

Frequency of Suicidal Intent in Patients with Epilepsy

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ABSTRACT

Objective: To determine the frequency of suicidal intent in patients with epilepsy.

Methodology: This cross-sectional study was conducted at the Department of Psychiatry, Department of Neurology, and Department of Medical and Surgical Emergency, Services Hospital, Lahore from January to July 2022. The inclusion criteria were patients with epilepsy of both male and female gender, aged between 15-45 years. Total 226 patients fulfilling inclusion criteria were enrolled after informed consent. The patients were assessed for suicidal risk using Beck's suicide intent scale. The data was obtained by using a self-devised proforma. The patients scoring >15 were classified to have suicidal intent.

Results: In this study, out of 226 cases, 43(19.03%) were between 15-30 years of age, whereas 183(80.97%) were between 31-45 years of age. The mean age was 36.97±5.98 years. Among patients, 125(55.31%) were males, whereas 101(44.69%) were females. Out of 226 patients, 54(23.89%) patients showed suicidal intent. The frequency of suicidal intent in patients with epilepsy was 54 (23.89%).

Conclusion: The frequency of suicidal intent was higher in patients with epilepsy. Therefore, screening all epilepsy patients should be done for early diagnosis and treatment.

Keywords: Epilepsy. Suicide. Psychiatry.

INTRODUCTION

Epilepsy, a chronic neurological disorder, is one of the world's oldest recognized conditions, with documented evidence dating back to 4000 BCE.¹ Every year, around 5 million individuals are diagnosed with epilepsy, and it affects 70 million people worldwide.² Suicidality, including suicidal ideation, suicide attempts, and completed suicide affects patients with epilepsy (PWE) with a higher frequency than in the general population.³ Suicidal ideation is defined as "thoughts about self-harm with deliberate consideration or planning of possible techniques of causing one's own death", while suicide is "the act of intentionally causing one's own death" and the suicide attempt is "an attempt to end one's own life, which may lead to one's death".⁴ Suicide is a global problem, with approximately 800,000 individuals dying from suicide every year, meaning that someone intentionally takes his/her own life every 40 seconds. Majority of completed suicides, approximately 78%, occur in low and middle-income nations.⁵

The lifetime prevalence of suicidal ideation has been reported to be 25% in PWE. Additionally, the risk of suicide is two to three times higher in epileptic patients without comorbid psychiatric disorders, and this risk increases by 12 to 32-fold in the presence of various

psychiatric disorders. Risk factors for suicide are multifactorial and include socio-demographic factors, genetics, age, gender, and psychiatric comorbidities. Suicide behavior is more common in monozygotic than dizygotic twins. Epileptic patients aged 30-64 years have been found to have a four-fold higher risk of completed suicide compared to those aged 10-29 years, while in terms of gender, men are twice as likely to commit suicide compared to women.⁶

Literature shows that the lifetime prevalence of depression in individuals with epilepsy is as high as 55%. Depression has a negative impact on the quality of life in people with epilepsy, and it is well documented that individuals with epilepsy and depression have a higher prevalence of suicide compared to the general population.⁷ Certain antiseizure medications possess negative psychotropic effects, which may result in the onset of psychiatric symptoms such as suicidal ideation. However, these adverse effects are more frequently observed in patients with a history of psychiatric illness and/or a family history of mental health disorders.⁸

There are few researches available that show the definitive association of suicide and epilepsy in different cultures and socioeconomic settings. Also, there is limited data available regarding the prevalence of suicidal ideation and behavior in epileptic patients in Pakistan. We conducted this study to find out the suicidal risk in PWE in a tertiary care hospital of Pakistan. The study will help reduce mortality in patients with epilepsy, as early detection of suicidal intent can prevent it from progressing to suicidal attempts and completed suicide.

