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Research / Araştırma

Psychiatric Comorbidity Among Inpatients in an Addiction Clinic and Its Association with The Process of Addiction

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ABSTRACT

Psychiatric comorbidity among inpatients in an addiction clinic and its association with the process of addiction

Objective: Epidemiological studies find a high comorbidity of other Axis I and Axis II disorders with substance use disorders among adults. This study examines comorbid Axis I and Axis II disorders in order to investigate their association with sociodemographic variables and relapse among inpatients diagnosed with substance use disorders.

Method: Of 403 inpatients hospitalized between January 2012 and December 2013 in an addiction clinic, 323 were enrolled in this retrospective study using their medical records and sociodemographic data. These patients were all diagnosed with alcohol and substance abuse/dependence according to DSM-IV TR by two different psychiatrists, and comorbidities were also diagnosed by two different psychiatrists.

Results: Among 323 inpatients with substance use disorder, 240 (74.3%) were diagnosed with another Axis I comorbidity and 238 (73.7%) had an Axis II disorder. No statistical difference was found between patients with and without an Axis I or Axis II comorbidity in terms of age, years of education, marital status, occupation, duration of drug use, rate of relapse in 6 months, and rate of dropout. Comorbidity of an Axis I and/or Axis II disorder raised the number of hospitalizations; comorbid Axis I disorder prolonged the duration of hospitalization, whereas Axis II disorder had an inverse effect. In addition, inpatients with an Axis II comorbidity had more legal issues and shorter duration until first use after treatment than inpatients without comorbidity.

Conclusion: Comorbidity of substance use disorders and other Axis I and Axis II disorders is very common. Patients with dual diagnose use health services more often and have more legal issues than patients with substance use disorders only. Comprehensive care and treatment are needed for dual-diagnosed patients.

Keywords: Addiction, Axis I, Axis II, comorbidity, substance use disorder

ÖZET

Özel bir bağımlılık merkezinde yatarak tedavi gören hastalarda psikiyatrik eş tanının bağımlılığın seyri ile ilişkisi

Amaç: Epidemiyolojik çalışmalar madde kullanım bozukluğu olan erişkinlerde diğer bir Eksen I ve Eksen II tanısının sıklıkla eştanı olarak bulunduğunu göstermektedir. Bu çalışma yatan madde kullanım bozukluğu hastalarında Eksen I ve Eksen II eştanılarının sosyodemografik değişkenler ile relaps arasındaki ilişkisini araştırmayı amaçlamaktadır.

Yöntem: Bu geriye dönük çalışmaya bir bağımlılık kliniğinde Ocak 2012-Aralık 2013 tarihleri arasında ardışık olarak yatarak tedavi gören 403 hasta içerisinden 323'ünün tıbbi kayıtları ve sosyodemografik verileri alınmıştır. Hastalar iki ayrı psikiyatrist tarafından değerlendirilerek DSM IV-TR'ye göre alkol ve madde kötüye kullanımı/bağımlılığı tanıları almışlar ve yine eştanılar da iki ayrı psikiyatri uzmanınca DSM-IV TR'ye göre konmuştur.

Bulgular: Madde kullanım bozukluğu olan 323 hastanın 240'ında (%74.3) diğer bir Eksen I, 238'inde bir Eksen II (%73.7) tanısı bulunmakta idi. Eksen I ya da Eksen II eş tanısı olan ve olmayan hastalar arasında yaş, eğitim durumu, medeni durum, çalışma durumu, madde kullanım süresi, 6 aylık relaps ve tedaviden kopma oranları arasında fark yoktu. Eksen I ya da Eksen II eş tanısı yatış sayısını artırmakta idi, Eksen I eş tanısı yatış süresini uzatırken Eksen II eş tanısı tersine etki etti. Ayrıca Eksen II eştanısı olan hastalarda yasal sorun yaşama ve tedavi sonrası yeniden madde kullanımına kadar geçen sürede kısalma eştanısı olmayanlara göre daha sıktı.

