: Not Otherwise Specified, MSU: Multiple Substance Use, MBD: Mental and Behavioral Disorder, VSI: Volatile Substance-Induced, CI: Cannabis-Induced, AI: Alcohol-Induced

Table 4: Distribution of the types of substance use within the psychiatric diagnosis

	Using	(%)	Abuse	(%)	Addicted	(%)	in Remission	(%)	Total	(%)
Schizophrenia	7	4.0	6	3.4	2	1.1	22	12.5	37	21.0
Schizoaffective Disorder	2	1.1	1	0.6	0		3	1.7	6	3.4
NOS Psychotic Disorder	2	1.1	6	3.4	5	2.8	8	4.5	21	11.9
Brief Psychotic Disorder	1	0.6	1	0.6	0		3	1.7	5	2.8
Bipolar Affective Disorder	13	7.4	8	4.5	5	2.8	14	8.0	40	22.7
Depressive Disorders	2	1.1	1	0.6	2	1.1	5	2.8	10	5.7
MSU Psychotic Disorder	4	2.3	6	3.4	5	2.8	0		15	8.5
MSU MBD	1	0.6	3	1.7	1	0.6	0		5	2.8
VSI Psychotic Disorder	1	0.6	1	0.6	2	1.1	0		4	2.3
VSI MBD	0		2	1.1	0		0		2	1.1
CI Psychotic Disorder	0		3	1.7	1	0.6	0		4	2.3
CI MBD	0		1	0.6	1	0.6	0		2	1.1
AI MBD	0		1	0.6	0		0		1	0.6
Anxiety Disorders	0		0		0		1	0.6	1	0.6
Others	5	2.8	5	2.8	8	4.5	5	2.8	23	13.1

NOS: Not Otherwise Specified, MSU: Multiple Substance Use, MBD: Mental and Behavioral Disorder, VSI: Volatile Substance-Induced, CI: Cannabis-Induced, AI: Alcohol-Induced

16.8 percent of SA patients had personality pathology, of which 8.9 percent had antisocial personality disorder, 5.0 percent borderline personality disorder, and 11.0 percent other personality disorders. The rate of personality pathology for the entire group was 1.3 percent (Table 1).

The results further revealed that 69.0 percent of SA patients used alcohol, of which 6.9 percent was diagnosed as abusing alcohol, and 5.4 percent as being addicted to alcohol.

Table 4 shows the SA diagnoses for each patient group, found in an analysis performed after 27 inpatients who used a substance only a few times (who were not diagnosed as substance abusers or who were not considered in remission and stated that they had used a substance in the past only for trial purposes) were excluded from the SA group. Eight inpatients had Axis I comorbidity, in addition to substance abuse (1 with mood disorder, 6 with anxiety disorder, 1 with other). When the substances used were examined, the most commonly used substances were cannabis (87.0%), ecstasy (31.3%), hallucinogens (23.9%), cocaine (10.8%), heroin (7.9%), and volatile substances (4.9%), respectively. Thirty-two inpatients (18.2%) had mixed substance abuse.

DISCUSSION

A review of the records of 5,524 inpatients treated in the psychiatric wards at Ministry of Health Erenköy Mental Health and Neurology Training and Research Hospital from January 2007 to February 2009 revealed that 3.7 percent of patients had abused a substance at some point in their life, of which 15.8 percent were diagnosed as being in a situation of dependency, 22.2 percent of abuse, 18.7 percent had no diagnosis although they were using a substance, 30.0 percent were in remission, and 13.3 percent had used a substance only a few times in their life. When the diagnosis distribution of the SA group was examined, it was found that psychotic patients made up the majority of the group, followed by BAD patients. When the records for all inpatients and SA inpatients were analyzed according to their diagnosis, the diagnostic groups with the highest SA rate were found to be brief psychotic disorder (5.9%), NOS psychotic disorder (3.9%), BAD (3.5%), schizophrenia (3.2%), schizoaffective disorder (2.6%), mood disorders (1.5%), and anxiety disorders (1.2%), respectively. In the non-SA patient group, the rate of patients with SA was 5.3 percent.

