

Ayurvedic Management Of Apasmar Vis-A-Vis Epilepsy – A Review

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Abstract:

Epilepsy is the most common management in a neurological problems and stands after stroke and dementia in its prevalence. Epilepsy is a chief public health problem all over world. The anticipated proportion of the general population with active epilepsy at a given time ranges from 4-10 per 1,000 people. The disease and its management have high impact on the quality of life of the affected person and also prejudice in education, employment and social acceptance. In Ayurveda, the comparable presentation is named as 'Apasmara' has been explained with its etiology, symptoms, diagnosis and management. Acharya Charaka has mentioned Shodhana therapy along with Shamana therapy as a line of treatment of Apasmara. In this regard, there is great potential for identifying outstanding Ayurvedic mechanism particularly in consideration of the fact that such substances may provide maximum improvement with cost effectiveness, least side effects.

Keywords: Apasmara, Epilepsy, Anti-Epileptic Drug

INTRODUCTION:

Since time in memorable with existence of human being, disease is associated. "Dis-ease" When a human being suffers from any harmful deviation from the normal structural or functional state of an organism he is said to be diseased.

Hippocrates is to modern system of medicine what *Sushrut* and *Charak*^[1] are to *Ayurveda*, But atleast Hippocrates had bit of previous work to develop upon while *Charak* and *Sushrut* have done everything first hand and their work is pioneering, as well as astronomical.

Transient loss of memory or loss of memory of convulsions is known as *Apasmar*. In this disease patient gets convulsions, attacks of falling down and frothing from mouth. After convulsions patient is again normal.

According to *Ayurveda* constituents of body are divided into two types 1st *Sthula* and 2nd *Sukshma*. *Dosa*, *Dhatu* and *Mala* are of *Sthula* type and *Atma*, *Indriya* *Mana* are of *Sukshma* type. According to *Ayurveda*; *Apasmar*^[2] is a psychosomatic disorder. In more or less proportion *Apasmar* found in almost all countries. Being prevalent in both sexes, all age groups and any socio-economic condition, it has predilection for children.

As per Modern a seizure is a paroxysmal incident due to abnormal, excessive, hyper synchronous discharges from a cumulative of central nervous system (CNS) neurons. Epilepsy describes a condition in which a person has recurrent seizures due to a chronic, original process. This definition implies that a person with a single seizure, or recurrent seizures due to correctable or avoidable circumstances, does not necessarily have epilepsy. Since there are many forms and causes of epilepsy, Epilepsy refers to a clinical phenomenon rather than a single disease entity. The yearly incidence of new cases of Epilepsy after infancy is 2070/100000. Prevalence of epilepsy in European countries is about 0.5% while in developing countries is up to five times higher than developed countries^[3].

In all types of medical therapies we get description about disease which is similar to *Apasmar* and treatment of the disease. But still this disease remains the challenge for the therapists. A wide range of antiepileptic drugs are available and in 80% cases it is controllable only by using a single drug^[4]. A modern antiepileptic drug suppresses the seizure, but do not cure the disorder^[5] and also having adverse effects, contraindications and sometimes requires lifelong treatment.

Through strong tranquilizers and sedatives of modern therapy are effective, they have adverse effect on mind. Hence an effective drug without any adverse effect is required to be researched for *Apasmar*.

Review of Ayurvedic Literature:

Apasmar:

Apasmar has been amongst one of the topics which has been discussed, studied and treated prominently. *Charaksamhita*, *SushrutSamhita*, *SharangdharaSamhita*, *Ashatanghrdaya*, *Madhavnidana* have discussed *Apasmar* in detail. You cannot but remain impressed by the vastness of the topic; to the depth it's studied.

In *Athaarvaveda*, in treatment section treatment of *Apasmar* is given. According to them *Apasmar* is treated by Deer's skin and horn.

We will, see in detail, *Vyutpatti* (origination of the word *Apasmar*), *Nirukti* (definition), *Nidana* (predisposing factors), *Samprapti* (pathophysiology), *sankhyasamprapti* and *chikitsa* (i.e. treatment)

A. *Nirukti*^[1]

Apasmar is defined as the transient appearance of unconsciousness with loathsome expression due to derangement of memory, intelligence and mind.