Sonuç: Madde kullanım bozukluklarında diğer bir Eksen I ve Eksen II eş tanısı oldukça sıktır. İkili tanısı olan hastaların yalnızca madde kullanım bozuklukları olanlara göre sağlık hizmetlerini daha sık kullandıkları ve daha fazla yasal sorun yaşadıkları söylenebilir. İkili tanısı olan hastaların kapsamlı bakım ve tedaviye ihtiyaçları vardır.

Anahtar kelimeler: Bağımlılık, Eksen I, Eksen II, eştanı, madde kullanım bozukluğu

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INTRODUCTION

Psychiatric comorbidity in substance use refers to the presence of at least one further psychiatric disorder in individuals with a diagnosis of substance use disorder; it is also known as "dual diagnosis". It is known that in cases of substance use disorder with psychiatric comorbidity, clinical presentation and symptoms are more severe than in patients diagnosed with either substance abuse disorder or another psychiatric disorder only. These cases present more frequently to emergency services (1), a higher proportion of them is unemployed (2), and they more often suffer from legal problems (3-5). At the same time, it has been reported that these patients are more prone to suffering relapses from present diseases (6) and their compliance with treatment is poorer (7,8).

Kessler et al. (9) report in their studies that 45.0% of the participants suffered from two or more different psychiatric disorders. Similar epidemiological studies have shown a ratio of 15.0% for dual diagnoses in the general population, which in units dealing with mental health and addiction can reach more than 80.0% (10). In units treating substance use, it can be said that the most common comorbidities found with substance use disorders are borderline and antisocial personality disorders as well as bipolar, psychotic, depressive, and anxiety disorders (11).

Substance abuse is an independent risk factor for the development of a psychiatric illness (12). Along with a negative impact on the course of the disease, the loss of psychosocial status due to the illness can also increase substance abuse and trigger relapses (9). It is also known that comorbidities can change their places cyclically, substance use triggering psychiatric comorbidities and psychiatric diseases affecting substance use.

Studies in our country researching comorbidities of substance use disorders are mostly limited to alcohol use disorders (13,14) or examine usually only the co-presence of two diagnoses (15,16).

In clinical practice, managing comorbidities is an important issue. Identifying persons at risk and individualizing treatment models adequately are important procedures for the therapy of dual-diagnosed patients. The present study aims at researching the presence of psychiatric comorbidities in patients hospitalized with a diagnosis of alcohol and substance use disorder, including legal problems and effects on the progression of the addiction disease.

METHOD

This study is a retrospective patient record review. The research has been approved by Uskudar University's Non-interventional Clinical Ethics Committee on March 03, 2014 with decision number 3. Data for the study were obtained examining the medical records or 403 inpatients admitted between January 2012 and December 2013 to the Addiction Clinic of Istanbul Neuropsychiatric Hospital. Eighty patients were excluded because of insufficient or incomplete records. The center treats inpatient and outpatient, providing comprehensive pharmacological and non-pharmacological therapy. Patients with alcohol and substance use disorder are generally admitted for a period of 2 to 4 weeks. In addition to pharmacological treatment and individual therapy, the clients are made to participate as a group in the "Cigarette, Alcohol and Substance Use Therapy Program (SAMBA)", consisting of 7 modules and 13 sessions, developed by Ogel et al. (17).

Determination of Participants

The data were retrieved as found in the reviewed records, categorized independently through two specialist psychiatrists' clinical interviews and family environment anamnesis according to DSM IV-TR; subsequently, diagnoses were confirmed by two consultant psychiatry professors. In all patients, at least one of the diagnoses alcohol/substance abuse or alcohol/substance addiction was present. As it had to be assumed that at the time of admission, potential withdrawal symptoms could mimic any kind of anxiety and depressive or psychotic disorder, the diagnoses were based upon results of repeated monitoring and assessment as confirmed at discharge. In this study, Axis II comorbidities only comprehend personality

disorders, and the diagnoses have been established with SCID-II. No mental retardation or organic mental disorders were found in any of the patients whose data has been used.

