Original Article

IMPACT OF PHARMACIST COUNSELLING IN PATIENTS WITH EPILEPSY

Arul Prakasam K.C [*1], NedaMehrafar[2], Pezhman Ghadami[2]

[1] Professor, JKKMMRF's Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam, Tamil Nadu, India.
[2] Pharm D Intern, JKKMMRF's Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam, Tamil Nadu, India.
[Affiliated to the Tamil Nadu Dr.M.G.R. Medical University, Chennai, Tamil Nadu- 600032].
Corresponding author: Dr. Arul Prakasam K C, M. Pharm, Ph. D, Professor and Head of the department, JKKMMRF's Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam, Tamil Nadu- 638 183.

DOI: 10.47750/pnr.2023.14.02.390

Abstract

Background and objectives: About one person out of every 103 suffers from epilepsy, a common neurological disorder. The study was conducted in a Multi speciality hospitals, Erode on Neurology department. The Aim of Study iscounselling produce any significant benefit to patients with epilepsy.

Materials and methods:100 patients with epilepsy who receive the pharmacist counseling in addition to the regular treatment. An observational study was carried out in a Multi speciality hospitals at Erode.

Results: The epilepsy subjects were described according to their demographic profiles such as age, gender, educational status, precipitating factors, social histories, injuries during seizures, number of medications, number of dietary therapies, age at onset, last one year incidents, last six month incidents, primary care given during initial epilepsy occurrence, seizure duration, medications used and drug at registration. study shows, that majority of the study population were male which is 56 patients (56%) and 44 patients (44%) female. shows among the study population majority of the patients were from 56-65 years which is 27% of the population, followed by 36-45 years (21%), 26-35 years (18%) and the least were from the age groups of 15-25, 46-55 (17%) . The mean age of them was 41.3±14.8 years with range of 15-65 years.most of the patients in the study population were secondary which is 32%of the study population followed by illiterate (23%), primary (22%), graduates (17%) and less number of population were Higher secondary (6%).

Conclusion: Specialized counselling given by pharmacists to entire population results in a positive impact on patients knowledge on epilepsy and the use of AEDs. The improvements such as medication, information, safety, seizure, life style and total from pre counselling to post counselling. There was a significant improvement in the epilepsy self management score of each patients post follow up. Therefore, it is highly recommended that pharmacists counselling have a key role in the education of patients with epilepsy.

Keywords: epilepsy, neurological disorder, seizure, Erode district, pharmacist counselling.

Introduction

Epilepsy is a crippling neurological condition that affects 7.60 out of every 1000 people in their lifetime.(K.M. Fiest et al ., 2016).About one person out of every 103 suffers from epilepsy, a common neurological disorder. It is brought on by frequent, usually transient interruptions in the brain's regular function. Epilepsy may affect anybody, however it is often diagnosed in children and individuals over 60. Seizures are the visible symptoms of epilepsy, and their appearance varies depending on which parts of the brain are damaged and how much the disturbance has spread. The processing of information from our senses, thoughts, memories, emotions, and actions

occurs in the brain, which is made up of billions of nerve cells. Any (or all) of these functions can be impacted.The majority of seizures last only a few minutes or less, and the sufferer recovers rapidly. Seizures frequently happen to epileptics without prior notice or a clear cause. However, only a tiny percentage of people are aware that conditions like inadequate sleep, stress, anxiety, fever, excessive alcohol use, or (in around 5% of instances) flashing or flickering lights enhance their chance of having a seizure (this is known as photosensitive epilepsy). Some epileptic women discover that their seizures happen at a certain point in their hormone cycle. Anti-epileptic drug missed doses should be avoided as they might raise the risk of seizures.(Mark Richardson et al., 2007).

Approximately 10% of the population will experience a seizure at some timein their life. Up to 30% of all seizures are provoked by central nervous system (CNS) disorders or insults (e.g., meningitis, trauma, tumors, and exposure to toxins);the seizures may become recurrent and require chronic treatment with antiepileptic drugs (AEDs). Acute, isolated seizures may be brought on by reversible situations such alcohol withdrawal, fever, and metabolic abnormalities. These seizures are not thought to be epileptic, and they often don't need ongoing AED treatment. Epilepsy affects 1% of the general population. (Kodakimble et al., 10th edition).

Any age can experience a seizure, and each age has a different cause. The most common cause of epilepsy is idiopathic, accounting for about 65% of all cases. Other causes of epilepsy include;vascular abnormalities(11%),congenital malformations(8%), trauma (5%).Seizures from degeneration, infection, and neoplasm are considerably less prevalent.These are more likely causes of epilepsy, but still less frequent than the idiopathic diagnosis.Some cases of epilepsy are hereditary or congenital and some are acquired such as serious head injury, a central nervous system [CNS] infection, stroke, or dementia.(Andrew M Peterson et al., 3rd edition).The present study is impact of pharmacist counselling in patients with epilepsy.

Material and Methods:

The study is conducted at Multi speciality hospitals, Erode, Tamilnadu. The 100 patients with epilepsy who receive the pharmacist counseling in addition to the regular treatment. The inclusion criteria include people with 15to 65 years of age receiving antiepileptic drugs and patients with co-morbidities. The exclusion criteria arepatient with pseudo seizures and alsopatients those who are paralyzed. An observational study design was conducted in both inpatients and outpatients to provide counselling and assess the impact of pharmacist counselling in epilepsy patients using ESMS. Study design consist of questionnaires. All patients were given a brief introduction regarding the study and the confidentiality of data. Socio-demographic data were collected from the patient. Data about the history of illness and treatment were obtained from the medical records and seizure diary which is kept by the patient. Prospective data including current medication, seizure frequency, compliance, age of onset of seizure, duration of seizure were collected at the time of interview. All data were entered in a pre-designed data collection form. The knowledge attitude and practice of patients are analysed according EPILEPSY SELF MANAGEMENT SCALE (ESMS) and counselling was given about the medication management, seizure management, safety management, information management and lifestyle management. This study was approved by Institutional Ethics Committee, JKKMMRF's Annai JKK Sampoorani Ammal College of Pharmacy, Komarapalayam and hospital authority has sanctioned.. The study subjects were described according to their demographic characteristics. In respect of demographic profiles, the continuous variables were described in terms of averages and in respect of categorical variables percentages. The improvements of counselling were analyzed using SPSS software and interpreted by student paired "t" test. The P-values less than or equal to 0.05 ($P \leq 0.05$) were treated as statistically significant.

