

Investigation of depression and agoraphobia as psychiatric comorbidity in epileptic patients

Epileptik hastalarda psikiyatrik komorbidite olarak depresyon ve agorafobinin araştırılması

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SUMMARY

Aim: Psychiatric comorbidity in epileptic patients is quite frequent. Our study was designed to investigate depression, anxiety, social phobia, agoraphobia in cases of epilepsy.

Materials and Methods: A total of 150 epileptic patients and 70 controls were randomly enrolled to study. Beck depression inventory (BDI), Liebowitz social phobia scale (LSPS) and Panic agoraphobia scale (PAS) were applied to groups.

Results: The mean age of the patients was 34 ± 10 years, the number of male-female was 56/94, whereas the control group's mean age was 33 ± 10 years, number of male-female was 29/41. The duration of disease was more than 10 years in 44.7% of patients and 60.67% was treated with monotherapy.

In the patient group, BDI was found to be 15.18 ± 12.25 and 10.87 ± 9.06 in the control group ($p = 0.0038$). There was no statistically significant difference between the groups in terms of LSPS. When the groups were evaluated according to PAS, agoraphobia findings were found in 29.33% of the patients and 24% of the control group ($p = 0.002$). The rate of agoraphobia was found to be 84% in females in the patient group.

Conclusion: Depression, social phobia, and agoraphobia complicate the management of epilepsy as psychiatric comorbidities.

Keywords: Epilepsy, depression, social phobia, agoraphobia

ÖZET

Amaç: Epileptik hastalarda psikiyatrik komorbiditeler oldukça sıktır. Çalışmamız epilepsi vakalarında depresyon, anksiyete, sosyal fobi, agorafobi araştırmak için tasarlanmıştır.

Materyal ve Metodlar: Toplam 150 epileptik hasta ve 70 kontrol çalışmaya rastgele kaydedildi. Gruplara Beck depresyon envanteri (BDI), Liebowitz sosyal fobi ölçeği (LSPS) ve Panik agorafobi ölçeği (PAS) uygulandı.

Bulgular: Hastaların ortalama yaşı 34 ± 10 yıl, erkek-kadın oranı 56/94, kontrol grubunun yaş ortalaması 33 ± 10 yıl, erkek-kadın sayısı 29/41 idi. Hastaların % 44.7'sinde hastalık süresi 10 yıldan fazlaydı ve % 60.67'si monoterapi almaktaydı. Hasta grubunda BDI 15.18 ± 12.25 , kontrol grubunda 10.87 ± 9.06 bulunmuştur ($p = 0.0038$). LSPS açısından gruplar arasında istatistiksel olarak anlamlı farklılık saptanmamıştır. Gruplar PAS'a göre değerlendirildiğinde, hastaların % 29.33'ünde, kontrol grubunun % 24'ünde agorafobi bulguları saptanmıştır ($p = 0.002$). Agorafobi oranı hasta grubunda kadınlarda % 84 olarak bulunmuştur.

Sonuç: Psikiyatrik komorbidite olarak depresyon, sosyal fobi ve agorafobi epilepsi hastalığının idamesini zorlaştırmaktadır.

Anahtar kelimeler: Epilepsi, depresyon, sosyal fobi, agorafobi.

INTRODUCTION

Patients with epilepsy are affected by both the disease itself and the treatments given, and this affects the patient's quality of life in a negative way (1). The psychiatric disorders caused by epilepsy can be grouped into two main groups such as peri-ictal (preictal, ictal, postictal) and inter-ictal. Inter-ictal psychiatric disorders such as anxiety, phobia, mood disorders, and psychosis are more often (2).

In this study, we evaluated the frequency of psychiatric comorbidities in epileptic patients and we selected depression, anxiety, and agoraphobia as psychiatric comorbidities.

MATERIALS AND METHODS

Patient Selection

The study group contains 150 patients with epilepsy who were followed up in the outpatient clinic and diagnosed with epilepsy (ICD Code: G40) regardless of seizure type. Inclusion criteria of the study are as follows: being 18-60 years of age, and been followed up at the clinic for at least 6 months. Patients who have had epileptic seizures for various reasons were excluded from the study. The control group consisted of 70 healthy volunteers with similar age, gender, and educational status as the patient group.

The study was approved by the Local Ethics Committee (protocol no. 09.2015.195). Neuropsychological assessment was determined using the Beck depression inventory (BDI), Liebowitz social phobia scale (LSPS), and Panic agoraphobia scale (PAS). The total score of BDI ranges from 0 to 63. It is accepted as no depression between 0-9 points, mild depression 10-16 points, borderline depression 17-20 points, moderate depression 21-30 points, severe depression 31-40 points, and extreme depression over 40 points (3).

LSPS measures the level of anxiety and avoidance in social life; PAS detects panic disorder. The LSPS consists of 24 items, it is evaluated as moderate social phobia 55-64 points, significant social phobia 65-79 points, severe social phobia 80-95 points, very severe social phobia over 95 points (4). PAS contains a total of 14 questions. The titles and the number of questions covered are respectively; Title A: panic attacks and their features (3 + 1), Title B: agoraphobia (7) avoidance behavior (3), Title C: anticipation anxiety (2), Title D: loss of power (3), Title E: organic disease belief (2) were used for weekly evaluation of clinical trials (5).

Statistical analysis

Distributions of continuous variables are reported as means and standard deviations and were evaluated by Student T-test. Discrete variables are reported as a percentage of the total and were evaluated by the Chi-squared test. Pearson and Spearman correlation tests were used in examining the relationships between variables. A p-value <0.05 was considered statistically significant. The analysis was performed with R statistical software program (6,7).

