# FREQUENCY OF DEPRESSION IN PATIENTS PRESENTING TO OUTDOOR MEDICAL DEPARTMENT WITH THE DIAGNOSIS OF EPILEPSY

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## ABSTRACT

**Introduction:** Depression a common comorbidity in patients with Epilepsy with adverse impact on quality of life. There are no local studies on the frequency of Depression in patients with epilepsy. The objective of this study is to determine the frequency of depression among patients with epilepsy who are seeking treatment in a Medical Outdoor Department of a Tertiary Care Teaching Hospital in Peshawar.

**Methodology:** This was a cross-sectional study conducted at Outdoor Medical Department of Khyber Teaching. A total of 161 patients were interviewed who presented to medical OPD with a history of epilepsy between August 2016 to August 2017. Both Genders with age ranged from 15 to 80 years were included. Neurological Disorders Depression Inventory (NDDI) scale was used as the screening tools for depression among Epilepsy patients. Strict exclusion criteria were followed to minimize the bias resulting from confounders.

**Results:** The mean age of the patients was 40.44 years with SD ±12.25. Nineteen percent patients were male and 81% patients were female. Seventy percent patients had depression as comorbid psychiatric condition among patients with Epilepsy.

**Conclusion:** Our study concluded that the frequency of depression was found in 70% of patients presenting with epilepsy.

**Keys word:** Psychological distress, depression, epilepsy

## INTRODUCTION

Epilepsy is a chronic neurological disorder that can have profound physical, social and psychological consequences. Mood disorders represent a frequent psychiatric comorbidity among patients with epilepsy resulting in a major impact on the quality of life and the global burden of the disease. There are now validated scales available for rating the severity of Depression in Epilepsy {Fournier, 2010 #[1]}. Among physical diseases, epilepsy is widely recognized as one of the main causes of depression[2].

Depression is a state of low mood and aversion to activity. Depression has no single cause known and it is now agreed upon that genetics, personality and environmental factors contribute in different magnitudes to result in the development of a full-blown episode of depression. Existence of other mental or physical diseases or from the medications for those illnesses are also thought to contribute, especially those conditions which have stigma associated with them. Studies have shown that stigmatization of the patients with epilepsy leads to depression in these patients[3].

Depression rates have been reported to be much higher in patients with Epilepsy than in the general population[2]. Studies have shown a bidirectional relationship between the first seizure and depression and prevalence rate of depression increased with duration of undiagnosed epilepsy at the time of first clinical assessment[4]. The prevalence of suicidal ideation and attempt in people with epilepsy are found to be higher when compared to general population[5].

The high prevalence of Depression with Epilepsy has been duplicated in large studies with poor prognosis of both conditions when they are comorbid with each other. Several issues, however, pertaining to their association with psychosocial, seizure-related and medication factors, remain controversial. Depressive disorders are common, underdiagnosed and undertreated in patients with refractory epilepsy[6].

Subjective cognitive impairment is most strongly associated with depressive symptomatology, number of anti-epileptic drugs and seizure frequency[7].

The purpose of this study was to determine the frequency of Depression using a validated self-reporting depression rating scale in people with epilepsy receiving care in a busy clinical setting. The Neurological Disorders Depression Inventory for Epilepsy (NDDI-E) is a 6-item questionnaire validated to screen for depression in people with epilepsy with scores above 15

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considered as positive for depression[8].

## OBJECTIVE

To determine the frequency of depression among patients with epilepsy

## METHODOLOGY

This study was conducted at Outdoor Medical Departments, Khyber Teaching Hospital Peshawar. Study Design was cross-sectional study. In this study a total of 161 patients were included between August 2016 and August 2017. Non-probability consecutive sampling technique was used for sample collection. Patient presenting to medical OPD with a history of epilepsy, age: 15 to 80 years and both genders were included while patients diagnosed and treated as depression or anxiety by Psychiatrist or Physician with Selective Serotonin Reuptake Inhibitors or Tricyclic Antidepressants, patients with Schizophrenia, Schizoaffective Disorders and Bipolar Affective Disorder were excluded. Approval was obtained from institutional research and ethical board before starting the study. Data was collected via questionnaire and interview after taking an informed consent. Neurological Disorders Depression Inventory scale as the screening tools for depression among Epilepsy patients. Exclusion criteria was followed to minimize the bias resulting from confounders. Data was analyzed using the Statistical Package for Social Sciences, Windows version 20. Frequencies and percentages were calculated for categorical variables like gender, depression and number of seizure. Mean and standard deviation were calculated for numerical variables like age of the patient, duration of Epilepsy and duration of depressive symptomatology. Depression was stratified among gender and age to see effect modification. Post-stratification chi-square test was applied in which P value $\leq 0.05$ was taken as significant.

