

Editorial

Alternative management for Epilepsy

Today, the terms “complementary” and “alternative” and “conventional” are being used in medical science. Although the term “complementary and alternative medicine” (“CAM”) has been largely adopted by not only western countries but also all over the world. The National Center of Complementary and Alternative Medicine (NCCAM) CAM is defined as “a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine” and is not generally taught at the western medical colleges (e.g. American).^{1,2} In other words alternative treatment methods are as any system or process of healing diseases (as homeopathy, chiropractic, naturopathy, Ayurveda, or faith healing) that are not included in the traditional curricula taught in modern medical science. In the most of developing countries like our India, alternative treatment methods are commonly used for management of different diseases^{3,4,5}.

There are different alternative managements available for epilepsy and being used for treatment of epilepsy in not only developing countries but also in developed countries. These alternative managements for epilepsy are as follows;

1. Natural therapy

Natural therapy or naturopathy or naturopathic medicine is a form of pseudoscientific, alternative medicine that employs an array of practices branded as "natural", "noninvasive", and as promoting "self healing"⁶. The ideology and methods of naturopathy are based on vitalism and self healing, rather than evidence based medicine⁷. The term "naturopathy" was created from "natura" (Latin root for birth) and "pathos" (the Greek root for suffering) to suggest "natural healing". Naturopaths claim the ancient Greek "Father of Medicine", Hippocrates, as the first advocate of naturopathic medicine, before the term existed. The term *naturopathy* was coined in

1895 by John Scheel, and purchased by Benedict Lust, who naturopaths consider to be the "Father of U.S.

Naturopathy". Naturopathic practice is based on a belief in the body's ability to heal itself through a special vital energy or force guiding bodily processes internally^{3,5}.

In the management of epilepsy, natural therapy is the most acceptable method in all over the world. It is a type of alternative treatment method which further divided in a group of treatment methods. There are four major types of natural therapy which are as follows:-



- A. Herbal Medicine:-** Herbal medicines is the first type of nature therapy, have been used to treat convulsive seizures for thousands of years, often as a major component of well established systems of healthcare such as TCM (Traditional Chinese Medicine). Ayurveda and Korean traditional medicine, a medical system and a science of life that is believed to have originated in India 6000 years BC². TCM practitioners usually prescribe combinations of herbal medicines. Over 130 herbal medicines used singly or in combinations for the treatment of epilepsy. In Ayurveda, practitioners advised patients to with epilepsy to adopt specific lifestyle and dietary practices, and to take herbal preparations, the most common being Brahmirasayan, Brahmighritham, Ashwagandha, old pure desi ghee, daily fresh juice of brahmi with honey, and powdered root of wild asparagus with milk. Other Ayurvedic herbal medicines include *Acacia arabica*,

Acorus calamus, Bacopa monnieri, Clitorea turuatea, Celastrus paniculata, Convulvulus pluricaulis, Emblica officinalis, Mukta pishti, Withania somnifera, and Vaca brahmi yoga.

In a study on effectiveness of TCM in treatment of 239 patients with epilepsy the result was found that there was significant improvement among patient with epilepsy⁶. This study also indicates that there is need of more clinical study for evidence of effectiveness of TCM in management of epilepsy. A study was conducted to assess efficacy of Ayurvedic medicines among 31 patients with epilepsy. The study suggested that *Bacopa monnieri* (*jalbrahmi*), *Centella asiatica* (*mandookaparni*, *brahmi*), *Withania somnifera* (*ashwagandha*), *Evolvulus alsinoides* (*shankhapushpi*), *Nardostachys jatamansi* (*jatamansi*) etc. are some important ayurvedic medicine that can be helpful for management of epilepsy⁷. A review study also suggests that Ayurvedic medicines cannot be recommended as primary or add-on therapy in epilepsy patients at present but they may form the basis of a future new antiepileptic drug.

B. Nutrients & Hormones:- The second type of the natural therapy is nutrients and hormones based treatment methods for the treatment of epilepsy. In this treatment method practitioner's beliefs that there are some responsible factors for epilepsy and these factors are lack of nutrients and hormonal imbalance in body. A number of dietary modifications, nutritional supplements, and hormones have been found to be beneficial for some patients with epilepsy. This treatment method is further divided in to two treatment methods; first *vitamins and hormones management* and second *Ketogenic diet*.