As there was only one case with a diagnosis of eating disorder alongside substance use disorder and depressive disorder among the participants, this isolated case in the study group was insufficient for a statistical analysis and hence excluded from the calculation.

In addition to the diagnostic data, information about details such as age, duration of education, marital and employment status, age at first substance use, duration of use, number of therapies, history of legal proceedings, family history, duration of hospitalization, period until first use after therapy, and full relapse history found in the patient records were included in the assessment.

First use and relapse (return to previous pattern of use) after discharge were established through self-report in patients followed up in the addiction outpatient clinic and through telephone calls for those who did not attend follow-up. Patients who despite reminders by phone for more than six months did not present to the policlinic were counted as having dropped out from follow-up.

Statistical Analysis

The collected data were entered into the statistical package SPSS version 15. Demographic data were given as mean, standard deviation and percentage. For the correlation between psychiatric comorbidities and demographic data, χ^2 test and t-test were applied. Statistical significance was set at a level of $p<0.05$.

RESULTS

Of the 323 patients included in the study, 35 (10.8%) were female, 288 (89.2%) male, with a mean age of 32.40±10.60 years. Of all patients, 168 (52.1%) were single, 120 (37.1%) married or widowed, 35 (10.8%) separated. Their average duration of education was 11.50±2.77 years. The patients' sociodemographic data and characteristics regarding substance use according to comorbid Axis diagnoses are presented in Table 1.

There was no significant difference in sociodemographic specifications such as age, marital status, employment status, duration of education, age at first use or in characteristics regarding addiction according to Axis I or Axis II comorbidity. Regarding duration and number of hospitalizations, those with

Table 1: Participants' sociodemographic data and characteristics of substance use

	Axis I comorbidity				Axis II comorbidity				Total
	Present (n=240)	Absent (n=83)	χ^2	p	Present (n=238)	Absent (n=85)	χ^2	p	(n=323)
Age (years)	32.80±10.50	31.20±11.10	1.75	0.23	32.04±10.20	33.50±11.80	2.1	0.2	32.40±10.60
Gender (n,%)									
Female	30 (85.7%)	5 (14.3%)	2.67	0.1	32 (91.4%)	3 (8.6%)			35 (10.8%)
Male	210 (72.9%)	78 (27.1%)			206 (71.5%)	82 (28.5%)	6.37	0.02*	120 (89.2%)
Marital status (n,%)									
Married/widowed	85 (35.4%)	35 (41.1%)	6.05	0.4	88 (36.9%)	32 (37.6%)			120 (37.1%)
Single	125 (52.08%)	43 (51.8%)			120 (42.4%)	48 (56.4%)	3.18	0.2	168 (52.1%)
Separated	30 (12.5%)	5 (6%)			30 (12.6%)	5 (5.9%)			35 (10.8%)
Employment status (n,%)									
Not working	133 (55.4%)	40 (48.2%)	1.29	0.5	124 (52.1%)	49 (57.6%)			173 (53.6%)
Regular employment	75 (31.3%)	30 (36.1%)			85 (35.7%)	20 (23.5%)	5.2	0.07	105 (32.5%)
Irregular employment	32 (13.3%)	13 (15.7%)			29 (12.2%)	16 (18.8%)			45 (13.9%)
Years of education	11.70±2.80	10.80±2.50	2	0.09	11.40±2.80	11.80±2.50	0.07	0.2	11.50±2.70
Age at first use	18.30±4.00	17.60±4.30	0.2	0.18	18.30±4.20	17.70±3.40	0.57	0.4	18.19±4.08
Years of use	10.50±8.60	9.60±8.40	0.5	0.4	10.02±8.02	11.20±9.80	3.6	0.06	10.30±8.50
Hospitalization (days)	23.03±22.70	18.20±11.20	4.84	0.01*	20.50±17.80	25.40±26.30	2.31	0.05	21.80±20.50
Number of hospitalizations	1.30±2.50	0.85±1.20	4.71	0.01*	1.37±2.40	0.87±1.80	4.2	0.04*	1.90±2.10

*Level of statistical significance $p<0.05$, χ^2: Chi-square test

Axis I comorbidity had longer, but less numerous hospitalizations than those without. Those with Axis II comorbidities, on the other hand, showed an increase in the number of hospitalizations with shorter duration compared to those without (p<0.05).