Results and Discussion:

The epilepsy subjects were described according to their demographic profiles such as age, gender, educational status, precipitating factors, social histories, injuries during seizures, number of medications, number of dietary therapies, age at onset, last one year incidents, last six month incidents, primary care given during initial epilepsy occurrence, seizure duration, medications used and drug at registration.

Figure-1 Gender wise distribution of epilepsy subjects (N=100)

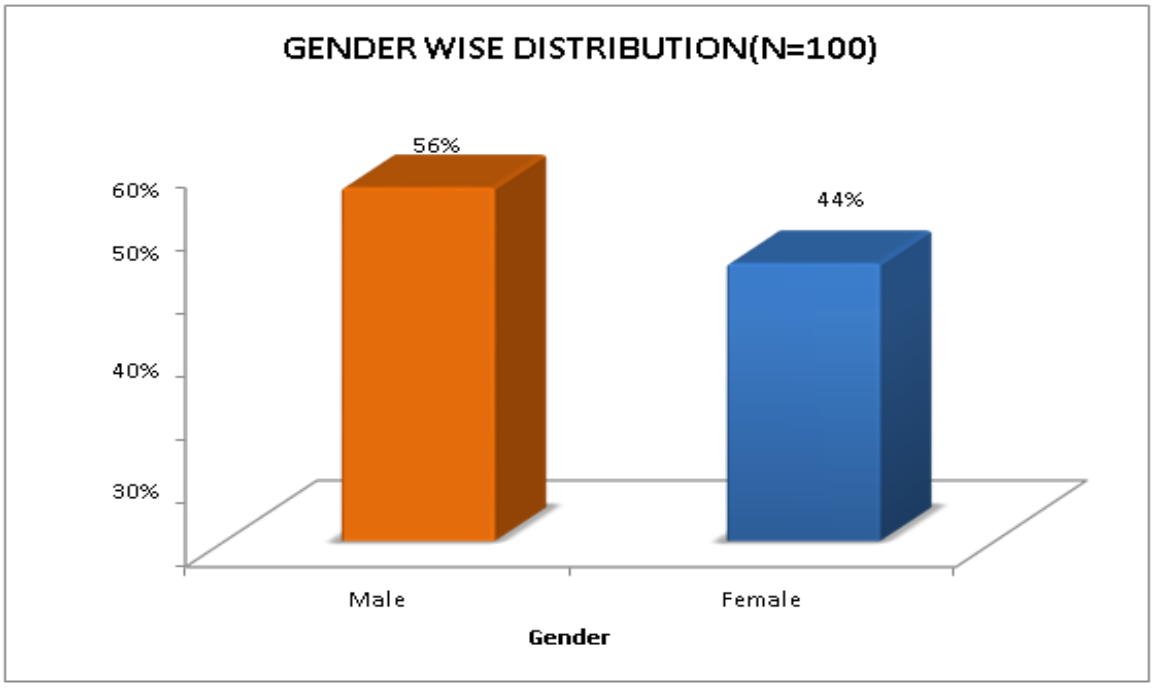

Figure-1 shows that majority of the study population were male which is 56 patients (56%) and 44 patients (44%) female.

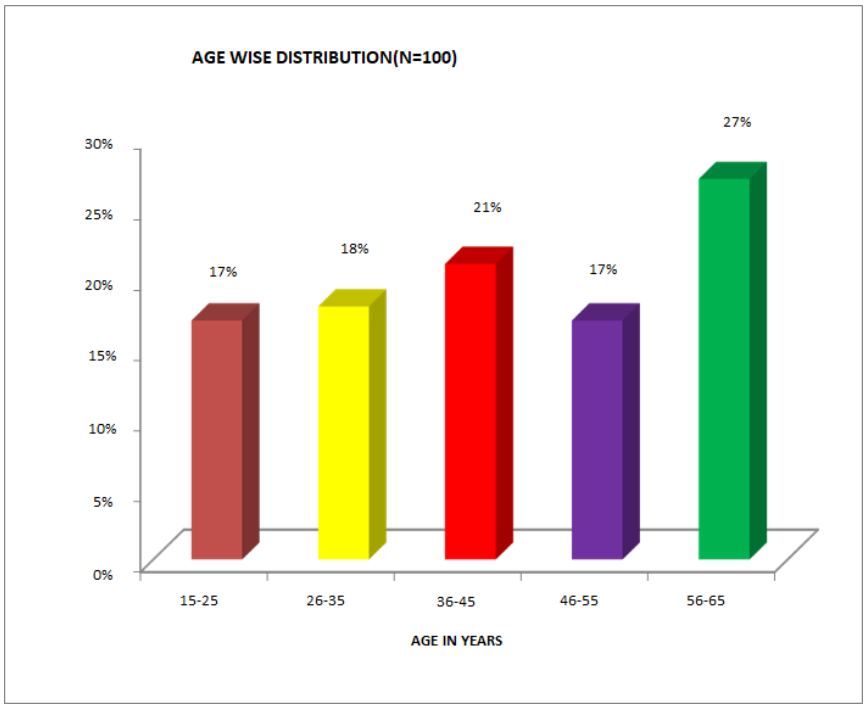

Figure-2 shows thatamong the study population **majority of the patients** were from 56-65 years which is 27% of the population, followed by 36-45 years (21%), 26-35 years (18%) and the least were from the age groups of 15-25, 46-55 (17%) . The mean age of them was 41.3±14.8 years with range of 15-65 years.