When the average age was evaluated, the patients were seen to be in the young adult age group. Our study group was composed predominantly of single male patients, similar to the literature (11,31). The most commonly used substance was found to be cannabis, again consistent with the literature (9,11,14).

The average number of hospitalizations among patients in our study was 4.4. The fact that the number

of hospitalizations of SA patients was higher than that of the patients without SA had been previously seen in the literature (32). That this is a recurrent finding in chronic psychiatric patients underscores its importance.

When the studies on SA rates in inpatients with psychiatric disease were examined, our results were very low in comparison (9,11,13). While the review articles of Lehman et al. (13) make a reference to the ECA study which shows the SA rate to be between 15 and 18 percent, they also underlined that the presence of psychiatric disorder is higher in SA patients and that psychiatric disorders are associated with a higher presence of substance abuse. Weich and Pienaar (9) carried out a descriptive prevalence study on inpatients in South Africa, with a similar method to that used in our study, and found that the comorbidity rate of psychiatric disease with substance abuse/dependency (in contrast to our study, this included alcohol) was 51 percent. In another study with similar pattern, Bonsack et al. (11) showed that the highest comorbidity rate in psychiatric inpatients was with alcohol abuse, followed by cannabis abuse (17%). The lower SA rates seen in our study compared to the literature could be attributable to the fact that patients with primary SA disorders did not seek admission to the hospital evaluated, since it did not have a treatment unit for dependency/abuse, or to the fact that those were referred to other centers, and that the hospital generally provides care to acute psychiatric patients. Our group might be the group that Lehman et al. defined as having "primary mental illness with substance abuse." The fact that the duration of psychiatric disease was longer than that of the substance abuse supports this opinion. On the other hand, considering the retrospective quality of the study, low SA rates might have resulted from the fact that physicians were not insistent on this issue while collecting information from patients and their relatives and/or that the patients tended to hide their substance abuse.

When the diagnostic distribution of SA patients was examined, the highest rate was in psychotic disorder and BAD patients. This result was in line with the literature (7,9). When the diagnostic distribution of SA patients was evaluated, psychotic disorders ranked first, and BAD patients ranked second, constituting 23.6 percent of the SA group. Other studies carried out on SA patients showed that 29 to 33 percent of them were diagnosed as having BAD (33–34). Since an important part of our study group was composed of psychotic disorder and BAD patients, this was an expected result.

When the SA rates were examined by diagnosis, brief psychotic disorder had the highest rate. This is likely a psychotic result of substance abuse, in other words, the second cluster defined by Lehman et al. (13) - substance abuse with psychiatric sequelae. The fact that patients diagnosed as having brief psychotic disorder had higher rate of substance abuse might be considered as a finding pointing to the etiologic relationship. When this finding is interpreted, attention must be paid to the possibility that physicians may investigate substance abuse more profoundly to explain this relationship. Previous studies found the lifelong SA rate to be 37 percent to 50 percent in psychotic patients (9,11,13,14). A study performed in Turkey showed that the SA rate in schizophrenic patients was 2 percent (35). Research on substance use in schizophrenia showed that while stimulant-type substance abuse was four times higher among schizophrenics than that of the overall population, cannabis and alcohol abuse (the most commonly used) was much higher. Since these rates resemble other psychiatric diseases and the overall population, this was considered to be connected not with the pharmacologic characteristic of the substance, but to its greater accessibility (36). In the non-SA patient group, the SA rate was again high. Although the patients in this group did not have psychotic and/or affective disorders and were in a relatively more temperate situation, the picture became more severe when substance abuse was added. While the importance of substance abuse in psychotic and affective disorders has been increasingly emphasized, our findings could possibly show that we should not forget the importance of this issue in other patient groups either.

The biggest limitation of this study was that since retrospective evaluation was used, the diagnoses were not made or excluded via interviews. To better understand the relationship between psychiatric disease and substance abuse, anticipatory/longitudinal studies must be designed for risk groups.

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