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# FREQUENCY OF NON-COMPLIANCE OF ANTIEPILEPTIC DRUGS AMONG PATIENTS WITH EPILEPSY

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## ABSTRACT

Non-compliance with anti-epileptic drug treatment results in recurrent seizures and visits to the emergency departments of the hospitals has been identified as a social and economic problem. The aim of this study was to determine the prevalence of epileptic patients with non-compliance of anti-epileptic drugs and the understanding of patients living with epilepsy who presented to the emergency department with seizures. A descriptive study design was employed and the data-collection tools were a questionnaire for this study. The average age of the study population was 46 years. There was 60% males and 40% females in this study. Non-compliance of anti-epileptic drugs was found to be in 53 patients out of a total of 225 resulting in the frequency of 23%. Stratification of patients with non-compliance showed that incidence of non-compliance was more frequent in males since frequency in males was 63% and in females frequency of non-compliance was only 37%. So major causes of non-compliance should be addressed both in males and females to manage this diseases in the region.

**Key Words:** Epilepsy; Antiepileptic drugs; Non-compliance; Pakistan

## INTRODUCTION

Epilepsy is a chronic condition in which non-compliance is considered to be a significant problem faced during clinical treatment. Poor compliance to treatment is one of many reasons for pharmacological treatment failure and seizure recurrence. Despite all the best intention and efforts on the part of the healthcare professionals, those outcomes might not be achievable if the patients are non-compliant.

<sup>(1)</sup> The behavior of compliance depends on specific clinical situation, nature of the illness, and treatment program. The effect of recurrent epileptic seizure attacks on the patient is far reaching. Poor compliance may lead to status epilepticus, as well as unexpected, sudden death. <sup>(2)</sup> Recurrent convulsions can reduce the likelihood of eventually curing the disorder. With appropriate treatment and lifestyle changes, the majority of patients diagnosed with epilepsy will become seizure-free. Compliant behaviour can be defined as taking anti-epileptic drugs (AEDs) on time and without fail, not manipulating dosages, and following the doctor's advice regarding daily activities.

<sup>(2)</sup> Non-compliance is a significant problem in epilepsy management. As many as 30 to 50% of persons with epilepsy are non-compliant to the extent of interfering with their optimal treatment. <sup>(2)</sup> The effect of non-compliance is enormous and may lead to an increase in the number of seizures, medical costs and injury to themselves and

others. <sup>(2)</sup> The frequency of non-compliance was 19% in the outpatient group as reported in one study. <sup>(3)</sup> Reasons for non-compliance are complex and multilayered. Patients can accidentally fail to adhere through forgetfulness, misunderstanding, or uncertainty about clinician's recommendations, or intentionally due to their own expectations of treatment, side-effects, and lifestyle choice. <sup>(3)</sup> In India, a study relating to doctor-patient communication and compliance stated that compliance improved when patients were satisfied with the consultation process and were asked to recall the information. Multiple visits to the doctor enhanced communication, and thus compliant behaviour. <sup>(4)</sup> Most of studies have attempted either to identify predictors or to measure the incidence of non-compliance but there is not a validated scale for measuring epilepsy patient non-compliance to antiepileptic drugs. This is especially true for developing countries including Pakistan. The lack of these measurements provides difficulties to assess the impact of specific factors in compliance to treatment. Services Hospital is the regional hospital in the central Punjab and serves a huge population of the country. There is scarcity of published data reporting the prevalence of epileptic patients with noncompliance of antiepileptic drugs. In the present study, we have aimed to determine the prevalence of compliance and non-compliance of antiepileptic drugs in epileptic patients.

## MATERIALS AND METHODS

The present study was conducted in OPD (Outpatient Department) at Services Institute of Medical Sciences and Services Hospital, Lahore, Pakistan. This 6-month descriptive study was carried out in 2012 and included a total of 225 patients who were admitted with the primary diagnosis of Epilepsy. Male and female patients aged between 10 to 70 years, who had been diagnosed with epilepsy at least one year previously, were included. Patients having other co-morbidities were excluded from this study. The data-collection tools were a questionnaire and a structured interview. Patients who were not able to respond to an interview were also excluded. For each patient detail history was taken including demographic information (age, sex, address) and questionnaire was asked after taking informed consent by researcher herself. All patients were observed for anti-epilepsy drug compliance and non-compliance. Patients included in study, were treated free of cost. Participants gave written informed consent after the purpose of the study had been explained to them. The ethics committee of the hospital approved the study.

### Statistical Analyses

The descriptive statistical analysis included examinations of means, standard deviations, frequencies, ranges, and percentages. The statistical packages SPSS (Version 20) and MS Excel (MS Office 2010) were used.

## RESULTS

A total of 225 patients fulfilling the inclusion criteria were enrolled to measure the frequency of noncompliance of antiepileptic drugs in epileptic patients. Age distribution of the patients was done which showed that 29.78% (n=67) were between 10-30 years, 36% (n=81) between 31-55 years and 34.22% (n=77) were between 56-70 years of age. Average age of the patients was 46.87+5.23 years (Table 1).