Figure-3 Educational status (N=100)

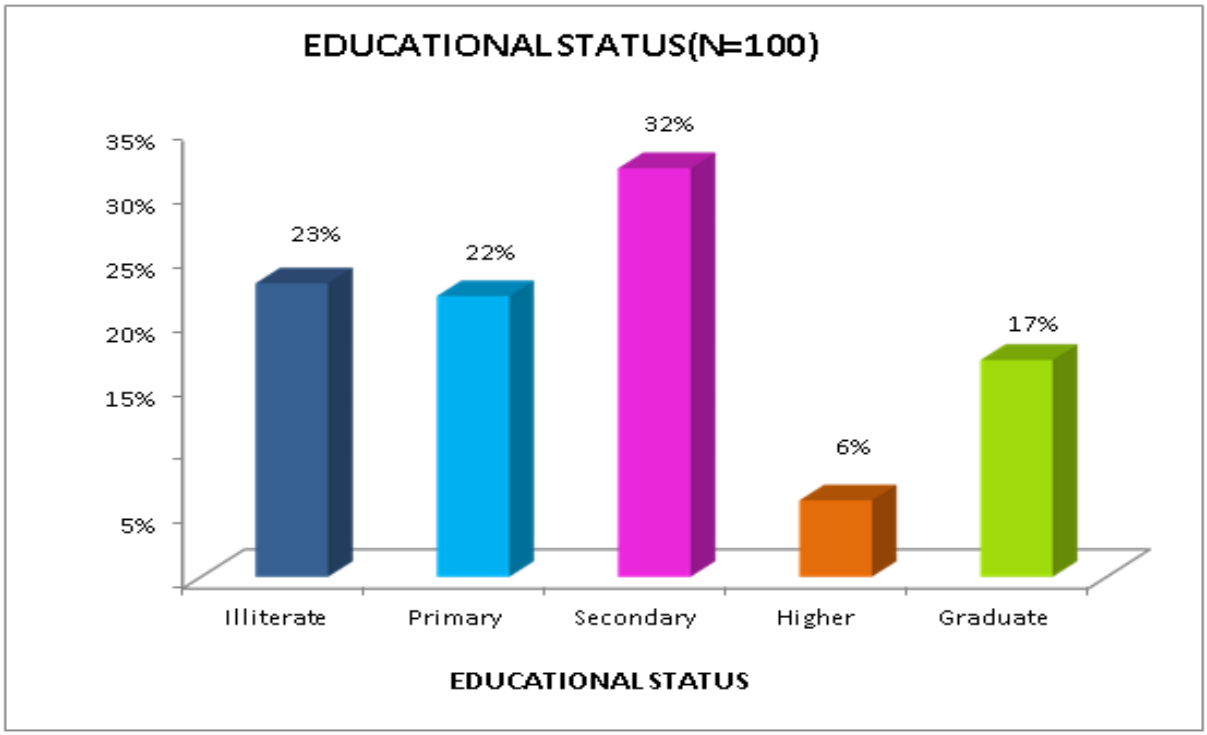

Figure-3 shows that most of the patients in the study population were secondary which is 32%of the study population followed by illiterate (23%), primary (22%), graduates (17%) and less number of population were Higher secondary (6%).

Figure-4 Social history of the epilepsy persons (N=100)

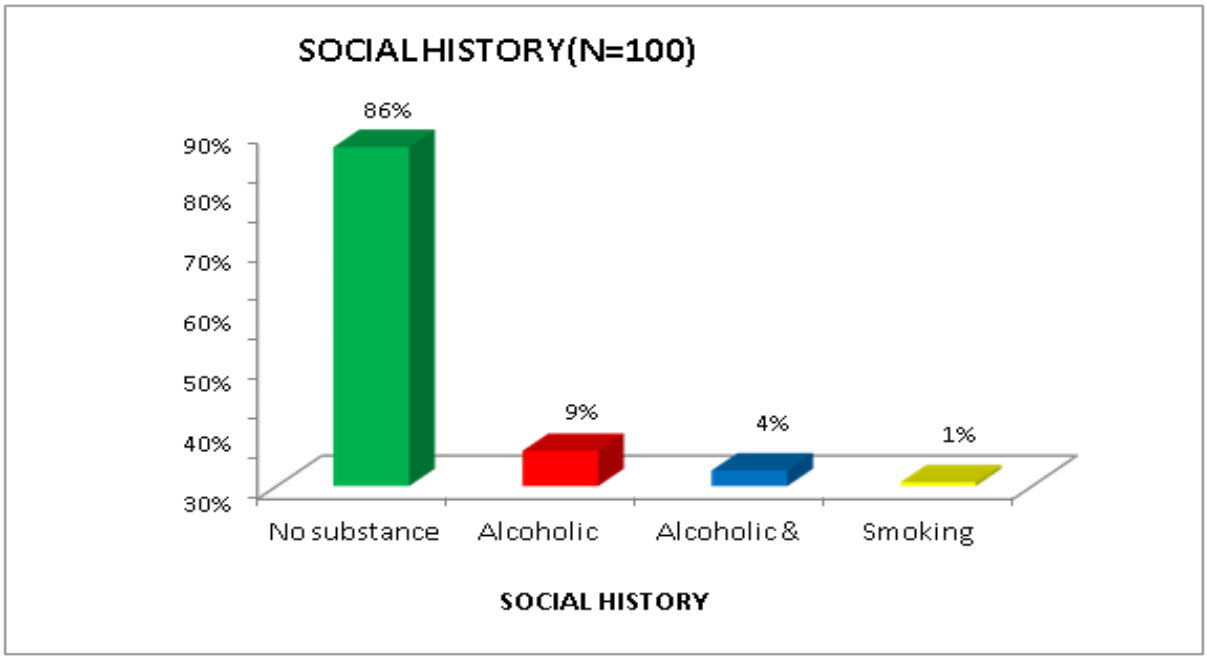

Figure-4 shows among the total study population majority of the patients are no substance abused (86%), followed by alcoholic(9%), alcoholic and smoking(4%), smoking(1%).

