

ORIGINAL ARTICLE

Frequency of Anxiety and Depression in Patients of Epilepsy

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ABSTRACT

Objective: Millions of people have epilepsy, which is a chronic condition that significantly increases mortality as well as morbidity. For numerous causes, anxiety in epilepsy is currently gaining attention. The objective of this study is to determine the frequency of anxiety and depression in patients suffering from epilepsy**Study design and Setting:** This was a cross sectional study. This study was conducted at Departments of Neurology and Psychiatry, Combined Military Hospital (CMH), Multan from March, 2023 to August 2023**Methodology:** Total 200 patients newly diagnosed patients of epilepsy with less than or equal to 06 months history of the disease. HADS (Urdu version) was used for assessment. HADS consists of 14 questions followed by four options that are on a continuum of severity/intensity of symptoms. Statistical Package for Social Sciences version 20 was used for the calculations**Results:** The finding showed that the mean age of all 200 patients was 31.20±6.97 years, 123(61.5%) male and 77(38.5%) female patients in the study. Based on the analysis, the hospital anxiety and depression scale there were 62(31%) patients who had depression and 47(23.5%) patients had anxiety**Conclusion:** The study concluded that, epilepsy sufferers had rather high levels of anxiety and depression. Health care professionals should pay close attention to screening, early detection, and proper therapy of depression and anxiety in persons with epilepsy.**Keywords:** Epilepsy, Anxiety, Depression

INTRODUCTION

Epilepsy has a strong association with psychiatric disorders. The prevalence of psychiatric disorders in patients of epilepsy has been found to be around 37.4%.¹ Psychiatric disorders are a relatively common sequelae of Epileptic illness irrespective of its type. Epidemiological research has shown that Anxiety disorders are twice as common in patients of epilepsy in comparison to the general population and it is one of the most disorder seen in patients of epilepsy.^{2,3} Over the last decade, it has been realized that co morbid psychiatric disorders must be identified with epileptic patients in order to achieve a holistic recovery and this holistic approach has shown a better recovery in patients with epilepsy with patients reporting a beneficial effect on their quality of life and better capability to cope with their chronic illness.⁴ In this regard recent study has shown that 1/3rd of the epileptic patients develop major depression, which must be identified early by the neurologists for better recovery.⁵ Apart from this, another study has shown that anxiety disorders (AD) are the second most frequent psychiatric co-morbidity in epileptic patients, but unfortunately they remain undiagnosed and untreated which can also lead to an increase in fits and seizures. Both depression and anxiety have a markedly negative impact on all aspects of life in these patients including their social, occupational and marital life.⁶ Studies have shown that people with epilepsy have a 2–5 times elevated risk of developing any psychiatric disorder, and one third of these patients develop a psychiatric illness. These psychiatric co morbidities are associated with a guarded prognosis and poor treatment response. It has been recommended that all patients with epilepsy should be routinely screened for psychiatric disorder at the onset and at least once a year.⁷ This would help identify the illness early which will eventually lead to adequate intervention on time which is likely to help the patient more and prevent any worsening of the patient's epilepsy which may be linked to his psychiatric disorder.

A systematic review looking into the prevalence of psychiatric disorders in epilepsy found a disparity in the prevalence of Anxiety and Depression⁸ which may be explained by cross-cultural differences in the study groups. Patients with higher frequency of seizures felt increasingly stigmatized which lead to worsening of their Depression.⁹ Interestingly it has been seen that

psychiatric symptoms and epilepsy tend to co-exist which may be related to the common localization of brain pathology or even the type of seizure.¹⁰ The common pathological mechanisms which may contribute to depression and anxiety with epilepsy include neuro inflammation with activation of microglia, a dysregulated hypothalamus pituitary adrenal (HPA) axis, impaired neuro genesis, decrease in BDNF levels and altered tryptophan metabolism.¹¹ Further details have shown that Depression and anxiety in epilepsy maybe due to an alteration in the circuits of the limbic pathways which may be the reason or result of epileptic pathology associated with emotional disturbances. In treatment resistant epilepsy, frequent fits and certain anti-epileptic drugs may impair the central emotional mechanisms of balance within the limbic pathways that may aggravate anxiety and depression in patients.¹² This shows that the temporal lobe can have a marked association with not only temporal lobe epilepsy but all types of epilepsy can effect the temporal lobe in the long run leading to psychiatric complications. This study is designed to determine the exact frequency of anxiety disorders and Depressive disorder in patients with epilepsy, as literature reports of both these disorders in epilepsy have been inconsistent and have been variable over different cultures and societies. Consequently, it has been observed that both these disorders have been neglected in epilepsy particularly in the assessment phase despite being the most common psychiatric disorders. Additionally, both these disorders have a detrimental effect on the quality of life of patients with epilepsy by compromising their tolerance and response to anti-epileptic drugs along with a marked decrease in the overall social functioning of the individual. With this study we would like to see the levels of Depression and Anxiety in patients with epilepsy in the context of a tertiary care hospital in Pakistan.

