

Effect of Yoga in stress management in patients with Epilepsy- A literature review

ABSTRACT

Objective: The major goal of this research evaluation was to see if yoga therapy may help people with epilepsy manage stress.

Introduction: Epilepsy is a neurological disorder that has a high psychological and physical toll. Self-reported seizures are frequently caused by stress, individual and many patients with epilepsy believe that reducing stress improves seizure management.

Methodology: An electronic search of published research publications was conducted using Google Scholar, PubMed, Science Direct, and other databases, and the results were analysed to determine the effectiveness of yoga in the treatment of stress in epileptic patients." Based on inclusion criteria, few papers were included in the literature review like randomised controlled trials, systematic literature reviews, systematic reviews, Cochrane review, and pilot study.

Result: This review looked at how yoga affects stress through multiple mechanisms and found that it helps epileptic patients reduce stress and improve their quality of life.

Conclusion: This study found that yoga can be one of the alternative methods for reducing stress in epileptics. Yoga should be practised by epileptics to reduce stress and seizure frequency, as well as increase overall well-being. It doesn't have any negative side effects.

Keywords: yoga and epilepsy; yoga and stress; stress and epilepsy; stress reduction; refractory epilepsy.

Introduction

Epilepsy affects 65 million people globally, with 80 percent of them living in underdeveloped nations. Epilepsy affects 67.8 out of every 100,000 people in underdeveloped countries and 43.4 out of every 100,000 people in developed countries [1]. Epilepsy can strike people of any age, race, or social status [2]. Seizures that occur frequently can result in a number of physical, psychological, and social complications. As a result, perfect seizure control can avert these complications [3].

Recurrent and unprovoked seizures characterise epilepsy, which are a temporary indication and symptom of uncontrolled, excessive electrical activity in the cerebral cortex [4]. Epileptiform discharges may begin and stay localised in this disease, resulting in partial seizures, or they may extend to broader areas in both hemispheres of the brain, resulting in generalised seizures. Adults are the most common victims of partial epilepsy [5]. Multiple surveys have found that stress is the most prevalent cause of self-reported seizure, and many patients with epilepsy believe that reducing stress improves seizure control. Epilepsy is one of the most frequent major neurological diseases in the world, with substantial psychological and physical consequences [6]. In the everyday treatment of epilepsy, it is critical to create, evaluate, and execute a complementary treatment model in individuals with epilepsy [7].

Yoga is a centuries-old practice and does mean living in harmony with oneself and the natural world. Positive behavioural modification [yamas and niyamas], physical posture practise [asanas], breath regulation [pranayama], sensation control [pratyahara], and

meditative practices [dharana dhyana and samadhi] are all part of a yoga-based lifestyle.

Yoga can be a useful method for improving personal wellness and reducing stress [8]. The links between the brain, mind, body, and behaviour, as well as their impact on health and disease, are the focus of mind-body therapies. These techniques frequently provide stress reduction and relaxation [9].

According to scientific evidence, yoga training reduces stress, improves quality of life, and reduces psychiatric difficulties in people with epilepsy, as well as decreasing seizure frequency via stimulating the vagus nerve [10].

Seizures that occur frequently can result in a number of physical, psychological, and social complications. As a result, perfect seizure control can avert these complications [11].

The search turned in 25 studies, and which were related to the research were included in the review. We explored **additional sources** during the review to explain review issues. Articles specifically discussing the effect of yoga on stress management in epilepsy were included in this search. In addition, the reference lists of published original and review articles were manually examined to find other research that met the criteria.

METHODOLOGY

A systemic literature was conducted on electronic data base of google scholar, PubMed, science direct using the terms “yoga and epilepsy” “yoga and stress” “stress and epilepsy” as key words. Results were filtered by the clinical trials.

Inclusion criteria:

- Patient diagnosed with primary idiopathic epilepsy.
- Both male and female were included
- All the age group
- Any studies of yoga intervention that measured stress has primary dependent variable.
- Studies that include mechanism between yoga and stress.
- All RCT using yoga as an epilepsy treatment.

Exclusion criteria:

The studies were excluded in the narrative review if they were:

- Not based on the study.
- Abstracts and unpublished articles.