Figure-5 Epilepsy subjects classified according to Precipitating Factors (N=100)

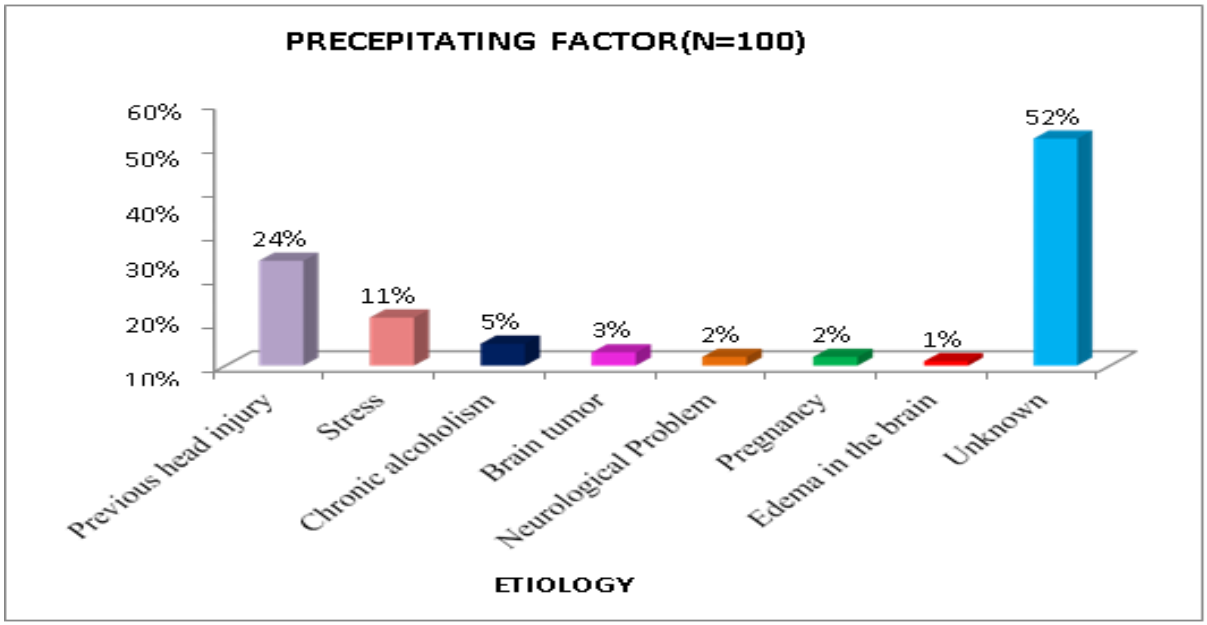

Figure-5 shows that,the data's related to precipitating factor collected and recorded. Majority of the population (52%) were unaware of the precipitating factor. The highest reported precipitating factor was previous head injury (24%), followed by stress(11%),chronic alcoholism (5%),Brain tumor(3%), neurological problem ,pregnancy (2%) and the least was edema in the brain (1%).

Figure-6 Age at onset (N=100)

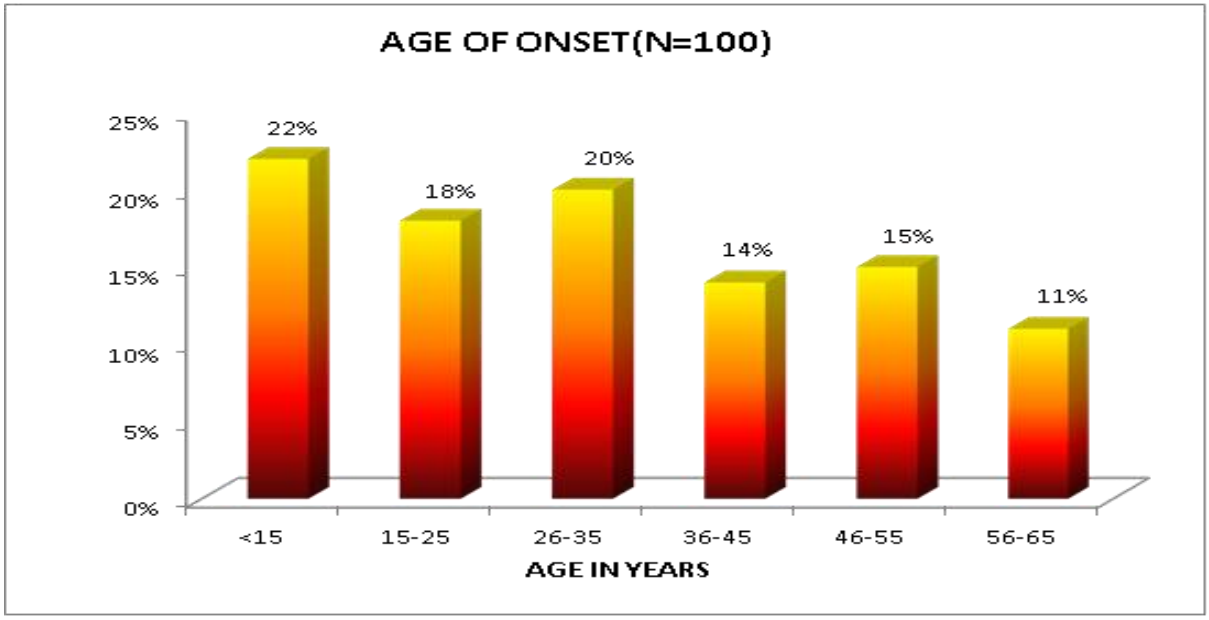

Figure-6 showsthat majority of the population (22%) **age of onset of epilepsy** was less than 15 years followed by 26 to 35 years (20%), 15 to 25years (18%), 46 to 55 years (15%), 36 to 45 years (14%) and in the least population(11%) the onset was in 56 to 65 years.