B. *Nidana*^[2,6]

In those with prevented mind and abundant morbidity due to intake of unwholesome and unclean food, infliction of mind with rajas and tamas, masking of heart with dosas and injury of mind by anxiety, passion, fear, anger, grief agitation. Excessive, inadequate and improper attention to the objects of the sense as well as to their actions etc. leads to an aggravation of the bodily dosas which in their turn affect the mind very greatly and gives rise to *Apasmar*.

C. *Samprapti*^[2,6]

By *Charak-Dosas* being carried by the vessels to heart afflict it and as such the patient suffers stupefied with wandering mind. He sees non-existent things (visual hallucinations) falls down, gets teaching twitching in tongue, eyes and eyebrows, excessive salivation and convulsions in hands and feet. After the paroxysm is over the patient awakens as if from sleep.

By *Sushrut* -The sense carrying *srotas*(channels) of the body overwhelmed by the concurred action of the deranged *dosas* being in the predominance pre *Rajas* and *Tamas* causing the patient unconscious and forgetful of all past memories^[7]. He writes in agony and throws his prose his hands and legs in convulsive jerks with contracted eyes and eyebrows. He gnashes his teeth with foams at the mouth and falls to the ground with open eye, the consciousness returning short while after. The disease is called *Apasmar*.

D) *SankhyaSamprapti*:

Apasmar is of four types

a) *Vataja* b) *Pittaja* c) *Kaphaja* d) *Sannipataja*

Above 4 types Three (a b c) are such as caused by individual *dosas* and fourth (d) is caused by all combined.

PurvaRoopa (Premonitory symptoms):

The throbbing of the heart, emptiness or lightness of the chest (i.e. a sense of as if the external world is vanishing away fast), perspiration, pensiveness, fainting stupid appearance, and sleeplessness are *purvaroopa* of *Apasmar*.

E) *Lakshana* (symptoms)

All the four types of *Apasmar* exhibit a group of symptoms with the help of which we can differentiate between them.

1) *Vataja*^[6]

- The patient trembles, bites his teeth, emits froth, respire excessively and sees things as rough, reddish and black.
- The patient fancies that a dark supernatural being is coming thing is coming after him to seize his person and is frightened and faints in consequence with shivering, grinding of teeth i.e. lockjaw, labored breathing and foaming at the mouth.

2) *Pittaja*^[6]

- The patient has yellow froth, limbs, face and eyes sees things as yellow and red, suffers from thirst and heat and views the environment as caught with fire.
- Fainting^[2] is excited by terror of being seized by a yellow and fierce looking being in the *pittaja* type which is further work by thirst, increased heat of the body, perspiration, fainting, mild tremor of the limbs and restlessness.

3) *Kaphaja*^[6]

- The patient has white froth, limbs, face and eyes are cold horripilate, heavy and views things as white. He recovers after long period.
- When the patient is excited by a fancied trade dreads if supernatural being of white color is coming to apprehend him, it is a case of *kaphaja* type which is more over characterized by the exhibition of such symptoms as shivering, nausea, sleeplessness, falling prostrate on the ground and vomiting of mucus.

4) *Sannipataj*^[2,6]:

- This *Apasmar* is caused by the simultaneous vitiation of all the three *doshas* and shares the symptoms of all the three *doshas*
- The *Apasmar* caused by three *dosas* is known from all the above symptoms jointly. This type of *Apasmar* is not curable and also in the wasted person and the old one.
- The specific features of all the three fore going types manifest themselves in concert in case of *Sannipataj* type.

F] *Saddhya/Asaddhyata* (prognosis)