Table:1 SOME OF THE SIGNIFICANT LITERATURE REVIEW:

AUTHOR AND YEAR	STUDY DESIGN	METHODOLOGY	RESULT	CONCLUSION
1)Sujatha V. Kanhere, Deepa K R. Bagadia. (2018)	Randomised control trail	Twenty children between the ages of 8 and 12 who had been diagnosed with epilepsy and were on regular antiepileptic drugs were included in the study. Ten children (study group) and ten children (control group) received yoga therapy. Yoga therapy was delivered in ten one-hour sessions.	At the end of three and six months, none of the children in the study group suffered seizures. At 3 and 6 months, four and three children in the control group, respectively, developed seizures. At the time of enrolment, eight children in each group had an abnormal EEG. One EEG in the experimental group and seven in the control group were abnormal at the end of six months (P = 0.020).	In the yoga group, there was a decrease in seizure frequency, leading in seizure freedom. In a considerable number of children who underwent yoga as an intervention, their EEG returned to normal. There were no documented side effects from yoga therapy.

<p>2) Mariangela Panebianco. (2020)</p>	<p>Systemic literature review</p>	<p>There were 50 participants in all, 14 males and 36 females, with an average age of 23.2 years, who were divided into two groups: those who were given yoga and those who were not (range 15-55 years).</p>	<p>The results of the overall efficacy analysis revealed that yoga treatment was superior to no intervention and several behavioural treatments. With yoga treatment, there are no negative side effects. According to the Satisfaction With Life Scale, the yoga group demonstrated considerable improvement in their quality of life.</p>	<p>When compared to no intervention or other behavioural treatments, yoga can reduce seizure frequency. Yoga can now be considered an attractive therapy option for epilepsy, in addition to standard AEDs, due to its non-pharmacological nature, few side effects, and international recognition.</p>
<p>3) Sridharan Ramaratnam. (2017)</p>	<p>Cochrane review</p>	<p>A total of 50 persons were recruited for two unblinded studies (18 treated with yoga and 32 to control interventions). All of the participants' antiepileptic medications were continued.</p>	<p>In all studies, the baseline phase lasted three months, and the treatment phase lasted between five and six months. In one study, randomization was done by rolling a die, while in the other, it was done by using a computerised randomisation table. However, neither study gave data on how allocation was</p>	<p>The yoga intervention is similar in complexity to other complementary and alternative treatments. Yoga may be used in conjunction with antiepileptic medications (AEDs) at this time.</p>

			concealed, and both were classified as having an unclear risk of bias. The two studies were judged as having a low risk of bias in general.	
4) Bhagavathees Waran Rajesh. (2006)	Pilot study	The participants were 20 patients (14 males and 6 females, ages 15 to 47, median 27 years) with clearly established epilepsy and at least four CPS (with or without secondary generalisation) in the previous three months.	With the exception of one patient, all patients saw a reduction in seizure frequency after three months, with six of them experiencing a $\geq 50\%$ reduction in seizure frequency. 14 of the 16 patients who were on the YMP for more than three months reacted at six months, and six of them were seizure-free for three months. All eight patients who stayed on the YMP for more than six months improved, and three of them were seizure-free for six months.	If verified in larger-scale randomised studies, this YMP could become a cost-effective and side-effect-free supplementary treatment for patients with drug-resistant epilepsies.
5) Tobias Lundgren. (2008)	Randomised control trail	A randomised controlled experiment with repeated measures	According to the findings, both ACT and yoga reduce seizure index and	The findings of this study reveal that supplementary therapy like ACT

		<p>(N = 18) was used in the study. All of the subjects experienced drug-resistant seizures and an EEG-verified epilepsy diagnosis. The participants were split into two groups: ACT and yoga.</p>	<p>improve quality of life over time. When compared to yoga, ACT reduced seizure index much more. Both the ACT and yoga groups considerably improved their quality of life as judged by one of two quality-of-life tools.</p>	<p>and yoga can reduce seizure index and improve quality of life in people with epilepsy.</p>
<p>6) Kristen E. Riley and Crystal L. Park</p>	<p>Systemic review of literature</p>		<p>Any yoga intervention that measured stress as a primary dependent variable and investigated a mechanism was included in a systematic review of the literature. For the final systematic review, 5 studies were chosen. Three psychological mechanisms (positive affect, mindfulness) and four biological mechanisms were investigated in this five research (posterior hypothalamus,</p>	<p>Yoga, as an extra stress-reduction approach, has far-reaching impacts. Yoga therapies have the ability to help people cope with stress and stress-related disorders.</p>