Figure-7 Duration of seizure episodes (N=100)

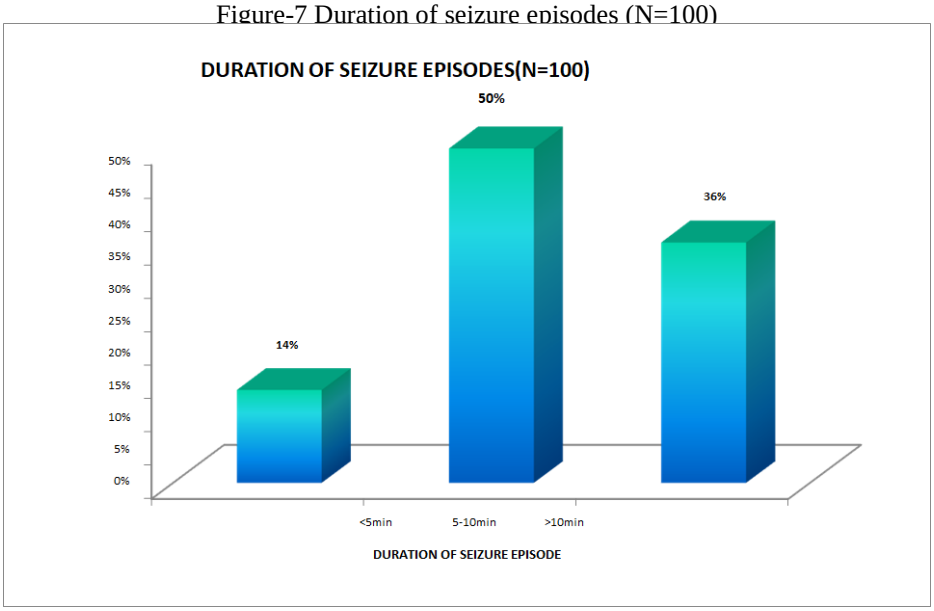

Figure-7 shows that 50% of study population, seizure duration was 5-10 minutes followed by >10 minutes (36%) and 14% population had a duration of less than 5minutes.

Figure-8 Primary care taken during seizure episode (N=100)

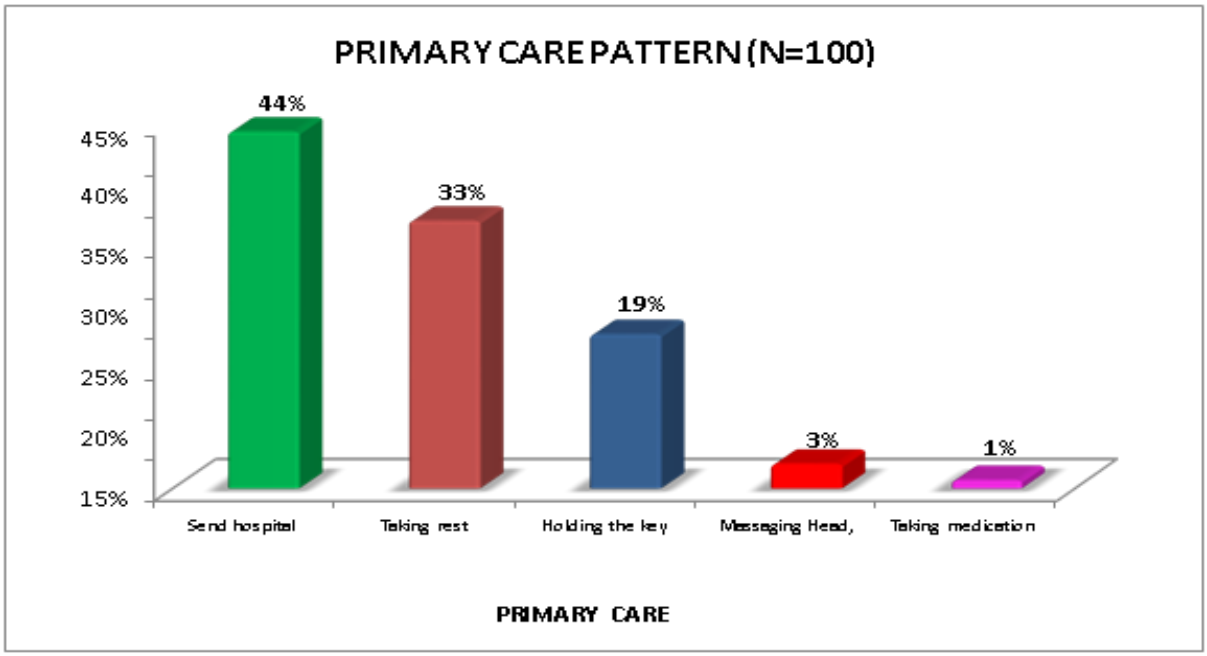

Figure-8 shows,majority of the patient were taken to the hospital(44%), followed by 33% population took rest, 19% were used the key, 3% were massaging head ,limbs , hand, and 1% took medication.