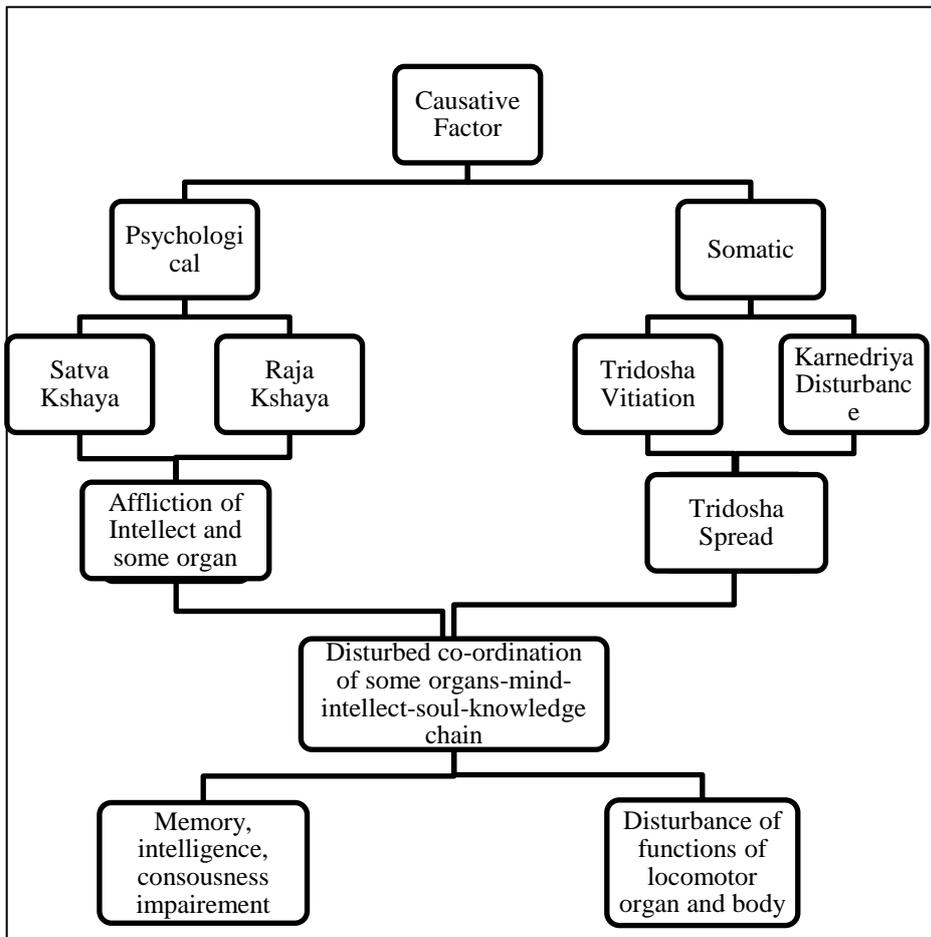
Apasmar is caused by *vata*, *pitta*, *kapha* and all three *dosas* collectively. The wise physicians treat the curable ones cautiously with strong evacuative measures and respective palifatory ones when there is association of exogenous factor with that caused by *dosa* then the wise physician will prescribe the general treatment.

G] Chikitsasutra^[6] [Treatment]

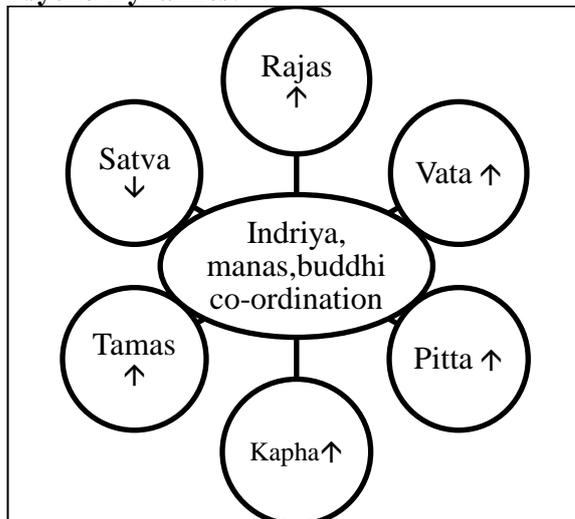
Physician at first should take steps for the awakening of heart, channels, and mind blocked by those *dosas* by drastic emesis etc. he should treat *vatika* type predominantly with enema, *paittika* type mostly with purgation and *kaphaja* type with emesis.

In patient cleansed by all means and consoled well, drug formulations to alleviate the *Apasmar* should be administered.

Nidanarthakararoga (specific causes):



Psycho-Dynamics:



Review of Modern literature:

Epilepsy:

In modern classics *Apasmar* disease can be correlated to Epilepsy.

A] Definition:

It is defined as condition characterized by recurrent episodes primarily of cerebral origin in which there is a disturbance of movement, sensation, behavior of consciousness. These episodes begin suddenly and have a tendency to disappear spontaneously.

B] Causes:

- 1] Idiopathic
- 2] Symptomatic –a] Intracranial causes
b] Extra cranial causes

1] Idiopathic:

This is due to inherited constitutional tendency to seizures.

