

Non-pharmacological treatments for epilepsy: the case for and against complementary and alternative medicines

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Introduction

The use of ‘alternative’, ‘complementary’ and ‘conventional’ as adjunctive terms in medicine has emerged from a predominantly Western perspective on the treatment of disease. Definitions of what constitutes a complementary or alternative medicine (CAM) vary, but CAM is generally used as an umbrella term to refer to any treatment that falls outside the sphere of the conventional Western medical school syllabus. While many CAM treatments are derived from mystical or spiritual schemas of understanding of health and disease, others are based on theories and hypotheses that depart to a greater or lesser extent from mainstream scientific thinking.

Some have suggested that the alternative versus conventional distinction for medical treatments is irrelevant, since the only important distinction in medicine is whether something works or not. If it works, it’s a treatment, if it doesn’t, it’s not. This approach has considerable clinical appeal. Any treatment approach in epilepsy that is effective in controlling seizures should be given serious consideration. Although antiepileptic medications have proven efficacy, they are not universally effective. Up to one-third of patients continue to experience seizures even when they are taking multiple antiepileptic drugs (AEDs). Other patients may look to CAM as they are not able to tolerate the side effects of conventional AEDs. People with epilepsy will often consult their neurologist about the advisability of adding CAM therapies to their treatment regimen. While neurologists are not expected to be experts in every CAM approach, they should have some awareness of the dangers, interactions and possible benefits of these treatments for their patients.

The evidence base and rationale behind some of the most popular CAM approaches in epilepsy are briefly summarised in Table 1. However, with the multitude of CAM therapies available today, it is beyond the scope of this short chapter to review every one. For a more comprehensive evaluation of each treatment, readers are directed towards ‘*Epilepsy: Comprehensive and Alternative Treatments*’¹. This is also a useful, accessible resource to point patients towards, if they are interested in pursuing CAM treatments for their epilepsy.

Standards of evidence

The gold standard test of any treatment in conventional Western medicine is a randomised controlled trial (RCT), double-blind, with a crossover design. With the exception of traditional Chinese medicine (TCM), very few CAM therapies have been subjected to this scientific rigour. Although some CAM therapists assert that scientific evaluation is antithetical to their treatment philosophy, the limited evidence base for most alternative treatments is frequently due to a lack of research funding and inadequate practitioner training in evidence-based medicine. With the right methodology it should be possible to prove the

efficacy of any treatment. It is relatively straightforward to see whether something works or not, regardless of its provenance. In the absence of any well conducted trials, the evidence base for many CAM approaches has to be limited to an evaluation of the ideas and philosophy that underpin the approach, backed up with occasional, poorly controlled, supportive case reports. Case-controlled designs and cohort studies are relatively rare, but those that have been reported can provide useful data to direct future research towards the most promising approaches.

Holistic approaches

Many CAM treatments are based on a holistic approach to wellness. Practitioners often offer bespoke treatment programmes, taking account of the person and their environment, social and physical. This is in marked contrast to Western medicine where most people will go through a standardised procedure, initially trying one of the ‘first line’ drugs at a standard dose when they are first diagnosed with epilepsy. In Western medicine, individualised treatment plans evolve over time if the first line medications do not work and more drugs need to be added and withdrawn to achieve control. The whole-person approach is often missing in conventional medicine, where the disease or symptoms are the primary focus of the physician, rather than the person. This is evidenced by the elaborate classification systems and schema for symptoms and presentations, with no reference to the person experiencing them. Regardless of the ideas or philosophies that underlie the various holistic approaches in CAM, it is possible that the holistic approach, in and of itself, may confer tangible, clinical benefits in epilepsy, via indirect effects on anxiety, depression and other aspects of psychological wellbeing.

The power of the placebo

The placebo effect is a real phenomenon that produces tangible, replicable results in a wide variety of patients, including those with epilepsy. The literature is clear; patients receiving placebos do better than those who receive no treatment at all.

Holistic approaches tend to tick all the boxes when it comes to the attributes a placebo needs to maximise its effectiveness. The remedy is prescribed by a practitioner who has a firm belief that it works. They often conduct a very thorough, deeply personal interview with the patient, asking them about almost every aspect of their lives including events, sensations, memories, dreams, emotions and thoughts. This deep interest in the patient is an integral part of creating the remedy. The rituals surrounding the preparation of the remedies are frequently elaborate, shrouded in metaphysical concepts, or ancient wisdom, and the result is a bespoke treatment. If someone were to pull together all the scientific data on the placebo effect and create the optimal approach, it would look very like many of the popular holistic treatment approaches available today.