Figure-9 Distribution of injuries during seizures (N=100)

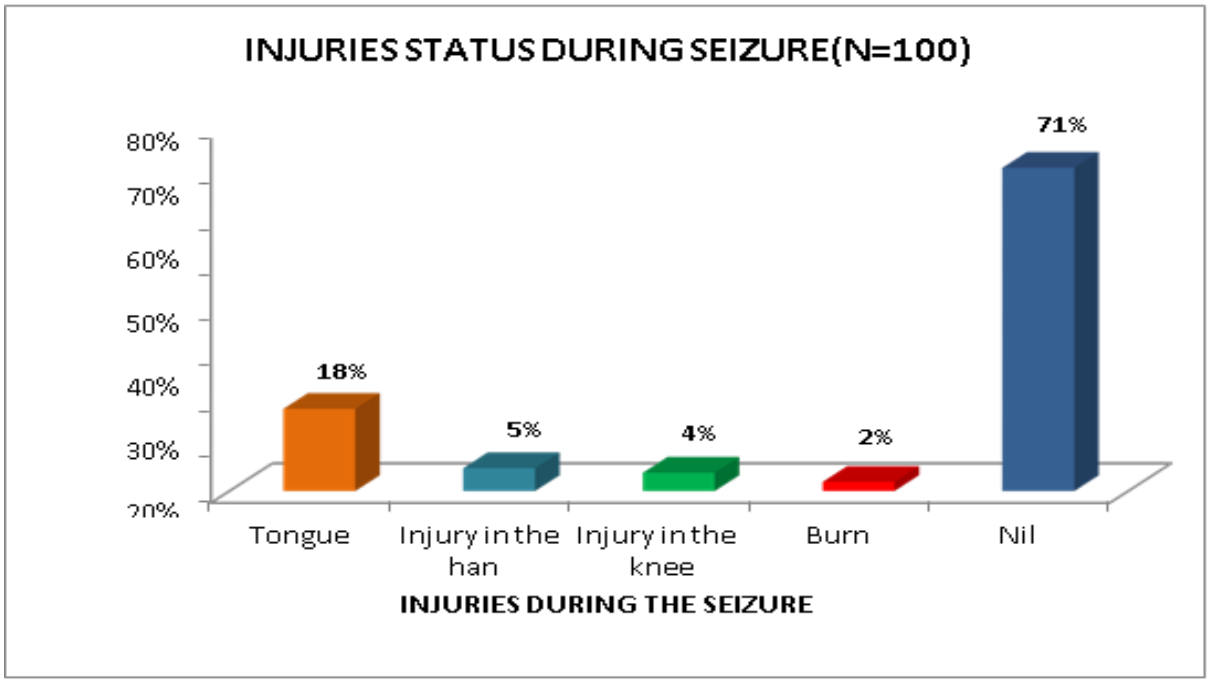

Figure-9 showsthat major population of study population didn't have any injuries during the seizure (71%). The major injury happen was tongue bite (18%) followed by injury in the hand (5%), injury in the knee (4%) and the least was burn(2%).

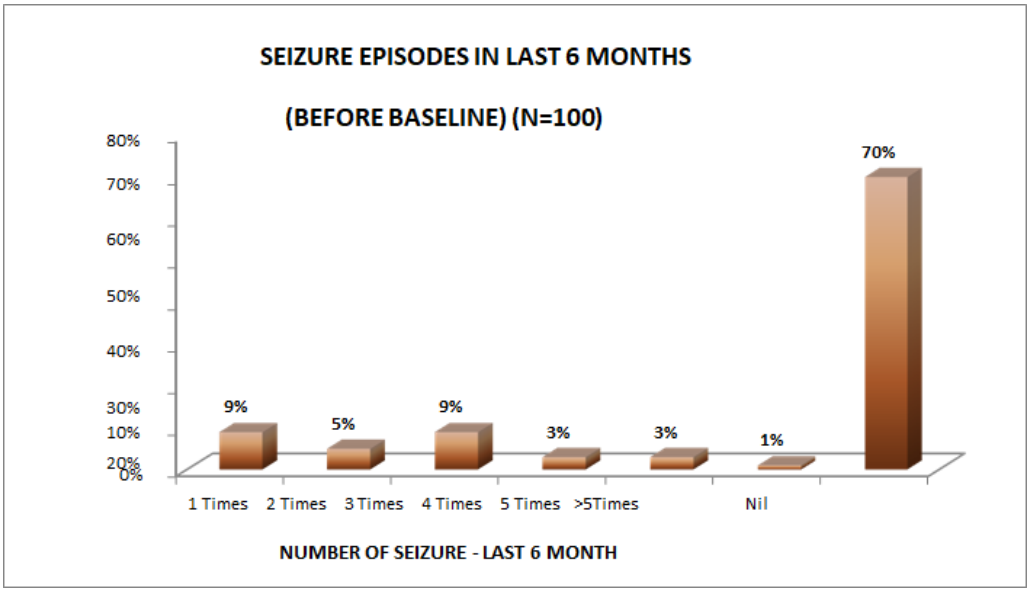

Figure-10shows70% of the population did not have any seizure episodes in past 6 months. Among 9% of the population had 2 episodes of seizure, 5% had 3 episodes of seizure, 9% had 4 episodes of seizure, episodes of seizure were 5 times and 6 times among 3% of study population and 1% population had episodes of seizure 7 times.