2]Symptomatic:

- a] Intracranial causes –
 - a. Increased intracranial pressure- tumor, hydrocephalus, Subarachnoidhemorrhage.
 - b. Infectious- meningitis, encephalitis, neurosyphilis.
 - c. Trauma -intracranial hemorrhage, head injuries, birth trauma
 - d. Cerebrovascular diseases- hemorrhage, thrombosis, embolism hypertensive encephalopathy
 - e. Anoxia
- b] Extra cranial causes –
 - a. Toxins –
 - 1) Exogenous- alcohol, cocaine, lead, arsenic, camphor
 - 2) Endogenous –eclampsia, uremia, hypoglycemia,hypocalcemia
 - b. Endocrine disorders - Tetany

C] Pathophysiology:

In epilepsy the electrical activity recorded by the electroencephalogram (EEG) is of high voltage to the background and results from an unphysiological, synchronous discharge of an aggregation of neurons.

The basic mechanism of epilepsy depends on population of abnormal,hyperexcitable nerve cells. Such susceptible neurons are subject to sources. Excitatory and chemical transmitters released from connecting nerve terminals tend to depolarize elliptic neuronal membranes; inhibitor transmitters lead to hyperpolarization of membranes. The discharge of the abnormal groups of cells is governed by the balance at given time between these two opposing factors.Acetylcholine is an excitatory transmitter and gamma-aminobutyric [GABA] is an inhibitory transmitter and hence has anticonvulsant properties.

Classification of epileptic seizures ^[8]

- A) Primary generalized seizures -
 1. Grand Mal or Tonicclonic seizures
 2. Petit Mal or absence seizures
- B) Secondary generalized seizures-
 1. Akinetic or myoclonic seizures
 2. Petit mal variant
- C) Partial seizures -
 1. Simple partial seizures
 2. Complex partial seizures
 3. Generalized tonic-clonic seizures

A) Primary generalized seizures -

Generalized seizures are more or less symmetrical no evidence of focal onset.

1) Grandmalor tonic-clonic seizures –

- Prodromal period of irritability and tension for hours of days preceding the attack.
- No aura.Losesconsciousness without warning. Becomes rigid in extension, may urinate apnoeic- due to contraction of thoracic and abdominal muscles involving face, arms and legs.

- Clonic phase stops and patient becomes flaccid and gradually recovers consciousness. Post ictal patient may go to sleep for a few hours or remain confused for some time.

2) Petit mal for absence seizures –

- Abrupt stoppage of whatever patient is doing
- Stare ahead or tilt eyes up
- Unresponsive for 5 seconds 2 minute
- Continues whatever he was doing before the attack
- Attacks may be several times a day

B) Secondary generalized seizures –

1) Akinetic and myoclonic seizures:

Jerking of a limb or limbs is associated with attacks of loss of postural tone or major seizures.

2) Petit mal variant:

Recurrent myoclonic jerks and drop attacks occur in children who often are mentally retarded.

C) Partial seizures -

Seizures which start by activation of a group of neurones limited to a part of a single hemisphere

1) Simple partial seizure:

Suggest a localized lesion of a brain. The pattern seizure depends on the area of the brain irritated by the organic lesion. Generalized convulsions may or may not follow.

2) Complex partial seizure:

Simple partial onset followed by impairment of consciousness or impairment of consciousness at onset

3) Partial seizures simple or complex:

Evolving to generalized tonic-clonic seizure

4) Generalized tonic-clonic seizures:

No clinical evidence of focal onset

Clinical examination, Diagnosis and Treatment:

In *Ayurveda*, *Rogi-pariksha* (an inclusive evaluation of the patient) and *roga-pariksha* (*Poorvarupa*, *Rupa*, and *Samprapti*) are to precede the disease diagnosis.

A detailed history of the patient for a correct diagnosis is emphasized in *Ayurveda*.

Modern Drug Review:

Epilepsy requires management under direction of a physician for prolonged time which may extend from one to four decades. Age, sex, economic factors and seizure type determine choice of anti epileptic drugs. Commonly used anti epileptic drugs are Phenytoin, Sodium Valproate, Phenobarbitone, Carbamazepine, Cloazepam, Diazepam, and ACTH etc.