**Table 1.** Age distribution of patients included in the study.

Age(in years)	No. of patients	%
10-30	67	29.78
31-55	81	36
56-70	77	34.22
Total	225	100

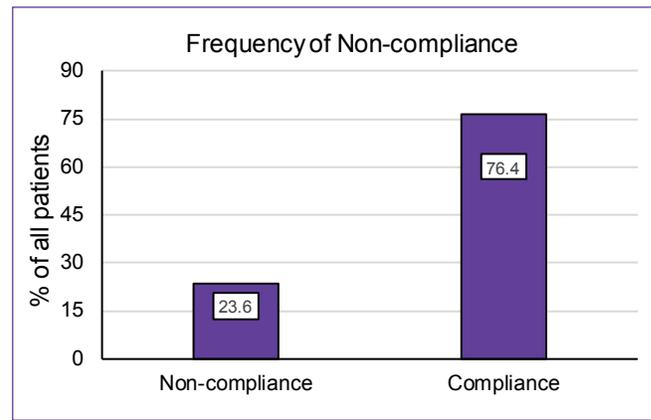
Mean and SD: 46.87+5.23 (n= 225)

Gender distribution of the patients showed that 59.6% (n=134) were males and 40.4% (n=91) were females (Table 2).

**Table 2.** Gender distribution of all patients included in this study.

Gender	No. of patients	%
Male	134	59.56
Female	91	40.44
Total	225	100

Results regarding the frequency of epileptic patients with compliance and non-compliance of antiepileptic drugs have been shown in Figure 1. Figure shows that out of 225 patients, 172 patients (76.4%) had compliance of antiepileptic drugs. Whereas 53 patients (23.6%) showed non-compliance to antiepileptic drugs (Figure 1).



**Figure 1.** Frequency of compliance and non-compliance of antiepileptic drugs among epileptic patients.

We also identified the gender distribution of epileptic patients with non-compliance of antiepileptic drugs. The results have been shown in Table 3 which shows that out of 53 cases of non-compliance, 33 cases (62.3%) were male and 20 cases (37.7%) were females (Table 3). This finding showed that incidence of non-compliance was more frequent in males as compared to females.

**Table 3.** Stratification for noncompliance of antiepileptic drugs in epileptic patients with regards to gender.

Gender	No. of patients	%
Male	33	62.26
Female	20	37.74
Total	53	100

(n=53)

## DISCUSSION

The sole treatment available for the majority of patients with epilepsy is antiepileptic drug (AED) therapy. Research has shown that missing or altering antiepileptic drug dosages can have adverse reactions, that is, increase the

chance of seizure recurrence. For instance, Mattson et al. reported that over one quarter of seizures occurred at or before reports of inadequate medication levels. Failure to follow prescribed drug regimens is known to be fairly widespread amongst patients with epilepsy: research has shown that between 25 and 75% fail to adhere, in particular very young or very old patients, and teenagers. Given that failing to comply may increase the likelihood of hospital admission, there could be a potential savings if compliance could be improved. We planned this study to determine the most prevalent factors in Pakistan because demographic, psychosocial, economic factors, literacy rate is different. Non-compliance of antiepileptic drugs in epileptic patients leads to recurrent seizures, thus mental regression occurs (2); by knowing the frequency of non-compliance, we can adopt some strategies to over-come this problem to improve levels of compliance thereby reducing the risk of unnecessary seizures. In this study, frequency of non-compliance of antiepileptic drugs in epileptic patients was revealed in 23.56% while 76.44% had no complaint of non-compliance. The findings of the present study regarding frequency of non-compliance are in agreement with Hauser et al. (5) WHO reported that 19% of the patients had non-compliance in the outpatient group. (5) The evidence indicates that non-compliance is still common in healthcare and no substantial change occurred despite the large number of studies attempting to address and highlight the problem. In addition, too few studies are being done systematically to quantify the impact of non-compliance on health and financial outcomes. The magnitude of the impact of non-compliance needs to be studied in future compliance research due to the potential

tremendous implication of poor compliance on clinical and economic outcomes.

## CONCLUSION

We concluded that the frequency of noncompliance of antiepileptic drugs among epileptic patients is higher. This condition is worsening for males since they showed a greater percentage of non-compliance as compared to females. This situation needs special attention of the physicians while managing epileptic patients.

## REFERENCES

1. Jing Jin, Grant Edward Sklar, Vernon Min sen Oh, ShuChuen Li. Factors affecting therapeutic compliance. *TherClin Risk Manag.* 2008 February; 4(1): 269-86.
2. Krause SR, FC Van Rooyen, MVJ Van Vuuren, L Jenkins. Non-compliance with treatment by epileptic patients at George Provincial Hospital. *South African Family Practice.* 2007; 49:9, 14-14d.
3. Joanne Eatock and Gus A Baker. Managing patient compliance and quality of life in epilepsy, *Neuropsychiatr Dis Treat.* 2007;3(1):117-31.
4. Gopinath B, Radhakrishnan K, Jayachandran D, Alexander A. A questionnaire survey about doctor-patient communication, compliance and locus of control among South Indian people with epilepsy. *Epilepsy Research.* 1999;(39):73-82.
5. Hauser WA, Annegers JF, Kurland LT. Prevalence of epilepsy in Rochester, Minnesota: 1940-1980. *Epilepsia* 1991;32:429.