Figure-11 History of seizure episodes in last one year (before base line) (N=100)

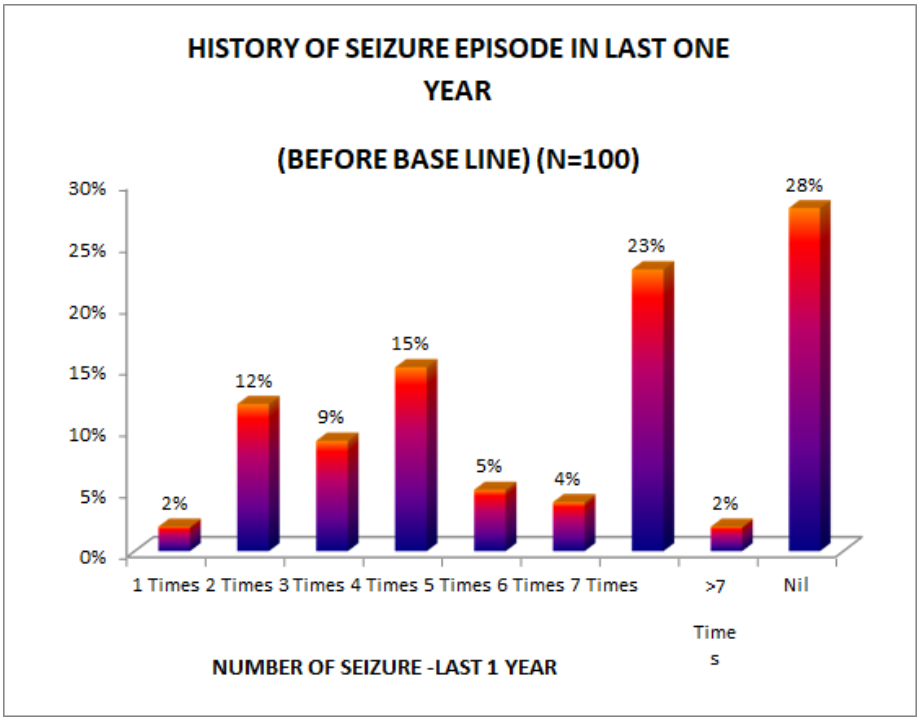

Figure-11 showsthe number of seizures during the last one year. The nil was 28%.The maximum was 7 times as 23%. The next to that was 4 times as 15%. 2 times as 12%, 3 times as 9%, 4 times as 15%, 5 times as 5%,6 timesas 4%, 7 times as 23% and more than 7times as 2%.

Figure-12 History of seizure episodes in last one year (before base line) (N=100)

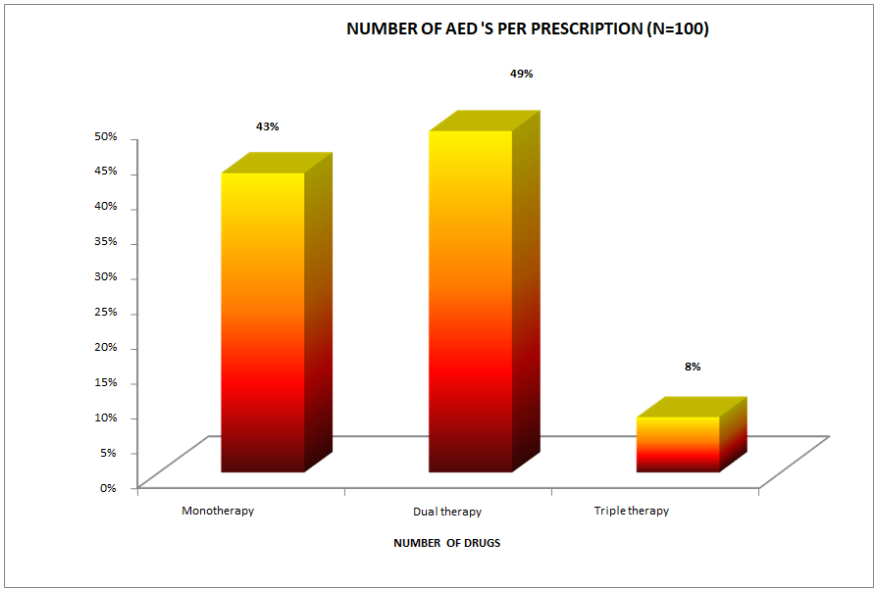

Figure 12 shows that most of the prescription (49%) contains two AED's followed by one drug (43%) and least was more than two drugs (8%).

Figure-13 Distribution of drug among mono therapy (N=43)