The ideal anti-seizure drug is supposed to suppress all seizures without causing any untoward effect. But these drugs also frequently cause side effects. In addition to adverse effects, other important parameter like safety, tolerability, efficiency, expenses especially in long term therapy, serum drug monitoring etc. are other limitations with synthetic antiepileptic drugs. For example, Phenobarbitone has adverse effects like behavioral abnormalities, reduction of intelligence, impairment of learning and memory, rashes, megaloblastic anemia and osteomalacia etc. occur in some patients on prolonged use.^[9] Similarly other anti epileptic drugs also has adverse effects in prolonged use.

Ayurvedic Drug Review:

For the management of *Apasmara*; *Shaman Chikitsa* as well as the *Panchkarma* therapy, (i.e. *Vaman*, *Virechan*, *Vasti* and *Nasyadi*), has been advised.

Herbal remedies have been suggested in various medical treatments for the cure of various diseases. As there is burden of epilepsy management, there has been a continuous effort to develop drugs that will postpone the development and arrest the progress of the disease. In this regard, there is great prospective for identifying excellent *Ayurvedic* components or its

active principles, particularly in consideration of the fact that such substances may provide maximum advantage with cost effectiveness, least side effects, and improvement of patient compliance. So, Ancient medicine systems should be combined to plan efficient health-care delivery systems for better epilepsy care.

Panchkarma T/t which utilizes a number of formulations as : 1) *Ghritas* (clarified butters) - *Panchgavyaghrita, Brahmighrita, Vachadighrita, Goghrita* etc. 2) Medicated oil- *Katbhayadi oil, Palankshadi oil, Triphaladi oil* etc. 3) *Dhupanadravyas* and *nasyayoga*^[10] 4) *Rasaushadhi-Bhutbhairava rasa, Vatakulantka rasa, Sutbhasmaetc*^[11]. *AcharyaSushruta* also recommended *Siravedha* (blood- letting) from the veins of the temples in epilepsy.^[12]

Types of formulation which showed the antiepileptic effects -

Table no. 1: Churna (powder):		
Types of formulation	Name of Formulation	Description
Churna (powder) ^[13,14]	<i>SaraswataChurna</i>	Nootropic and cognition enhancer
	<i>KalyanakaChurna</i>	
	<i>Apasmahara Yoga</i>	Described in <i>BhaisajyaRatnakara</i>
	<i>Sarpagandhachurna Yoga</i>	Used in hysterical fits, insomnia etc.

Table no.2: Single drugsformulation:		
Types of formulation	Name of Formulation	Description
Single drugs ^[15]	<i>Brahmi</i>	<i>Medhya</i> (intellect promoting)
	<i>Shankhapuspi</i>	<i>Medhya and used in Apasmara, Insomnia etc.</i>
	<i>Jyotismati</i>	<i>Used as memory enhancer</i>
	<i>Jatamansi</i>	<i>Antipsychotic drug</i>
	<i>Aswagandha</i>	<i>Antipsychotic drug</i>
	<i>ParasikYavani</i>	<i>Antipsychotic drug</i>
	<i>Sarpagandha</i>	<i>Antipsychotic drug</i>
	<i>Vacha</i>	<i>Used as Resuscitative drug</i>
	<i>Rasona</i>	<i>Used as anodynes</i>
	<i>Shatavari</i>	<i>Balya and Rasayana</i>
	<i>Kustha</i>	Fumigation drug
	<i>Arka</i>	} <i>Medhya and used in Apasmara, Insomnia etc.</i>
	<i>Punarnava</i>	
	<i>LaghuAgnimantha</i>	
	<i>Kapikachu</i>	
	<i>Karmarda</i>	
	<i>Sinduri</i>	
<i>Shirish</i>		
<i>Vidarikanda</i>		
<i>Palasha</i>		

Table no. 4: <i>Katu/Guggulu</i> preparation^[17] (powder):		
Types of formulation	Name of Formulation	Description
<i>Katu/Guggulu</i> Preparation	<i>Shiva Gutika</i>	Originally described in: A.S.U.49/193
	<i>MansamritiKashaya</i>	Used in by Serticalitis, in scindia et
	<i>MahayogaKashaya</i>	Given by S.S. Madhyama Khanda //56-69
	<i>SaptavinshatiGugglu</i>	Used as <i>Amphim</i> in <i>Apasmara</i> along with <i>Kusumaka Ghrita</i>
		Originally described in B.R. <i>Bhagandaradhikara</i> 16-18.
	<i>MansamritaGutika</i>	Originally described in <i>SahasrayogaGutikaPrakarana</i> -68
	<i>MritasanjeevaniGutika</i>	Originally described in <i>SahasrayogaGutika Prakarana</i> -66
	<i>Bramhivati</i>	Described in CharakSamhita
	<i>VijayasatvadiVati</i>	Contain cannabis