METHODOLOGY

We conducted a cross sectional study at Departments of Neurology and Psychiatry, Combined Military Hospital (Multan) from March 2023 to August 2023. The sample included n=200 cases based on WHO formula with 95% confidence interval.⁷ The research was approved by an independent local ethical review committee of the tertiary care hospital vide ERC no ERC/30/2022 dated 5th Jan 2022. After giving affirmative consent, participants who fulfilled the study's eligibility requirements were recruited through random sampling and a semi-structured questionnaire for

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socio-demographic data was used. The socio-demographic data specifically focused on duration of epilepsy, any past history of psychiatric illness, any family history of psychiatric illness, any co-morbid illness and current drugs being used.

Inclusion criteria: All newly diagnosed patients of epilepsy with up to or less than 06 months history of the disease. The age of the patients would be ranging from 20 to 45 years of either gender. Only those cases of epilepsy were included who were not taking psychotropic medication which may cause depression or anxiety were included.

Exclusion criteria: We excluded all cases suffering from medical disorders e.g. Hypertension, Diabetes Mellitus or any other chronic illness which may lead to psychiatric illnesses (assessed and diagnosed by medical specialist) and were co-morbid with epilepsy. Patients having positive family history of psychiatric illnesses were also excluded from the study. Patients using psychiatric drugs or having a history of psychiatric illness were also excluded. Patients using any illicit substance were also excluded. For a comprehensive evaluation of anxiety and depression, the patients were administered the Hospital Anxiety and Depression Scale (HADS). HADS consists of 14 items or questions followed by four options that are on a continuum of severity/intensity of symptoms. The scale, which was in Urdu, was used. There are seven items for depression and seven for anxiety. On a four-point scale ranging from 0 (very rarely) to 3, each item is rated. Responses are based on the relative frequency of symptoms over the preceding week. For each subscale, possible scores range from 0 to 21, with higher scores indicating greater distress. The classification of each mood or anxiety state into four ranges was supported by an analysis of scores on the two subscales: "mild cases" (scores 8-10), "moderate cases" (scores 11-15), and "severe cases" (scores 16 or higher). For anxiety or depression, researchers have established a cut-off point of 8/21. The data were analyzed with SPSS-20. The descriptive statistics were analyzed for all the variables evaluated in the study. The Chi-squared Test and cross tabulation were used to determine which independent variables had a significant impact on the outcome.

RESULTS

Mean age of all 200 patients was 31.20 ± 6.97 years. Minimum and maximum age of patients was 23 and 42 years respectively. Mean age of male and female patients was 30.78 ± 6.54 and 32.10 ± 7.59 years respectively. Minimum age among male and female patients was 23 and 25 while maximum age was 41 and 42 years respectively. Gender distribution of patients shows that there were 123(61.5%) male and 77(38.5%) female patients in the study. Male patients were greater in number as compared to female patients.

According to the criteria of Hospital anxiety and depression scale (HADS) there were 62(31%) patients who had depression while the remaining 138(69%) patients were free of depression. The frequency of depressive disorder was 31% as shown in Table-1

Frequency of depression was seen in relation to gender of the patients. Among male patients 38(30.9%) had depression and among female patients 24(31.2%) had depression. It was observed that almost same percentage of depression was present in male and female patients. Female patients showed a slightly higher level of depression. It was just 0.3% higher than the males.

Table-1: Distribution of Depression In Patients

		Frequency	Percentage
Depression	Yes	62	31%
	No	138	69%
Total		200	100%

Table-2: Distribution of Anxiety in Patients

		Frequency	Percentage
Anxiety	Yes	47	23.5%
	No	153	76.5%
Total		200	100%

According to the criteria of Hospital anxiety and depression scale (HADS) there were 47(23.5%) patients who had anxiety and the remaining 153(76.5%) of the patients did not suffer from anxiety (Table-2) Among male patients 21(17.0%) had anxiety and among female patients 26(33.7%) had anxiety. Interestingly contrary to depression, anxiety was much more prevalent in females as compared to males. Over all depression was more prevalent than anxiety and effected both genders almost equally however anxiety was more prevalent in females.