This is clearly illustrated in Queen Square, London. Queen Square is home to the Hospital for Integrative Medicine (formerly the Royal Homeopathic Hospital). The hospital is a smart clean, cream building with a light and spacious, modern interior. A patient attending this hospital will be the absolute centre of care and attention while a homeopathic practitioner takes a more detailed history than they will have ever experienced in a traditional neurology clinic or in the six minutes normally allotted to them at their NHS GP surgery. After a long face-to-face consultation, they will leave with a medicine specifically chosen and designed not just for their symptoms but their wider circumstances too.

The Hospital for Integrative Medicine is next door to and indeed shares a party wall with the Department of Clinical and Experimental Epilepsy at the National Hospital for Neurology and Neurosurgery. The National Hospital is an old Victorian hospital of dull red brick. On

entering the patient is immediately confronted by the NHS green walls and scuffed floor as they head for the crowded, windowless, outpatient waiting room, where they will wait, (sometimes for hours) to see a junior doctor they may have never met before, who may (or may not) have had time to read their notes and who will be under immense pressure to get them out of the door as soon as possible in order to see the next patient and stop the clinic over-running even longer. The doctor may prescribe a new medication but will be at pains to point out that the chances of it working at this point in their condition may be 10% or less. This may be a worst case scenario, but you can guess which of these patients would probably feel better about their condition and more in control as they leave their respective hospitals and make their way home across the square.

Conclusions

There is often little or no empirical evidence to support many of the complementary and alternative therapies for epilepsy. However an absence of evidence is not the same as evidence of absence and some CAM therapies can play an important role in the treatment of epilepsy. Western and holistic medical traditions can learn from each other and there is much in the CAM world that should stimulate the interest and research expertise of epileptologists looking to broaden the range of effective options they can offer their patients, beyond the realm of antiepileptic medications. It is fitting to conclude this chapter with the words of Dr John Hughes-Games, a GP, and the former president of the faculty of homeopathy at the Bristol Homeopathic Hospital.

‘The best way to recover from an illness would be to have someone or something evoke (a) healing response – no drugs, no knives – splendid! Indeed if homeopathy were only a superb way of producing a placebo response, its existence would be more than justified by that alone.’

Further reading

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Table 1. Brief overview of the rationales and evidence base of CAM therapies in the UK.

CAM therapy	Rationale	Treatments	Evidence
Aromatherapy	1. Operant conditioning 2. Limbic stimulation 3. Anticonvulsant properties of essential oils	Aromatherapy massage, pairing the smell of essential oils with a relaxed state. Once the pairing is achieved the smell of the oil itself may invoke the relaxed state, or ‘divert’ a seizure via limbic stimulation	One controlled trial with encouraging results² CAUTIONS: Some essential oils may have proconvulsant properties, including rosemary, fennel, sage, hyssop and wormwood
Ayurvedic medicine	Based on ancient medical texts revealed to wise men by Brahma, the God of creation, approximately 6000 years BC. Ayurvedic understanding invokes three elements or humours within the human body: vata (air), pitta (bile), and kapha (phlegm). Imbalances between the elements are thought to be the source of illness and disease. Epilepsy is conceptualised as a psychiatric disorder	All treatments start with purging of the system with emetics and laxatives. Herbal treatments may be mixed with animal-based products in bespoke preparations	Laboratory studies indicate anticonvulsant properties in some plant remedies used No well controlled trials of ayurvedic medicines in patient populations CAUTIONS: Radical purging can cause status epilepticus in people with epilepsy taking anticonvulsants. Very high levels of arsenic, lead and other poisons have been found in some ayurvedic preparations³
Chiropractic manipulation	The spine is involved in most illnesses, because it connects the head to the body. Misalignments in this core connection cause problems in distant parts of the body. Correcting these misalignments will result in a resolution of the symptoms	Spinal manipulation	No evidence supporting the therapy in epilepsy CAUTIONS: Well documented case studies of seizures, stroke and death following interruptions of the cerebral blood supply after neck manipulations
Cranial sacral therapy	Based upon the belief that the cranial bones can be moved with fingertip pressure and that this will alleviate the ‘racheting’ rhythms that cause epilepsy	Fingertip massage of the skull with very light pressure	Unscientific rationale No evidence supporting the therapy in epilepsy Some evidence discrediting the entire approach