First among the substances used by the patients, together with alcohol, were cannabis and derivatives. Of the patients, 124 (38.4%) were found presenting with use of more than one substance at a time (multiple substance use). The number of persons who had at least once used synthetic cannabinoids such as Bonsai or Jamaica was 139 (43.0%). Table 2 shows the data regarding substances used by the participants.

Table 2: Distribution of participants according to substances used

	n (%)
Alcohol dependence	99 (30.7)
Addiction to cannabinoids and derivatives	74 (22.9)
Heroin addiction	16 (5.0)
Cocaine addiction	7 (2.2)
Solvent addiction	3 (0.9)
Multiple substance addiction	124 (38.4)

Table 3: Distribution of Axis I and Axis II diagnoses by participants

	n (%)
Axis I	
Absent	83 (25.7)
Depressive disorder	62 (19.2)
Psychotic disorder	70 (21.7)
Mood disorder – manic and mixed	91 (28.2)
Anxiety disorder	17 (5.3)
Axis II	
Absent	85 (26.3)
Cluster A	8 (2.5)
Cluster B	203 (62.8)
Cluster C	27 (8.4)

Of all patients, 240 (74.3%) were found to present with a comorbidity. The most commonly seen comorbidity was mood disorder (coded as manic or mixed-episode). This diagnosis was made in 91 (28.2%) of the participants. Next in line were psychotic and depressive disorders. Anxiety disorder comorbidity was found in 5.3% of the patients. When SCID-II was administered to the participants by the same specialist doctor, in 238 (73.3%) some measure of Axis II diagnosis was found. The most common Axis II diagnosis found in participants after alcohol and substance use disorder was cluster B (62.6%). Axis I and II comorbidities according to participants are shown in Table 3.

According to the participants' self-reporting, 124 (38.4%) had experienced legal problems during their lifetime, most commonly (n=59, 18.3%) suspended sentences for substance use; another 51 (15.8%) had a record for other minor offenses and 14 (4.3%) for major crimes. Regarding the correlation between patients' Axis I and Axis II diagnoses other than alcohol and substance use and legal proceedings, 85 of the 124 patients experiencing legal problems (68.5%) had another Axis I diagnosis (p=0.068), while 107 (86.3%) had an Axis II diagnosis, reaching a level of statistical significance (p<0.001).

Of the participants, 179 (54.4%) suffered a relapse within 6 months after therapy, while 132 (40.8%) did not present to the same center during the six months after therapy (dropout).

The average period until first substance use after therapy was 74.30±96.20 days. While the presence of Axis I comorbidity with alcohol and substance use disorder was not found to affect the time to renewed substance use, patients with Axis II comorbidity

Table 4: Correlation between Axis I and Axis II comorbidity and duration until resumption of substance use, relapse, and dropout from therapy

	Axis I comorbidity				Axis II comorbidity			
	Present	Absent	χ^2	p	Present	Absent	χ^2	p
Time to first use	72.60±88.20	77.03±114.50	0.3	0.24	58.60±68.30	99.04±133.70	17.2	0.04*
Relapse rate	126 (70.4%)	53 (29.6%)	2.16	0.157	134 (74.9%)	45 (25.1%)	0.38	0.57
Dropout	98 (74.2%)	34 (25.8%)	0.0	0.9	95 (72.0%)	37 (28.0%)	0.33	0.60

*Level of statistical significance p<0.05, χ^2: Chi-square test

resumed substance use within a significantly shorter period (p=0.04). Six months relapse rate and dropout rate did not show a statistically significant difference between patients with and without Axis I and Axis II comorbidity (Table 4).