I. Vitamins and hormones management --: In this treatment method practitioners believed that epilepsy can be treated through balancing nutrients level in body with balanced diet and managing hormones. This alternative treatment

method also know as Nutritional therapy. Nutritional therapy has been extensively studied and is seen as one of the more economical and promising options to treat epilepsy. Nutritional therapy includes vitamins, minerals, amino acids, hormones, herbs and ketogenic diets. [12, 13] Cochrane systematic reviews on nutritional therapy are limited but one concludes that there is no convincing evidence of vitamins improving seizure control or preventing side effects for people with epilepsy.

II. Ketogenic diet:- The ketogenic diet has been used since 1921 to control seizures in children who do not respond to anticonvulsant medications. The diet is calorie-restricted and provides a ratio of fat to (carbohydrate + protein) ranging from 2:1 to 5:1. The proportion of total energy derived from fat ranges from 82-92 percent. Consuming a ketogenic diet produces a state of ketosis, which helps control seizures through an unknown mechanism. A randomized controlled trial was conducted to study the efficacy of ketogenic diet in controlling seizures. They enrolled 145 children aged between 2 and 16 years who had daily seizures (or more than seven seizures per week), had failed to respond to at least two antiepileptic drugs, and had not been treated previously with the ketogenic diet. Seventy three children were assigned to the ketogenic diet group and 72 children to the control group. There was no significant difference in the efficacy of the treatment between symptomatic generalized or symptomatic focal syndromes⁸.

C. Self Control Method:- The self control method is third type of natural therapy in which meditation and Yoga are used as therapy for the treatment of epilepsy. And these methods are largely used not only in developing countries but in developed countries too.

I. Meditation:- Meditation has been practiced over

centuries and is one of the most popular relaxation techniques. Some believe that transcendental meditation can be used as a form of epileptic treatment because the reduction of stress meant reduced incidence of seizures. One study specifically on epileptic patients has found that meditation reduced the frequency and severity of epileptic seizures. However, meditation has also been reported to be potentially dangerous for people with epilepsy. The practice of meditation is said to produce hormonal changes mimicking those of the inhibitory neurotransmitter γ -aminobutyric acid (GABA). Glutamate and serotonin are implicated in epileptogenesis as they are neuro-excitatory and may yield unfavorable outcomes when in high amounts as seen during meditation. Hence, it is essential to be well informed of the potential risks and benefits of relaxation techniques for people with epilepsy.

II. Yoga:- Yoga is another common relaxation technique that is said to induce relaxation and stress reduction. This influences the electroencephalogram and the autonomic nervous system, thus controlling seizures. Hence, the reduction in stress, increased PNS activity and increased brain GABA levels associated with yoga-based interventions is said to be beneficial. It is said that yoga decreases seizure index and increase quality of life of epileptic patients. A study was conducted to evaluate Acceptance and Commitment Therapy (ACT) and yoga in the treatment of epilepsy. 18 patients with epilepsy were selected and they were randomized into one of two groups: ACT or yoga. Satisfaction with Life Scale, WHOQOL-BREF scale were used for the assessment. The result was found that ACT and yoga significantly reduce seizure index and increase quality of life over time. The results of this study suggest that complementary treatments,

such as ACT and yoga, decrease seizure index and increase quality of life⁹.

D. Acupuncture and chiropractic:- In this group of methods, There are two different treatment methods used in naturopathy for treatment of epilepsy.

I. Acupuncture is a traditional Chinese therapy with a growing presence in the world. Acupuncture for the treatment of epilepsy dates back many years and is currently on the rise among epileptic patients with some reporting a reduction in seizure frequency as a result. Acupuncture is a process in which meridian points are pierced with fine needles in the specific areas of the body to achieve therapeutic response. Meridians in Chinese medicine are defined as the pathways of the positive and negative energy power, which carries on some of the communication between the various parts of human beings¹⁰. The safety of acupuncture has made it acceptable among the Chinese origin population. Many of the study has been conducted to study about effectiveness of Acupuncture therapy in management of epilepsy but there is not any evidence that it is effective for epilepsy. A study was conducted to assess effectiveness of acupuncture therapy in epilepsy and the result was found that it is not effective in treatment of epilepsy¹¹.

II. Chiropractic therapy:- In this therapy, the main focus of the therapist on the Vagus nerve, which exits the spine at the base of the skull. Chiropractors adjust the upper cervical area of the spine in order to stimulate this nerve. Studies have found that correcting vertebral subluxations, otherwise known as dysfunctions of the spine that interfere with proper nerve function, help in balancing brain function,

which could help with managing seizure occurrence. In a review on seizure disorders: a review of literature relative to chiropractic care of children. This suggested that Chiropractic therapy is correction of upper cervical vertebral subluxation complex might be most beneficial for patient with epilepsy¹².

