NEED FOR THE STUDY

Epilepsy is a major neurological disorder and up to 5% of the world population develops epilepsy in their lifetime. The current therapy of epilepsy with modern antiepileptic drugs is associated with side effects, dose-related and chronic toxicity, as well as teratogenic effects, and approximately 30% of the patients continue to have seizures with current antiepileptic drugs therapy.

Traditional systems of medicine are popular in developing countries and up to 80% of the population relies on traditional medicines or folk remedies for their primary health care needs. Medicinal plants are believed to be an important source of new chemical substances with potential therapeutic effects. Several plants used for the treatment of epilepsy in different systems of traditional medicine have shown activity when tested in modern bioassays for the detection of anticonvulsant activity was studied (Karunakar Hegde et al. 2009).

An epidemiological study suggests a prevalence of 6.8/1000 in the U.S.A. It is probable that the prevalence is higher in less developed countries because of higher incidence of antecedent factors such as brain infections, cranial and prenatal traumas and parasitic infections. Although the prognosis for controlling seizures in most patients in terms of seizure control, remission and withdrawal of medication is good.

Many patients (20 - 30%) however, have seizures that are not adequately managed by the established antiepileptic drugs (AEDs), making traditional herbs and herbalists very useful and indispensable especially in underdeveloped countries of Africa. Thus a need arises for new agents with greater efficacy, negligible or reduced side effects and devoid of unfavorable drug interactions unlike most AEDs in the market today (Amole Olufemi et al., 2009) and also there is renewed worldwide interest in the use of plants to relieve or cure different diseases such as neurological disorders like epilepsies, which have a high incidence in the world population. Herbs may have antiepileptic effects in several ways. Some herbs may increase brain levels and/or the binding of nerve transmitter gamma amino butyric acid (GABA), which quiets nerve activity. The Labiatae (Lamiaceae) is one of the largest and most distinctive families of flowering plants, with about 220 genera and almost 4000 species worldwide. Because of the high rate of species diversity and endemism in Labiatae, many species are used in traditional and folk medicine in Iran was reported (Mohammad et al., 2010).
Seizure is coined from the Latin word Sacire “To take possession of”. Seizure (Convulsion) is therefore a paroxysmal event due to abnormal, excessive hypersynchronous discharges from aggregates of central (Cerebral) neurons. A variety of factors influence the incidence and prevalence of seizures, approximately, 5%-10% of the population will have at least one seizure during their life time with the highest incidence occurring during early childhood and late adulthood and because seizure is common, this clinical condition is encountered frequently during medical practice in a variety of settings.

Seizures could occur in a variety of clinical settings, including febrile convulsion that is common in children, head injury, enclampsia in pregnancy, frank epilepsy, septicaemia, tetanus, meningitis, stroke, metabolic disorders and could be of different kinds (Azikiwe et al., 2012) and Epilepsy is the chronic disorder of the central nervous system manifested by recurrent unprovoked seizures. Seizures are discrete; time limited alteration in brain function including changes in motor activity, autonomic function, consciousness, or sensation that results from an abnormal and excessive electrical discharge of a group of neurons within the brain. It has been shown to affect several brain activities and promote long-term changes in multiple neural systems. This disorder, if untreated, can lead to impaired intellectual function or death and is typically accompanied by Psychopathological consequences such as lose of selfesteem was reported (Ashish et al., 2009).

Epilepsy affects an estimated 7 million people in India, and 50 million worldwide. Approximately 40% of them are women. The prevalence of epilepsy is 0.7% in India, which is comparable to the USA and other developing nations. The estimated incidence rate range from 40 to 60 per 1000000 populations per year was reported (Abrar et al., 2012).

The past 15 years has witnessed a golden age of gene-discovery in idiopathic and syndromic epilepsy. Unlike other complex neurological or psychiatric conditions, idiopathic epilepsy enjoys the privilege of informative Mendelian autosomal dominant (AD) families that provide a direct insight into the neurobiology of the condition. The compendium has grown to around 21 genes in idiopathic generalised epilepsy (IGE), the vast majority of which are channelopathies or regulate the action of excitatory or inhibitory neurotransmission in the central nervous system.
Other genetic insights have been gained through the discoveries in syndromic epilepsy and in conditions where epilepsy is co-morbid with other disorders such as broad-spectrum encapthalopathies, learning difficulties, psychiatric conditions and cortical migration disorders, the majority of epilepsy patients have no genetic explanation and this represents one of the many challenges for future epilepsy research (Berkovic et al 2006) and the present scenario is that 70-80% of people with epilepsy can be seizure free with antiepileptic drugs (AED) and chronic epilepsy or medically refractory epilepsy is seen in about 20-25% of cases, which when translated into numbers will be 15-20 lakhs in India, indeed a great number. Considerable advances have been made to address this group of patients, to control the seizures. Some are already in clinical practice, some others are in the experimental stage or clinical trial stage and some more at the drawing board level.

**Options for management of refractory epilepsy**

a. Second line drugs  
b. Surgery - lesional  
c. Gama knife  
d. Surgery - non-lesional  
e. Seizure prediction and prevention  
f. Neural stimulation (Vagus, TMS, DBS)  
g. Gene therapy  
h. Stem cell therapy  

Pharmacogenetics was studied (Srinivas, 2010).

Natural products from folk remedies have contributed significantly in the discovery of modern drugs and can be an alternative source for the discovery of AEDs with novel structures and better safety and efficacy profiles. Now, various phytochemical and pharmacological studies have been carried out on these anticonvulsant plants. Herbal medicines are often considered to be a gentle and safe alternative to synthetic drugs was premeditated (Jalal et al., 2012)

The survey of literature reveals that the plants are found to be used in the traditional system of medicines as an anticonvulsant activity. However anticonvulsant activity of *Diplocyclos palmatus* leaves *Abutilon indicum* (L.) Sweet stem and *Cassia occidentalis* Linn whole plant has not been scientifically investigated these plants would be individually subjected for phytochemical investigations and anticonvulsant activity.
with various experimental studies. Present study is undertaken to elucidate the role of herbal product in different convulsive seizures.