Table no. 5: <i>Ghrita</i> preparation^[18]:		
Types of formulation	Name of Formulation	Description
<i>Ghrita</i> preparation	<i>KalyanakaGhrita</i>	Originally described in A.H.U.6/26-29
	<i>TiktakaGhrita</i>	Originally described in A.H. C. 14/2-4
	<i>JivaniyaGhrita</i>	
	<i>DadhikaGhrita</i>	Originally described in A.H.C14/13-19
	<i>DhanvantaraGhrita</i>	Originally described in A.H. C. 12/19-22
	<i>PanchgavyaGhrita</i>	Originally described in A.H.U. 7/18
	<i>BrahmiGhrita</i>	Originally described in A.H.U. 6/23-24
	<i>LashunadhyaGhrita</i>	
	<i>MahakalyanakaGhrita</i>	Originally described in A.H.U. 6/27-29
	<i>MahapanchgavyaGhrita</i>	Originally described in A.H.U. 7/18-23
	<i>MahachetasaGhrita</i>	Specially for insanity & epilepsy
	<i>KusmandaGhrita</i>	-do-
<i>SiddharthakaGhrita</i>	-do-	

Table no. 6: <i>Asava/Arishta</i>^[19](fermentedpreparations):		
Types of formulation	Name of Formulation	Description
<i>Asava/Arista</i> (fermentedpreparations)	<i>Ashwagandharista</i>	Used as <i>Medhya</i>
	<i>Kumaryaasava</i>	Used as <i>Medhya</i>
	<i>Sarswatarista</i>	Used in <i>Apasmar</i>
	<i>Chandasava</i>	Used in stress-strain

A.H.U. = AstangaHridayaUttaratantra, A.H.C. = AstangaHridayaChikitsaSathana.

Goyal et al reported a case of Epilepsy Syndrome Following Acute Encephalitis^[21]. Few of the studies with effective ayurvedic treatment modalities for different disease conditions were reported^[22-31].

Diagnosis of epilepsy:

- 1) History
 - age of onset
 - Infancy-Metabolic disturbance associated with febrile illness, epilepsy, congenital hemiplegia and cerebral damage resulting from birth injury
 - Childhood - Any of the congenital or acquired lesions above-mentioned. Idiopathic epilepsy, encephalitis
 - Adult life - Idiopathic epilepsy or rarely begins after age of 25 penetrating head injury involving meninges, intracranial tumors.
 - After 50 -Epilepsy most often due to cerebral arteriosclerosis and spontaneous hypoglycemia
 - Aura - sensations experienced during or after attack
 - Description of fit from witness or family
 - Circumstances under which fit occurs
 - Associated features - such as mental retardation
 - Family history - Fits cause sudden loss of consciousness with falling followed by some confusion should be classified as Grand Mal.
 - History of febrile convulsions in childhood
- 2) EEG - is of the value in establishing the diagnosis of epilepsy and an aid in determining the type of seizure.
- 3) Laboratory studies –
 - CSF - normal in majority of patients with seizures of unknown cause
 - Blood - Low blood sugar- If hyperinsulinism
Low blood calcium -If hypo-parathyroidism
Increased non protein Nitrogen -If uremia
Serological test for - syphilis
- 4) X-Ray Skull - for evidence of intracranial tubal
- 5) Computerized tomography (CT scan)
Structural lesions such as tumors, angiomas and focal areas of atrophy can be revealed.

CONCLUSION:

An epileptic seizure or fit is caused by a temporary, unwarranted and atypical discharge of nerve cells. It is obviously a chief public health problem. *Ayurveda* is a traditional Indian medicinal system being practiced for thousands of years. So, the alternative drug therapy for the management of this disease can be by the use of medicinal plants and their active principles. Thus it may be concluded that herbal drugs make anticonvulsant treatment more balanced and patient friendly. Modern and Ancient medicine systems should be combined to plan effective health-care delivery systems for better care of Epilepsy. In the present review article, selected plants reported to hold anticonvulsant activity. These were trailed in experimental animals, so these herbal plants should be used in appropriate formulations to verify their anticonvulsant activities.

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