DISCUSSION

In this study, which in the current literature has been the one with the largest number of inpatients diagnosed with substance or alcohol use to date, most of the patients were young adults, male, single or separated, without or in irregular employment, which is consistent with the data in the literature (18,19). While age at first substance use and duration of use were consistent with the data for our country, the fact that the number of years in education was higher than the national average may be accounted for by the collection of our sample in a private hospital (20).

The most commonly used substances among the participants were alcohol and cannabis. The fact that cannabis and its derivatives did not come in the first position may be explained by the chosen classification, where the category of multiple substance users also includes some cannabinoid users.

About 3 out of 4 patients show an Axis I or Axis II comorbidity. Oner et al. (13), looking only at alcohol use disorder patients, found Axis I comorbidity in 65.0% and Axis II comorbidity in 72.5% of the patients in their study. Craig and Dibuono (21) determined the presence of any Axis I or Axis II psychiatric comorbidities in 80.0% of patients referred for substance detoxification. Langas et al. (22) reported Axis I comorbidity in 85.0% and Axis II comorbidity in 49.0% of patients presenting for treatment of substance use disorder.

The most commonly observed Axis I diagnoses in patients hospitalized with substance use disorders are mood disorders, depressive disorders, and psychotic disorders. Nocon et al. (23) reported that among patients presenting for substance detoxification therapy, during their lifetime 40.9% had a diagnosis of any kind of mood disorder, 6.0% a diagnosis of psychotic disorder, and 16.5% any kind of anxiety disorder. Langas et al. (22) reported that among patients with substance use disorder, 75.0% showed comorbidity with any mood disorder, 50.0% with any anxiety disorder, and 5.0% with any psychotic disorder. The present study shows comorbidity rates for mood disorders and depressive disorders consistent with the literature, while anxiety disorder was found at a lower rate and psychotic disorder more frequently. In this study, while among the inpatients being treated for substance use, depressive and mood disorders related to the substance use were excluded and any psychotic disorder diagnosis and previously undiagnosed bipolar disorder manic attack diagnosis was made, substance-related psychotic disorders and substance-related manic attacks were not excluded. This situation may increase the comorbidity ratio of psychotic disorder and mood disorders. The differences in ratios found in frequency studies may be associated with differences in sample selection (gender, age, in-/outpatients), diagnostic criteria (current or during lifetime, exclusion of substance-related psychopathologies etc.), or diagnostic procedures (chosen diagnostic criteria).

The Axis II comorbidity rates found for substance use disorder patients in this study are consistent with the literature (22,23). Of the Axis II diagnoses accompanying substance use disorder, those of cluster B personality disorders are most common. Of the participants, 62.8% displayed a cluster B personality disorder. It is known that from among the cluster B personality disorders, substance use disorder is often accompanied by borderline personality disorder and antisocial personality disorder. These personality disorders are often associated with substance use because of clinical characteristics such as mood swings and impulsivity. Oner et al. (13) reported antisocial disorder in 37.5% and borderline personality disorders in 20.0% of alcohol addicts. In patients with substance use disorder, Axis II diagnoses are reported more frequently than in patients with alcohol use disorder (24). Fenton et al. (25) showed in monitoring studies carried out over three years that Axis I comorbidity was no predictor for the continuity of substance use, while antisocial, borderline and schizotypal personality disorders did predict continued substance use.

