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DEPRESSION AMONGST EPILEPTIC PATIENTS



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ABSTRACT ... khalidsudozai@yahoo.com **Objective:** To evaluate the proportion of depression amongst epileptic patients. **Study design:** Cross-sectional study. **Setting:** The study was carried out in CMH Pano Aqil **Period:** September 2003 to September 2004. **Material and Methods:** One hundred consecutive cases of primary epilepsy from the outpatient department were included in the study sample. Patients with severe physical or mental disability were excluded from the study. Standardized translated Urdu version of Beck Depression Inventory was used to evaluate depression. ICD-10 criteria for depression was used for such patients. Statistical significance was calculated by using SPSS computer software programme. **Results:** Out of 100 epileptics, 36 patients were found to be depressed. **Conclusion:** There is very significant depressive morbidity in epileptic patients and is under diagnosed and hence under treated. There is need to address this aspect very seriously.

Key Words: Depression, Epilepsy

INTRODUCTION

Among the psychiatric illnesses, depression has become the commonest ailment all over the globe. Both as an independent illness, as well as a co-morbid illness, its incidence is progressing with every passing day. Despite this fact, it still remains the most under diagnosed and therefore, under treated condition. Its ever increasing incidence is resulting in significant morbidity, mortality and economic burden round the world.

Epilepsy in its various shapes is a common neurological disorder, affecting almost all ages and both sexes. Patients with epilepsy are at high risk for depression because of an incompletely understood combination of

factors that may be both psychosocial and neurological. Inter-ictal depression in patients with epilepsy is an importune condition in part because of concern regarding drug interactions and the risk of exacerbating seizures with antidepressant treatment¹. Overall prevalence of depression among epileptic patients is estimated between 40% and 75% which is higher than in general population and among patients with other chronic illnesses, and the main reason for psychiatric hospitalization and taking psychotropic drugs. The under diagnosis and under treatment of depressive disorders among epileptic patients represent a problem of considerable magnitude². Clinically, depressed epileptic patients report higher levels of perceived severity and

bother from seizures, as well as, greater problems with overall seizure recovery than do non-depressed people experiencing similar type of fits. The pervasive influence of depressive symptoms on report of seizure activity suggest that people with epilepsy should be screened for depression³. Higher percentage of suicides and hospitalization due to depression makes the diagnosis and evaluation of risk factors very important for further treatment⁴.

Keeping in view the above facts, present study was designed in order to evaluate the proportion of depression amongst the epileptic patients.

MATERIAL AND METHODS

This study was carried out in Combined Military Hospital Pano Aqil from September 2003 to September 2004. One hundred consecutive cases of primary epilepsy were included as the study sample. Types of epilepsy encountered in the sample included Generalized Tonic Clonic (GTC), simple partial, complex partial seizures and absences. All these cases were picked up from medical and psychiatric outpatient departments. Patients with gross physical or mental disability were excluded from the study. There were 71 male and 29 female patients. Age range was from 14 to 52 years, average age was 35.23 years. 57 patients belonged to GTC

seizures, 13 belonged to simple partial seizures, 23 patients belonged to complex partial seizures and 7 patients to absences. A structured proforma was made for this purpose which extracted details from patients. These details included demographic data, age of onset of epilepsy, treatment and frequency of fits. Beck Depression Inventory was used to pick up cases of depression, through its standardized urdu version. ICD-10 diagnostic criteria was used to diagnose depression. Results were subjected to computer software programme SPSS, in order to find out the statistical significance.

RESULTS

Thirty six patients were found to be suffering from depression. These included 20 males and 16 females. The table below shows the number of male and female patients in each age group, type of epilepsy and percentage of depression found. Out of 14 patients in age group 14-20 years, 28.6% were found to be depressed. 22 patients belonged to age group 21-30 years; 41% were found to have depression. Age group 31-40 years had total of 37 patients, out of which, 35.2% were depressed. Last group was from 41-52 years, had 27 patients, out of which, we found 37% to fulfil the criteria of depression.

Table: Number and gender of patients in various age groups, type of epilepsy and percentage of depression

Age Groups Yrs	No .of Pts	Type of epilepsy	Males	Females	No. of depressed pts.	% age of depressed pts
14-20	14	7 GTC, 7 Absence	9	5	4	28.6
21-30	22	18 GTC, 3 CPS, 1 SPS	14	8	9	41
31-40	37	21 GTC, 17 CPS, 9 SPS	22	15	13	35.2
41-52	27	11GTC, 3 CPS, 3 SPS	26	1	10	37

Key: GTC generalized tonic clonic, CPS complex partial seizures, SPS simple partial seizures

DISCUSSION

Epilepsy is a very common disorder and so is depressive disorders in our population. With combined morbidity,

they tend to augment each other and hence are a cause of great anxiety and worry for the patient and the family alike. 100 patients for the study of epilepsy with its

various types is much less than the desired number. Nevertheless, as a first step in this direction, it can be acceptable. It can be an eye opener and can pave the way for further studies on the subject, in a much better and elaborate manner.