RESULTS

A total of 150 patients (male/female: 56 / 94, mean age: 34 ± 10 years) and 70 controls (male/female: 29/41, mean age: 33 ± 10 years) were enrolled in the study and there was no difference between the two groups in terms of gender and age. The disease duration was approximately 12 ± 9 years. According to education levels, the largest percentage has consisted of elementary school level in the patient and control group respectively, 35%, 37%. Seizures controlled by monotherapy were seen in 60.6 % of the patient's group. BDI scores were higher in the patient group than the control group ($p=0.0038$) (Table 1). There were no differences in the level of education and the BDI in the control group and patient's group ($p>0.05$). In the patient's group, BDI scores were found to decrease when the education level of patients increases (Table 2). No disease duration was found statistically related to BDI scores in the patient group. There was a weak negative correlation between age and BDI, when the age of the patient's increases, BDI decreases.

Table 1: Assessment of Patient and Control Group BDI.

	Patient Mean \pm SD	Control Mean \pm SD	p
BDI	15.18 \pm 12.25	10.87 \pm 9.06	0.0038

BDI: Beck depression inventory **SD:** standard deviation

Table 2: BDI Average and Standard Deviation Values According to Level of Education in Patient and Control Group

Education Level	Patient BDI (Mean \pm SD)	Control BDI (Mean \pm SD)
Literate	6,00 \pm 00,00	00,00
Primary school	16,73 \pm 12,49	10,80 \pm 11,40
Secondary school	15,90 \pm 12,49	11,40 \pm 8,11
High School	15,33 \pm 13,27	11,00 \pm 9,47
University	12,39 \pm 10,37	10,55 \pm 6,03

BDI: Beck depression inventory **SD:** standard deviation

There was no statistically significant difference between the patient and control group in terms of LSPS values ($p = 0.08$). There were no differences in the level of education, age, and gender in the LSPS of the control group and patients group. But in the patient group,

LSPS decreased as education level increased (Table 3). Agoraphobia was present in 29% (n = 44) in the patient group, 24% (n = 17) in the control group (p=0.002). The majority of people with agoraphobia have reported pa-nic attacks in closed areas. Among the enclosed areas, the most frequent were eleva-tor, tunnel, plane, subway, restaurant, ship caused panic attacks. In the open area ago-raphobia, walking in the street, crossing bridges, and being in high places were inclu-ded.

Table 3: LSPS Mean and Standard Deviation Values According to Education Level in Patient and Control Group

Education Level	Patient Mean ± SD	Control Mean ± SD
Literate	82±00,00	00,00
Primary school	89,59±27,98	88,15±22,87
Secondary school	85,09±21,01	90,83±24,33
High School	79,83±23,38	82,87±13,42
University	72,96±21,08	84,22±20,79
Total	82,46±24,85	86,24±20,49

LSPS: Liebowitz social phobia scale SD: standard deviation

DISCUSSION

Psychosocial problems in epileptic patients are more common than in the general po-pulation (8). Psychiatric comorbidity of epilepsy has been the subject of many studies (9,10,11). In epileptic patients, anxiety and phobic disorders, minor and major dep-ression, obsessive-compulsive disorder, bipolar affective disorder, and undifferentia-ted forms of schizophrenia may be associated with the disease (8). For this reason, the ILAE commission recommended that epilepsy patients should be evaluated with the conventional classification criteria in the psychiatric classification (12). The most common psychiatric symptom among epileptic patients is depression. Moreover, it has been reported that depression in epileptic patients is higher than in other chronic dise-ases (13,14). The sudden onset of seizures in epileptic patients causes the person to be unable to control himself, thereby causing him to lose respect and embarrassment, putting him in a situation described as learned helplessness, which causes depression to become inevitable by affecting his work and social environment (8,10,11,15). Many factors play a role in the development of depressive symptoms; uncontrollable seizures, unpredictability, stigma perception, co-occurrence with brain anomalies, degree of limbic system impairment, age of seizures onset, type and number of seizu-res, social support (15).

Data from community-based surveys report prevalence rates of depressive disorders in the range of 20-22% (16). In 30-50% of patients with refractory epilepsy,

major depression is seen, and it can affect the quality of life more than several seizures does (9). Gilliam et al. reported that the frequency of depression is 20-55% in patients with seizures, and 3-9% in patients without seizures (9). Suicide is among the causes of death in epileptic patients and is seen ten times more frequently than in the general population (9). We also found that depressive symptoms were present in 60% of the 150 epileptic patients, with 22.8 % mild psychiatric distress and BDI scores ranging from 10-16 points.

Studies on education made in Turkey showed that many epileptic patients with dep-ression had a low education level (8 years and lower) (15). We also found that the total score of BDI was higher in patients with low education levels (r=-0.112, p=0.020). In a large-scale study conducted in 2008, Xinjun Li et al. reported that 80% of epilepsy patients had high school and lower education (17).

We also investigated social phobia and agoraphobia. The total score of the LSPS was higher in the patient group, and there was no correlation between sex and type of seizure.

In 2013, Kutlu et al. made the first LSPS clinical trial of epilepsy patients in Turkey. They found no correlation between LSPS and age, duration of the disease, frequency of seizures, and type of seizures in their study group.

In our study, we divided the agoraphobia test into two parts as agoraphobia in an indoor and open environment. It resulted that more female patients had agoraphobia in the patient group. We found that agoraphobia was dominant in indoor environ-ments and this situation was independent of education. In the literature, we couldn't find any study done on this issue.

CONCLUSION

As a result, appropriate management of patients' care, drug compliance must be fol-lowed effectively to ensure adequate seizure control in patients. Depression, social phobia, and agoraphobia complicate the management of epilepsy as psychiatric co-morbidities. In epileptic patients, psychiatric problems should not be neglected. More comprehensive studies are needed on this subject.

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