## RESULTS

This study age distribution among 161 patients was analyzed as 69(43%) patients were in age range 30-40 years, 47(29%) patients were in age range 41-50 years, 29(18%) patients were in age range 51-60 years, 16(10%) patients were in age range 61-70 years. Mean age of the patients was 40.44 years with SD ±12.25 (table 1).

Gender distribution among 161 patients was analyzed as 30(19%) patients were male while 131(81%) patients were female. (table 2)

Mean no of seizure was 6 with SD ±2.831, Mean duration of epilepsy was 30 months with SD ±19.771 (table No 3 & 4)

The frequency of depression among 161 patients came out to be 70% (113) (Table 5). Mean duration of depression was 2 years with SD ± 1.992.( table No 6,7). Stratification of depression with respect to age

**Table 1: Age Distribution (n=161)**

| Age | Frequency | Percentage |
|---|---|---|
| 30-40 years | 69 | 43% |
| 41-50 years | 47 | 29% |
| 51-60 years | 29 | 18% |
| 61-70 years | 16 | 10% |
| Total | 161 | 100% |

Mean age was 40.44 years with SD ±12.25

**Table 2: Gender Distribution (n=161)**

| Gender | Frequency | Percentage |
|---|---|---|
| Male | 30 | 19% |
| Female | 131 | 81% |
| Total | 161 | 100% |

**Table 3: Number of Seizure (n=161)**

| Seizure | Frequency | Percentage |
|---|---|---|
| ≤5 times | 53 | 33% |
| > 5 times | 108 | 67% |
| Total | 161 | 100% |

Mean no of seizure was 6 with SD ±2.831

**Table 4: Duration of Epilepsy (n=161)**

| Duration | Frequency | Percentage |
|---|---|---|
| Less than 6 months | 6 | 4% |
| Less than 12 months | 12 | 7% |
| Less than 18 months | 18 | 11% |
| Less than 24 months | 25 | 16% |
| More than 24 months | 100 | 62% |
| Total | 161 | 100% |

Mean duration of epilepsy was 30 months with SD ±19.771

**Table 5: Depression (n=161)**

| Depression | Frequency | Percentage |
|---|---|---|
| No Depression | 48 | 30% |
| Depression | 113 | 70% |
| Total | 161 | 100% |

**Table 6: Duration of Depression (n=113)**

| Duration | Frequency | Percentage |
|---|---|---|
| ≤ 2 years | 51 | 45% |
| > 2 years | 62 | 55% |
| Total | 113 | 100% |

Mean duration of depression was 2 years with SD ± 1.992

**Table 7: Stratification of Depression W.R.T Age Distribution (n=161)**

| Depression | 30-40 years | 41-50 years | 51-60 years | 61-70 years | Total |
|---|---|---|---|---|---|
| Un Depressed | 21 | 14 | 9 | 4 | 48 |
| Depressed | 48 | 33 | 20 | 12 | 113 |
| Total | 69 | 47 | 29 | 16 | 161 |

Chi-Square Test Was Applied In Which P Value Was 0.9758

**Table 8: Stratification of Depression W.R.T Gender distribution (n=161)**

| Depression | Male | Female | Total |
|---|---|---|---|
| Un Depressed | 9 | 39 | 48 |
| Depressed | 21 | 92 | 113 |
| Total | 30 | 131 | 161 |

Chi square test was applied in which p value was 0.9802

and gender is given in table 8,9.

## DISCUSSION

Although the data on Prevalence of Depression and Anxiety are scares or unreliable, a systemic review of available data showed that the mean overall prevalence in the community population of Pakistan as 34% (range 29-66% for women and 10-33% for men)[9]. Epilepsy is a chronic disease with an increased risk of stigmatization due to psychosocial consequences of the seizures. Studies have shown that that 46.9% (n=139) of patient with a diagnosis of Epilepsy have at least mildly depressive symptoms with Beck Depression Inventory (BDI>9) with a positive correlation between stigma scores and BDI scores[3]. Mood disorders (MD) are the most frequent psychiatric comorbidity in patients with epilepsy (PWE), with a prevalence of 20–50%; the higher prevalence rates have been typically identified in patients with poorly controlled epilepsy[10]. In our study the frequency of depression was much higher in patients with Epilepsy. The plausible explanation could be the overall high prevalence of depression in Pakistan compared to the developed nations. No study from Pakistan at this moment is available for comparison.

## CONCLUSION

Depression is a highly prevalent, relatively underdiagnosed and undertreated comorbid condition in epilepsy. The purpose of this study was to determine the frequency of Depression using a validated self-reporting depression scale in people with epilepsy receiving care in a busy clinical setting. The Neurological Disorders Depression Inventory for Epilepsy (NDDI-E) is a 6-item questionnaire validated to screen for depression in people with epilepsy. Our study concluded that depression was found to be present in 70% of the patients with epilepsy presenting in our tertiary care setup. Detection for depressive symptoms in already stigmatized patients with epilepsy may unearth a treatable condition and shall be part of routine care in patients diagnosed with Epilepsy.

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