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METHODOLOGY

This cross-sectional study was conducted at the Department of Psychiatry, Department of Neurology, and Department of Medical and Surgical Emergency, Services Hospital, Lahore from January to July 2022. Total 226 patients fulfilling inclusion criteria were enrolled by convenient sampling technique after informed consent. The inclusion criteria were patients with epilepsy of both male and female gender, aged between 15-45 years.

The exclusion criteria were patients with a history of mood disorder, psychotic disorder, anxiety disorders, and personality disorder prior to the onset of epilepsy, pregnant females (assessed on history), patient with a history of head trauma, and patients with a history of drug addiction. The calculated sample size was approximately 226 cases with a 6% margin of error, a 95% confidence level taking an expected percentage of suicidal risk among epileptic patients as 30%.

Epilepsy was defined as recurrent unprovoked seizures involving contractions of one or more parts of the body and at least two or more seizures, more than 24 hours apart.⁹ Suicidal intent was assessed by Beck's suicidal intent scale developed by Aaron Beck. Beck's suicide intent scale contains 20 items each scoring from 1 to 3 points. The range was 15-45 and a score >15 was labeled as suicidal intent.¹⁰

STATISTICAL ANALYSIS

Data was entered and analyzed with Statistical Package for the Social Sciences (SPSS) version 25.0. The quantitative data like age and Beck's score were presented as mean and standard deviation. The qualitative data like suicidal intent, gender, education,

and marital status were presented as frequency distribution. Data were stratified for age, gender, education, socioeconomic and marital status. Post stratification Chi-square test was used taking p-value ≤ 0.05 as significant.

RESULTS

A total of 226 cases fulfilling the selection criteria were enrolled to determine the suicidal intent in patients with epilepsy. The mean age was calculated as 36.97 ± 5.98 years. Age distribution showed that 43(19.03%) were between 15-30 years of age, whereas 183(80.97%) were between 31-45 years of age. Gender distribution showed that 125(55.31%) were males whereas, 101(44.69%) were females. Educational status showed that 61(27%) were illiterate, 103(45.57%) did middle, and 62(27.43%) did matric. Marital status showed that 145(64.16%) were married, 54(23.89%) were unmarried, and 27(11.95%) were divorced. Socio-economic status showed that 139(61.5%) had low socioeconomic status and 87(38.5%) had middle socioeconomic status.

Mean Beck's score was 16.86 ± 4.6 . The frequency of suicidal intent in patients with epilepsy was recorded in 54(23.89%) patients (Table 1). The data was stratified for age, gender, education, socioeconomic status, and marital status. No statistically significant correlation was found between suicidal intent and age, gender, educational status, socioeconomic status, and marital status (Table 2).

DISCUSSION

Patients with epilepsy are more likely to suffer from psychiatric illnesses than the general population. The nature of the connection between epilepsy and mental

Table 1: Frequency of Suicidal Intent in Patients with Epilepsy

Suicidal Intent	Frequency & Percentage
Yes	54(23.89%)
No	172(76.11%)
Total	226(100%)

Table 2: Stratification of Suicidal Intent with Demographic Factors

Study Variables		Suicidal Intent		p-value
		Yes	No	
Age (Years)	15-30	10(4.43%)	33(14.6%)	0.92
	31-45	44(19.47%)	139(61.5%)	
Gender	Male	29(12.83%)	96(42.48%)	0.79
	Female	25(11.06%)	76(33.63%)	
Educational Status	Illiterate	14(6.2%)	47(20.8%)	0.84
	Middle	23(10.17%)	80(35.4%)	0.61
	Matric	17(7.52%)	45(19.91%)	0.44
Marital Status	Married	37(16.37%)	108(47.79%)	0.44
	Unmarried	11(4.86%)	43(19.03%)	0.49
	Divorced	6(2.65%)	21(9.3%)	0.83
Socioeconomic Status	Low	36(15.93%)	103(45.57%)	0.38
	Medium	18(7.97%)	69(30.53%)	

comorbidities is not well known, despite the fact that studies have demonstrated a substantial correlation between the two conditions. Due to this, psychiatric problems are frequently misdiagnosed and undertreated in PWE, resulting in an additional decline in the quality of life of patients.¹¹