2. **Reiki therapy-:** According to McElroyCox, “Reiki is a healing practice that originated in Japan in which the practitioner places his or her hands on or just above the patient to facilitate the healing response”. Reiki like healing practices involving transfer of life force or low level of electromagnetic force (EMF) from the healer to the patient have been in use in patients with seizure disorders. [22] A study investigated the effects of Reiki on fifteen patients with refractory epilepsy (patients with persistent seizures, on 3 or more antiepileptic drugs in full dosage, and total compliance over a period of 3 years) that underwent 3 months of treatment with Reiki like Healing practices. The results showed decrease in seizure frequency but further investigation was needed as the study was of poor methodology with no control groups¹⁴.
3. **Homeopathy-:** Homeopathy medicine is an alternative medical system that was developed by Samuel Hahnemann in late 1700s in Germany. He proposed a simple principle that “like should be cured with like” and that’s how homeopathic medicines are prepared today. The treatment is mainly individualized on the basis of patient’s physical & emotional state and is given in very small doses of remedies that in larger quantities would produce similar symptoms of illness. A case series conducted by **Varshney** on a homeopathic preparation of “Belladonna” in an uncontrolled study showed reduction in tonicclonic seizures in 10 of 10 dogs with idiopathic epilepsy.

“Belladonna is associated with violence of attack and suddenness of onset of convulsive movements” as said in the trial¹⁵. Unfortunately, studies on humans have not been conducted to prove the efficacy of homeopathic treatments.

4. **EEG Biofeedback-:** EEG biofeedback is also known as EEG operant conditioning or neuro therapy. In this method, the subject learns to voluntarily control his/her EEG rhythm and thereby gains control over seizures. It has been reported that biofeedback training of 12- to 14-Hz activity recorded over Rolandic cortex was accompanied by a reduction in seizure incidence in four human epileptics¹⁶. In a study on EEG biofeedback and relaxation training in the control of epileptic seizure. The study found that EEG biofeedback method can be beneficial for patient with epileptic seizure^{16,17,18}. In a study 174 patients enrolled with refractory epilepsy for study about the efficacy of EEG biofeedback. Of the 174 patients, 142 (82%) showed clinical improvement and 30% became seizure free¹⁹. It means that EEG Biofeedback can be used as an effective treatment method of patient with epilepsy.

Conclusion-: Epilepsy is a neurological disorder categorized by recurring seizures, and also brief lapse of attention or muscle jerks, to severe and prolonged convulsions occurs along with the seizure. One seizure does not signify epilepsy (up to 10% of people worldwide have one seizure during their lifetime). Epilepsy is defined as having 2 or more unprovoked seizures. The seizures are triggered by excessive electrical discharges in the neurons that are often unexpected and brief. It is very important that there should be a clear diagnosis of epilepsy. There are different treatments approaches available in the world and pharmacological and non pharmacological treatment management are main treatment approaches. Alternative treatment methods are type of non pharmacological

treatment method. A number of alternative treatment methods are being used for the treatment of epilepsy, due to influence of the cultural and traditional context and lack of available modern pharmacological treatment, poverty and low cost of alternative treatment basically in remote areas, hence these alternative treatment methods extended in developing countries^{20,21}. At the same time some of the alternative treatment methods like yoga, meditation, traditional Chinese medicine, acupuncture, ketogenic diet, vitamin and hormones management also more prevalent in developed or western countries. In India Ayurvedic treatment method is also being used for treatment of epilepsy besides modern pharmacological treatment methods but result of some studies indicates that Ayurvedic treatment method should not be recommended as primary treatment of epilepsy. Traditional Chinese medicines (TCM) are used as treatment method for management of epilepsy in china, like Ayurvedic treatment for epilepsy in India. Yoga and meditation treatment methods are self control methods, there is not clear evidence that prove that it managed epilepsy but some studies shows that it can be helpful to improve quality of life of patients with epilepsy. There is also not any clear evidence that indicates that alternative therapies like vitamin and hormones management, acupuncture therapy and chiropractic therapy are beneficial for treatment of epilepsy. But some studies shows that alternative treatment methods like Reiki therapy, Homeopathy and EEG Biofeedback can be beneficial and helpful for management of epilepsy. There is further more research is needed to understand and see the efficacy of these treatments in wider context.

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Shiv Prakash