			<p>cortisol). Yoga has been demonstrated to influence the link between stress and positive affect, self-compassion, inhibition of the posterior hypothalamus, and salivary cortisol. The tremendous growth of literature explaining potential pathways is astonishing.</p>	
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DISCUSSION

The above studies evaluated the effectiveness of yoga in stress management in epileptic patients. Various studies on the prevalence, effect on daily living activity, and effectiveness of yoga were compared in this article. For a review, we looked at a number of studies that revealed stress in epilepsy had a major impact on daily activities. Seizures that occur frequently can result in a number of physical, psychological, and social complications [12]. As a result, perfect seizure control can avoid these complications. As a result, it has a negative impact. This clearly demonstrates that stress in epilepsy is the primary cause of human life cycle disruption when compared to the lives of people who do not experience stress.

Yoga as an extra therapy in children with epilepsy leads to seizure independence and considerable improvement in EEG at 6 months [13].

The practise of yoga and meditation improves the physiological and psychological symptoms of neurological illnesses in a statistically significant way [14].

According to Kristen E. Riley and Crystal L. Park, providing a second stress-reduction approach in the form of yoga has far-reaching implications. Yoga therapies have the ability to improve stress-related conditions [15].

Because of its non-pharmacological nature, few side effects, and international acceptance, determined that yoga would be a good therapeutic choice for epilepsy in addition to standard AEDs [16].

The yoga intervention, is similar to other complementary and alternative treatments. Yoga may be used in conjunction with antiepileptic medications (AEDs) at this time [17].

This YMP might become a cost-effective and side effect-free supplementary treatment in patients with drug-resistant epilepsies if verified by randomised studies involving a greater number of patients [18].

The complementary therapy such as ACT and yoga can reduce seizure index and improve quality of life [19].

The stress-reduction method in the form of yoga, has far-reaching consequences. Yoga therapies have the ability to help people cope with stress and stress-related disorders [20].

Yoga is increasingly being used in therapeutic settings for a variety of mental and physical health issues, including stress-related ailments and concerns, with positive results [21].

Patients with epilepsy have emotional issues in addition to medical issues caused by the disorder. The psychosocial well-being of these patients is frequently overlooked. Despite the fact that yoga is a commonly utilised mind-body treatment for disease prevention and health promotion [22]. There is insufficient data to support the use of yoga in epilepsy stress management. As a result, the study's goal is to gather evidence on the effect of yoga on stress management in epilepsy patients.

Yoga has been shown to improve health and well-being by reducing stress and promoting relaxation. However, there is no evidence that yoga as a single intervention can significantly reduce symptoms in people with refractory epilepsy [23]. Hatha yoga is the most popular school of yoga, emphasising physical components such as body postures, breathing and

relaxation techniques, and dietary habits [24]. Yoga has been used to treat a variety of neurological illnesses, including epilepsy, as a complimentary therapy [25]. Yoga can help people become more efficient at coping with oxidative stress by improving glutathione metabolism, increasing antioxidant enzyme synthesis, and removing peroxidation products [26]. Yoga has been shown to improve quality of life and reduce psychological issues in people with epilepsy [27].

CONCLUSION

After conducting an extensive literature review, the researcher discovered that several studies had been conducted on the subject, but that some of them were lacking in some aspects or were conducted in settings other than the researcher's interest. The review revealed that yoga may help to reduce stress in individuals with epilepsy when compared to those who received no intervention or alternatives. Yoga can now be used in conjunction with anti-epileptic medications to help people with epilepsy manage their stress. Yoga poses, relaxation techniques, pranayama, and meditation have all been shown to be effective in the treatment of primary dysmenorrhoea, as well as increasing productivity in daily life. Yoga is one of the oldest formal disciplines known for restoring this balance.

CONSENT

Not applicable.

ETHICAL APPROVAL

Not applicable.

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