In this study, out of 226 cases, 43(19.03%) were between 15-30 years of age, whereas 183(80.97%) were between 31-45 years of age, and mean age was 36.97±5.98 years. Among patients, 125(55.31%) were males, whereas 101(44.69%) were females. The frequency of suicidal intent in patients with epilepsy was recorded in 54(23.89%). The findings of our study are in agreement with previous studies which reported that the prevalence of suicidal behavior in people with epilepsy ranges from 23.89-30%.¹²

Ding and colleagues looked at the relationship between the risk of suicidal behavior in people who have epilepsy and clinical characteristics that can increase or have been reported to raise the risk of suicidal behavior. There was a nine-fold increase in the risk of suicide associated with mental illness, and the use of antipsychotic medicines was associated with a ten-fold increase in relative risk. When compared with starting after 29 years of age, those having epilepsy before the age of 18 years were associated with a relative risk of suicide that was approximately 16 times higher.¹³

Another study reported that the risk of suicide increased with high seizure frequency and antiepileptic drug polytherapy. This was despite the fact that both of these factors increased the frequency of seizures. Epilepsy was seen to be associated with high rates of premature death.¹⁴

A recent systematic review concluded that the link between epilepsy and suicidality is complex, and epilepsy impacts various aspects of life, such as relationships with family and friends, employment, school, and leisure activities, leading to social and economic consequences. Furthermore, it has been reported that an increased risk of suicide in people with epilepsy is associated with various factors such as psychiatric risk factors, exposure to certain antiseizure medications, etc.¹⁵

People younger than 55 years old account for about half of all epilepsy-related fatalities, and the time period immediately after the initial diagnosis of epilepsy appears to be the most deadly of all. People who have epilepsy have a greater percentage of suicidal thoughts and suicide risk compared to the general population. Additionally, suicide is related with up to 5% of all deaths that are caused by epilepsy. Epilepsy patients who have passed away as a consequence of a suicide attempt can be the subject of case-control studies, which can provide significant information regarding risk factors.¹⁶

Harnod et al. evaluated the risk of attempted &

completed suicide in epilepsy patients in Taiwan. They concluded that Epilepsy is one of the independent predisposing factor for suicide attempt and therefore clinicians should also focus on the aspect of suicide in epileptic patients while treating them.¹⁷

Studies have shown that people with epilepsy have a higher risk of suicidality than the general population, and identified various risk factors for suicide in people with epilepsy, including a history of mental illness especially depression, use of antipsychotic medications, early onset of epilepsy, high seizure frequency, and use of multiple anti-epileptic drugs.

CONCLUSION

A high proportion (23.89%) of patients with epilepsy had suicidal intent. The study also found that the majority of patients were between the ages of 31-45 years and there were a slightly higher proportion of males than females.

These findings emphasize the importance of identifying and treating mental illness in individuals with epilepsy to reduce the risk of suicidal behavior.

LIMITATIONS & RECOMMENDATIONS

There are some limitations to the study that need to be acknowledged. Firstly, the study was conducted at a single center and may not be representative of the entire Asian population of patients with epilepsy. Secondly, the study relied on self-reported data, which may be subject to bias and may not accurately reflect the true prevalence of suicidal intent in patients with epilepsy. Additionally, the study did not take into account other factors that may contribute to suicidal intent in patients with epilepsy, such as the severity of their epilepsy, comorbid psychiatric disorders, and social support.

Therefore, while the study provides valuable insights into the frequency of suicidal intent in patients with epilepsy, further research is needed to better understand the underlying factors contributing to suicidal ideation in these patients.

It is recommended to screen all epilepsy patients for early diagnosis and treatment. This research has paved the way to carry out an epidemiological study to classify the etiology and endemic problems of different regions of Pakistan.

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