Table 1 Continued			
Herbal remedies	Based on the anticonvulsant properties of some plant products	Preparations containing plant products The scientific evaluation of plant properties is an up-and-coming area in the development of new antiepileptic treatments	Laboratory support for the anticonvulsant properties of some plants CAUTIONS: Unregulated market Toxicity Interactions with AEDs
Homeopathy	Based on the belief in a ‘law of similars’ or ‘let like be cured by like’. If a substance in large doses produces specific symptoms, the same substance will, in extremely small doses, cure them. In direct contrast to modern medicines, homeopaths believe that the more dilute a substance is, the more potent it will be	Illnesses are treated with highly dilute preparations. The remedy prescribed will be chosen specifically for the individual as a whole, based on the homeopath’s understanding of the patient’s mind, body and spirit. As a result different people with the same condition may be prescribed different remedies	Anti-scientific rationale. The existence of molecules means that dilution cannot be infinite Nevertheless the individualised treatment regimen can create a powerful placebo effect with real effects resulting from associated reductions in stress, anxiety and low mood
Meditation	Meditation is a form of contemplation that manipulates attention. Most techniques require complete stillness and an exclusive mental focus on one thing, such as a single featureless object, the act of breathing, or the repetition of a single word, as in the recitation of a mantra. This eventually results in a ‘loss of active attention’, or a state of inattention. This state is sometimes called ‘superconsciousness’	The attentional changes that occur during meditation are associated with EEG changes. Fast, synchronised brain waves have been recorded in people in deep meditation, and these patterns remain faster, even following the meditation, than those seen in people who do not meditate	Deep and repeated meditation clearly has the capacity to change EEG patterns, but it is unclear whether these changes make a seizure more or less likely to occur CAUTIONS: The high-amplitude gamma activity in some experienced meditators is the highest reported in a non-pathological context⁴

Table 1 Continued			
The Mozart effect	Certain pieces of music appear to influence EEG patterns. In music theory, periodicity is a predictability that gives rise to expectations of what is coming next	Listening to Mozart's piano sonata in D major K.448 (a piece with high periodicity) either when the patient perceives an aura or more commonly on a regular basis, either in morning or in the evening	EEG changes have been recorded in group studies. Some support from well controlled case studies and small group series⁵⁻⁸ NOTE: Carbamazepine may influence the perception of pitch in people with musical training. This appears to be reversible if the drug is discontinued. Distorted pitch perception associated with carbamazepine may go unnoticed in the majority of people with epilepsy who are not musically trained. However this peculiarly subtle effect of carbamazepine should be monitored in people who need perfect pitch perception for their work or musical pursuits
Oxygen therapy	Hyperbaric oxygen chambers increase the supply of oxygen to the brain. They have proven efficacy in the treatment of decompression sickness and can promote wound healing	Usually a series of daily or weekly sessions from 30 minutes to 1 hour	This treatment approach is associated with much hype on the internet. It appears to have originated from an unverified abstract of a study presented at a Chinese conference in 1987 CAUTIONS: Experimental work suggests that oxygen therapy increases the likelihood of seizures

Table 1 Continued			
Traditional Chinese medicine (TCM)	TCM is a complex, holistic system of medicine. TCM is based on the concept of a life force (Qi or Chi) and of balance (Yin and Yang). It invokes the concept of five basic elements in understanding health: wood, fire, earth, metal and water. All are thought to be in constant flux. The five elements theory is used to interpret the relationship between the health of the human body and the natural environment	The principal of differentiation guides diagnosis and treatment in TCM. In epilepsy, this process of differentiation extends beyond the clinical signs considered in Western medicine and involves a detailed examination of all aspects of an individual's lifestyle and emotional health, resulting in an individualised treatment plan from the outset. Medication may be based on one herb as the basic drug to treat the disease which is then mixed with other herbs to create a multifunction formulation. Acupuncture and tuina (therapeutic massage based on theories of acupressure points) may also be offered	TCM herbal remedies and acupuncture have been the subject of Cochrane Reviews. ⁹⁻¹⁰ The authors concluded that 'The current evidence is insufficient to support the use of traditional Chinese medicine as a treatment for epilepsy' CAUTIONS: Chinese herbal medicines involve plants, minerals and animal products. Some are simply described in the literature as anti-epilepsy capsules, It is not always clear what the medication contains. Some have been found to contain phenobarbital, phenytoin and other mainstream AEDs. This can lead to potentially serious consequences if the medication is abruptly stopped, or the formulation is changed