In our study, the number and duration of hospitalizations for substance use disorder treatment was significantly higher in patients with Axis I diagnosis compared to those without. Weich and Pienaar (26) reported that among inpatients admitted for therapy of mental diseases, those with comorbid substance use disorder showed a higher rate of non-compliance with treatment, relapse and re-hospitalization for treatment than those without comorbidity. It has been shown that compared to patients with only mental illness, dual-diagnosed patients are hospitalized three to four times more frequently, while compared to those with only substance use disorder, hospitalization rate is 10-20 times higher with dual diagnosis (27). The literature provides information stating that from the angle of substance use disorder, the risk for another psychiatric comorbidity is increased, the symptoms can be more resistant to treatment, and thus therapy can be more complex and difficult. Daley and Zuckoff (28) reported that among psychiatric patients with comorbid substance use disorder, dropout from treatment and need for re-hospitalization for treatment were higher than in those without comorbidity.

In this study, while an additional Axis II comorbidity did not change the number of hospitalizations for treatment of substance use disorder, it was found that the duration of hospitalization was significantly shorter than in patients without Axis II comorbidity. This may be thought to be due to the relation between the frequently seen cluster B Axis II comorbidity with impulsivity and social adaptation problems.

Our study, based on patients' self-report and environmental anamnesis, found the frequency of experiencing legal problems to be 38.4%. While participants were mostly found to have had suspended sentences and records for minor offenses, 4.3% had shown serious criminal behavior. While the presence of an Axis I comorbidity did not lead to a significant change in legal issues, 86.3% of those who did experience legal problems had an Axis II diagnosis, and patients with an Axis II comorbidity had a significantly higher level of legal problems. The literature provides sufficient evidence for an increase in the frequency of legal problems in patients with substance use disorder and Axis II comorbidity. Toneatto et al. (29) reported in their studies that Axis I diagnoses accompanying substance use disorder do not change the frequency of legal convictions, while Axis II comorbidity increases the frequency of convictions. Ross et al. (30) pointed out that Axis II comorbidity in patients with substance use disorder is a factor increasing the frequency of legal problems before therapy. From a different point of view, it may not be the personality disorder but the addiction itself that increases the risk of legal problems (31). It is reasonable to assume that addiction and personality disorder, being quite often observed together, may independently from each other increase the risk of legal problems, but when occurring together, they could raise that risk even further. In order to make this distinction, an efficacious method will be to compare individuals with personality disorder not suffering from substance use disorder with those only suffering from substance use disorder and patients with dual diagnose.

In this study, the rate of relapse after 6 months was found to be 54.4%. The continuous and repetitive nature of addiction disease has been stated in the literature many times (32). The ratio of participants who during the first 6 months after therapy dropped out of the defined treatment without presenting again for therapy was found to be 40.8%. This study did not find any correlation between relapse and dropout from treatment and Axis I or Axis II comorbidity. It is known from the literature that substance use disorder is a disease characterized by a high rate of spontaneous treatment dropout (33). The average period between treatment and first substance use was 74.30±96.20 days (min. 1, max. 751 days). In our study, there was no difference in the period until first substance use according to the presence of Axis I diagnosis, but in patients with substance use disorder and Axis II comorbidity, the period until first substance use was found to be significantly shorter than in patients without Axis II comorbidity.

In conclusion, we find in our study that in inpatients treated for substance use disorder, Axis I and Axis II diagnosis are present in a high ratio; comorbidity increases the need for inpatient treatment, Axis I

comorbidity lengthens the period of hospitalization, while Axis II comorbidity has the opposite effect on the duration of hospitalization but reduces the period until resumption of substance use and increases the probability for those patients to experience legal problems.

It can be said that for these comorbid patients, multidisciplinary approaches directed at the multiple clinical characteristics in the psychopathological, medical and social environment can be effective. Given that these comorbid states are more common than thought, such a kind of approach is shown to be necessary.

There is still a number of unanswered questions regarding the therapy for these patients: Where should they be treated (in mental health clinics or in units treating addiction)? What kind of treatment policy should be applied to this group of patients?

Limitations of this study are its retrospective approach, an insufficient number of participants for generalizations to both genders, and the lack of including criteria for the severity of the disease. These missing areas can be illuminated by large-scale, comparative prospective studies assessing the effects of comorbidities on the severity of the disease in patients receiving treatment for addiction.

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