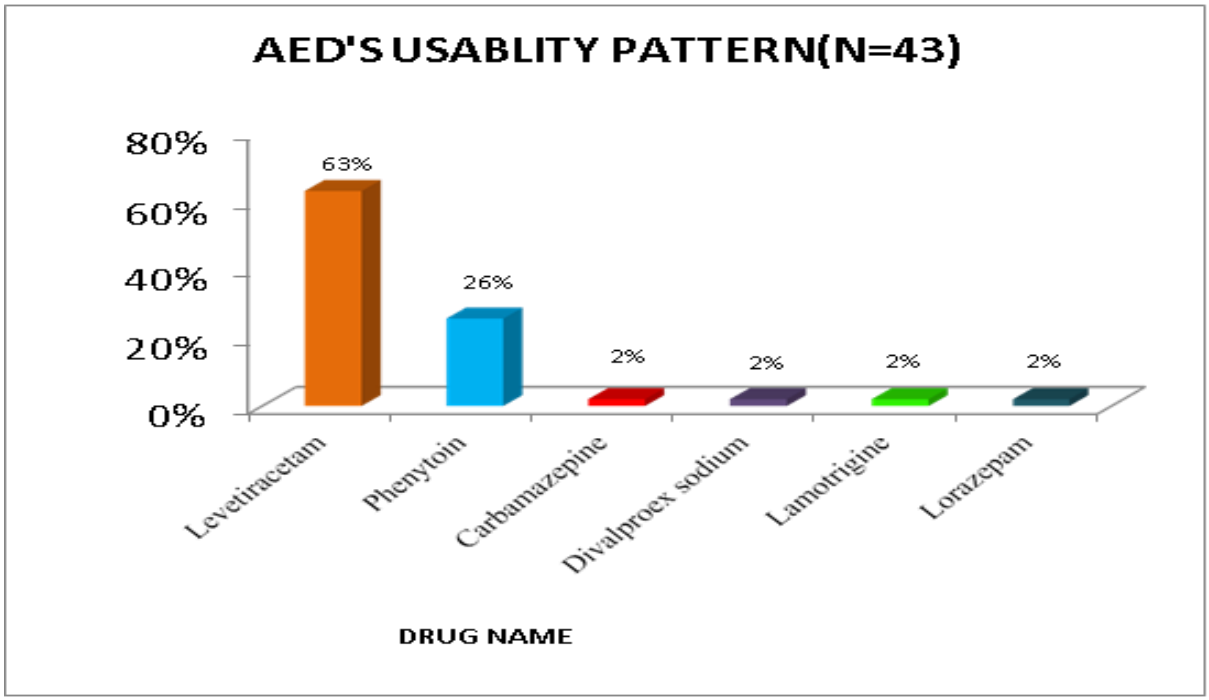

Figure-13 shows that majority of the patients were on Levetiracetam (63.79%) followed by 25.58% (Phenytoin), and 2.32% population received Carbamazepine, Divalproex sodium, Lamotrigine, Lorazepam, Gabapentine.

DISTRIBUTIONOFDRUGAMONGDUAL THERAPY(N=49)

Numberandtypeofdrugs administeredwerenoted,

Table-1: Distributionofdrugamongdualtherapy(N=49)

Sl no	**DrugName**	**Frequency**	**Percentage (%)**
1	Levetiracetam+Phenytoin	28	57.14
2	Levetiracetam+SodiumValproate	13	26.53
3	Levetiracetam+Lamotrigine	6	12.24
4	Levetiracetam+ Lorazepam	1	2.04
5	Phenytoin+Lorazepam	1	2.04

Table-2:Distributionof drugamongtripletherapy(N=8)

Sl no	DrugName	Frequency	Percentage (%)
1	Levitiracetam +Phenytoin+ Lamotrigine	4	50
2	Levitiracetam+Phenytoin+Lorazepam	2	25
3	Levitiracetam+lamotrigine+ Lorazepam	2	25

Table2showsthatmajorityofpatientswereonLevitiracetam+Phenytoin+Lamotrigine(50%)followedbyLevitiracetam+Phenytoin+Lorazepam(25%)followedbyLevitiracetam +lamotrigine+Lorazepam(25%).

EFFECTIVENESS OF STRUCTURED EDUCATION PROGRAMME

The effectiveness of structured education programme was analyzed and interpreted before and after education programme components and total score.

Table- 3: Effectiveness of structured education programme (N=100)

Management	PreCounselling		PostCounselling		Improvements		"t"	df	Sig
	Mean	SD	Mean	SD	Mean	SD			
Medication	23.0	5.2	40.1	4.9	17.1	5.5	30.819	99	P<0.001
Information	14.4	4.5	27.7	5.3	13.3	4.4	29.938	99	P<0.001
Safety	16.8	4.2	32.6	3.3	15.8	5.4	29.297	99	P<0.001
Seizure	15.1	4.4	25.6	2.2	10.5	4.2	24.807	99	P<0.001
LifeStyle	12.1	2.9	23.2	2.7	11.1	3.5	31.800	99	P<0.001
Total	81.4	11.8	149.1	8.9	67.7	13.8	49.129	99	P<0.001

Table 3 shows the impact of counselling in epileptic patients. The mean medication management score of precounselling was23.0±5.2 and the post counselling mean medication value was 40.1± 4.9. which shows an improvement of 17.1±5.5.

The mean information management score of pre counselling was 14.4±4.5and the post counselling mean information management value was 27.7±5.3. whichshowsan improvement of 13.3±4.4.

The mean safety management score of pre counselling was 16.8±4.2 and thepostcounsellingmeansafetymanagementvaluewas32.6±3.3.whichshowsanimprovementof15.8±5.4.

The mean seizure management score of pre counselling was 15.1±4.2 and thepost counselling mean seizure management value was 25.6±2.2. which shows animprovementof10.5±4.2.

The mean life style management score of pre counselling was 12.1±2.9 andposttestcounsellingmeanlifestylevaluewas23.2±2.7.whichshowsanimprovementof11.1±3.5.

Total impact of counselling (5 sub scales) was found by calculating totalmean score. 81.4±11.8 was the pre counselling score and post counselling score was149.1±8.9. which shows an improvement of67.7±13.8. The total improvements ofmedication, information, safety, seizure, life stylemanagement in pre and postcounsellingwerestatisticallyveryhighlysignificant (P<0.001).

A similar study conducted by Chen et.al, in Singapore among 55 caregivers also reported that post-counseling knowledge score was significantly higher thanpre-counselingscore(14.7 v/s 10.4).

Dash D et.al conducted a study to found out impact of health education ondrugadherenceandself-careinpeoplewithepilepsywithloweducation. This randomized controlled study conducted in 180 patients reported that in the epilepsyhealth education group, the pre-test mean score was 6.58 whereas the post-test meanscore 7.53; the difference was significant. the mean scores for the control group'spre-test and post-test were 6.46 and 6.58 respectively, which were not significantlydifferent.

Conclusion:

Specialized counselling given by pharmacists to entire population results in a positive impact on patients knowledge on epilepsy and the use of AEDs. The improvements such as medication, information, safety, seizure, life style and total from pre counselling to post counselling were statistically very highly significant (P<0.001). It made the patients more adherent to AED therapy. This lead to better compliance and empowers in the care of patients.There was a significant improvement in the epilepsy self management score of each patients post follow up. Therefore, it is highly recommended that pharmacists counselling have a key role in the education of patients with epilepsy.

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