Out of total 100 patients of epilepsy, 36 patients fulfilled the criteria for depression. This is a very significant percentage. 20 males and 16 females were amongst these depressed patients. Study sample contained four different types of epilepsy, with GTC seizures most common type, followed by complex partial seizures. Depression had no correlation with epilepsy type and the type of medication. Highest percentage of depression was found out in the age group 21-30 years (41%), followed by age group 41-52 years (37%), then age group 31-40 years (35.2%).

Least proportion of depression was amongst the patients belonging to age group 14-20 years (28.6%). These figures are an indication of increase in the proportion of depression in the patients beyond 20 years of age. Since these are career making years, disruption in that process, may be contributing to the frustration, pessimism and depression. The status of regular/irregular medication, as well as, fits frequency did not have any correlation with depression. Similarly, various demographic features like educational status, social class, rural or urban background, did not seem to influence the existence of depression. As is clear from the data significantly more female patients (55.2%) were suffering from depression as compared to males (28.2%).

Since female part of most of our population especially from rural areas is quite suppressed and their contact with medical services is lesser as compared to their male counterparts. Therefore, this aspect of epilepsy needs to be brought to light and education of masses carried out in this regard so as to create opportunities for management of depressed epileptic females and hence to save them from agony and to improve the health environment in their families.

A number of studies on the topic under discussion have been carried out in the developed world. Mender⁵, in their study found out significantly more depression in epileptics (17.5%) as compared to patients with migraine (9.3%). They concluded that significantly more depression existed amongst epileptic patients as compared to patients with other diseases; inter-ictal depression in epilepsy might result from the use of more anticonvulsant drugs resulting in the prevention of secondary generalization from a seizure focus.

Vuilleumier and Jallon⁶ found depression affecting between 20 to 60% epileptic patients. They concluded that depression prevailed in cases with seizures that rarely secondarily generalized and correlated with duration of disease, intractable seizures and poly-pharmacy. Genetic factors prevailed. Suicide rates were more found in 0.2% to 0.5% of patients and causing deaths in 3 to 7% of them. Overall risk may be highest during first year after diagnosis of epilepsy, as well as, in patients with temporal lobe foci (depression or psychosis).

According to Suljic et al⁷, depression is the most common inter-ictal psychiatric disorder with lifetime prevalence of 40 to 60%. Suicidal ideation needs particular attention because most patients have easy access to potentially lethal antiepileptic drugs. They found symptoms of moderate and severe depression in 33% patients treated with monotherapy and 60% patients treated with polytherapy. 16.7% of the patients had suicidal ideation.

Indaco et al⁸ found depression in 50% of their epileptic patients. They suggested that depression in epileptic patients did not represent a psychological reaction to a particular cognitive or physical impairment, but was in some way related to the type of epilepsy.

Kanner and Balabavor⁹ suggest a bi-directional relationship between depression and epilepsy; not only are patients with epilepsy more likely to experience depression, but a history of depressive disorder preceding the onset of seizure disorder is more likely to

be identified in patients with epilepsy than in a control group. Data from animal models of epilepsy shows that reduced activity of Serotonin, Nor-epinephrine, Dopamine and GABA facilitate the kindling process of seizure foci, worsen seizure frequency and severity and are reversed or blocked by anti-depressive drugs. Reduced activity of these neurotransmitters is a pivotal pathogenic mechanism of depressive disorders. Thus depressive disorders and epilepsy may share common pathogenic mechanisms that facilitate the occurrence of one in the presence of the other¹⁰.

Kanner¹¹ found 50% depression amongst epileptic patients. Suicide was ten times more common amongst such patients. Depression can result from the use of multiple anti-epileptic drugs, or it can occur due to discontinuation of anti-epileptic drugs which were masking depression due to their mood stabilizing properties¹².

Matsuura et al¹³ observed that risk factors for psychiatric disorders among epileptics were mental retardation, Temporal Lobe Epilepsy (TLE) and high fit frequency. TLE with a high fit frequency was found to be accountable for the link between epilepsy and psychiatric illness¹⁴.

Another study showed that major depression was significantly more frequent in epileptics with suicide¹⁵. Major depression might be associated with late age of onset of epilepsy, longer treatment duration, polytherapy and alcohol abuse^{16,17,18}.

CONCLUSION

Depression is an illness with a very significant morbidity and mortality. Its association with epilepsy is very strong, thus adding to the disability and socio-economic hardships for such patients. Unfortunately, depression amongst epileptics is very much under diagnosed and therefore, untreated. There is a compelling need to carry out research of various aspects of depression in epilepsy i.e, the pharmacological aspects of anti-epileptic treatment, any special association of specific type (s) of

epilepsy with depression and the effects of anti-depressant treatment on epilepsy, etc. Timely diagnosis of associated depression can only be possible, if the treating doctor is aware of this association; creating such awareness would thus go a long way in better management and improved quality of life of epileptic patients.

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**Guilt is as bitter
as bile**

Mahnaaz Roohi