DISCUSSION

This study helped us establish the situations of depression and anxiety in patients with epilepsy in a tertiary care hospital. Its findings illustrate a 31% frequency of depression and 23.5% anxiety. A study involving the assessment of patients with epilepsy for depression and anxiety by comparing two samples from a hospital (106 adult outpatients with Epilepsy) and a community sample (273 patients with Epilepsy) revealed only one-third of patients with an anxiety disorder were receiving treatment whereas half of those with depression were receiving treatment indicating that a large number of patients particularly with anxiety and depression as well are undiagnosed.¹³ It also showed that both these disorders remain neglected and many a times remain untreated. A Pakistani study with a sample of 560 epileptic patients showed that frequency of seizures maybe increased in patients due to stress, depression, anxiety and the constant fear of being stigmatized.¹⁴ Thus identifying certain risk factors for increase epileptic fits including stress and social stigmatization. A hospital-based study on people with epilepsy in Indian population depicted depression in 63.3% of people with epilepsy which was quite alarming considering the very high levels of depression.¹⁵ Our findings are analogous to another 1-year study conducted on 110 subjects in Pakistan which showed the frequency of GAD in the epileptic cases was around 25.45% and the frequency of depression was 34.55% both of which were advanced, compared to the control group.¹⁶ This study was very close to our findings and shows some consistency in the frequencies of anxiety and depression and gives an idea what to expect in patients with epilepsy. A systematic review of 23 articles from 2008 to 2018 revealed findings which were also consistent to our study. The review showed that Mood disorders and anxiety disorders were the most common psychiatric co morbidities, with prevalence rates of 35.0% and 25.6%, respectively. Amongst Mood disorders, Major depressive disorder was the most common with a prevalence of 24.2%. Whereas for anxiety disorders it was seen that General Anxiety disorder was the most common at 11.1%. Interestingly the existence of suicidality, as reported by two studies in this review, was 9.3%.¹⁷ This review was very elaborate and detailed and should serve like a consistent factor which may help neurophysicians and psychiatrist forecast the levels of psychiatric disorders to expect in such patients. The level of depressive disorder seen in our study is slightly higher than this finding whereas the occurrence of anxiety disorder was almost similar. Research looking into the types of anxiety disorders seen in patients with epilepsy revealed four specific types of anxiety symptoms which included anticipatory anxiety of epileptic seizures (AAS), phobia of epileptic fits, social phobia due to the fits, and panic attacks associated with the epilepsy.¹⁸ Epilepsy associated anxiety is usually related to the fear of having further seizures and the anticipation of a severe attack which may occur in any settings leading to fear not only of the fits but also of social gatherings where such fits may be precipitated. These fears laden with anxiety may compromise the overall functioning of the individual. The most common psychiatric ails associated with epilepsy included mood disorders (up to 40% for lifetime occurrence and up to 23% for current occurrence) and anxiety disorders (up to 30.8% for lifetime occurrence and up to 15.6% for current occurrence).¹⁹ It was seen that the types of epilepsy which lead to a strong association with psychiatric sequelae include the Generalized tonic clonic fits and the temporal lobe epilepsy. This may also explain

the localization of lesion in the same part of the brain i.e. the temporal lobe which has a strong association with emotions and feelings. It was also seen that the lifetime occurrence and current of depressive disorders and anxiety was just mildly different from each other with an increased occurrence of depressive disorders compared to anxiety disorder. A study from Thailand with a sample size of 170 patients, revealed that 43 (25.3%) fulfilled diagnostic criteria for one or more psychiatric disorders. Among the psychiatric disorders, depressive disorders were the most common with a frequency of 17.1%, however anxiety disorders were just found in 5.3%. Surprisingly this study showed psychosis to be more than anxiety disorders.²⁰ This study leads to a striking contrast to other common research as it highlighted the existence of psychotic disorders to be more in epilepsy than anxiety disorders which was quite alarming. It also showed a very reduced levels of anxiety disorders of just 5%. Another met analysis based on 15 studies, looking into the prevalence of different anxiety disorders found the overall frequency of anxiety disorders to be around 26.1 % in which Generalized anxiety disorder was the most common, followed by agoraphobia, social phobia, panic disorder, and obsessive-compulsive disorder.²¹ So the study from Thailand led to contrasting views however this met analysis was able to show that anxiety was still more existent. While considering the risk of suicide in patients with epilepsy, interestingly it was found to be 22% higher than in typical adults²² which is an alarming sign and calls for further vigilance in such patients. Suicide assessment in epilepsy particularly when they show psychiatric symptoms need to be compulsory and require a close coordination between the neurophysician and the psychiatrist. An observational study from Pakistan conducted at Pakistan Institute of Medical Sciences, Islamabad over a period of 6 months showed a remarkably high existence of psychiatric co morbidity in patients with epilepsy. 84.2% of the participants reported some form of psychiatric illness, with depression being the most commonly reported with an occurrence of 31.7% a finding which was somewhat close to our finding also.²³

The study's biggest drawback was that it was cross-sectional, which makes it impossible to determine the cause-and-effect link among the outcome factors and the predictor variables. This makes deriving a causal interference very difficult as it is just a one time measurement of the apparent cause and effect. The sample size can be increased further to get a more understanding within the community and tertiary care hospitals.

CONCLUSION

The study concluded that, epilepsy sufferers had rather high levels of anxiety and depression with the frequency of depression being more than anxiety. Statistics showed that perceived prejudice and the use of two or more antiepileptic drugs were linked to both depression and anxiety. The prompt identification and effective care of depression and anxiety are essential to maintain good quality care for patients of epilepsy. Health care professionals should pay close attention to screening, early detection, and proper therapy of depression and anxiety in persons with epilepsy. In this regard a robust coordination between the neurology and psychiatry department is recommended with the use of psychometric scales early on in the illness to help identify depression and anxiety in patients with epilepsy.

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