

A three-year research project was conducted sponsored by Government of India to study the effectiveness of yoga on persons with generalized epileptic seizures. The study results can be summarized as follows:

SUMMARY AND CONCLUSIONS

The objectives of the study were to evaluate the effectiveness of yoga intervention in the following areas:

- Enhance the emotional status, psychological wellbeing and overall quality of life of seizure patients.
- Study the seizure frequency in relation to practice.
- Evaluate cognitive functions.
- Understand the quality of yoga practice and subjective experiences of the subjects.

The study used both quantitative and qualitative methods of data collection and analysis.

This non randomized experimental control design applied to test the hypotheses was carried out for a period of one and half years (18 months). Systematic training was conducted using both individual yoga sessions and group sessions. Assessments were carried out every six months to gather the evidence on outcome parameters.

The Statistical analysis used was chi-square test, t-test and repeated measure ANOVA and other Non-parametric tests like Wilcoxon and sign test.

Following conclusions are drawn from quantitative inferences:

1. The yoga intervention for the seizure patients is effective in enhancing physical quality of life and reducing negative emotional states such as Situational Anxiety, Generalized Anxiety, Frequency and Intensity of Depressive symptoms. The effect is significantly higher when compared to medically managed seizure group. However the differences within the yoga trained group was not very marked.
2. There was a significance reduction in the Seizure Frequency of yoga practicing patients indicating it is safe to practice this type of yoga that the students were trained in.
3. There has been a significant increase in the Physical Quality of life as well as Social Quality of Life of the patients who have undergone yoga training. The same effect was not observed in the control group. The Physical and Social Quality of Life had deteriorated for the control group.
4. The cognitive functions and processes were significantly lower among seizure patients compared to normal subjects and yoga training did not have any impact in enhancing the cognitive functions.

Individual differences were observed in specific functions where they showed improvements over the 18 months period. In depth study in these areas is needed.

With respect to the qualitative experiences, the following conclusions are drawn:

1. Teaching yoga to seizures patients requires a different approach and **there is no standard course which fits all**. The study has shown that individualized yoga training is effective and has to be evolved over a period of time to suit the changing needs and capacities of the persons concerned.
2. The study also points to the fact that medication is essential and yoga is only a supportive therapy. The number of subjects whose drug dosage was increased (17) and decreased (18) was more or less the same. The drugs were withdrawn for 5 subjects in the study group.
3. Patients undergoing yoga training also reported a significant reduction in the side effects of the medication that they had been experiencing such as lethargy, heaviness, lack of attention, excessive sleep, digestive problems etc.
4. It was reported that there was marked reduction in the intensity and duration of seizure attacks as well as severity of post-ictal symptoms among many

subjects. Also the awareness of an impending attack and the ability to consciously intervene by regulating the breath improved among the subjects that they began to feel more in control of the situation. The panic or fear relating to an attack had significantly reduced in many subjects who were getting regular attacks. These observations could not be statistically analysed to get an effect size. However, feedback from individual subjects which were analysed reveals these aspects.

5. The practice of yoga improves general health, physical health status and in some individuals, the psychological status in terms of reduced stress levels and better emotional stability. The changes are highly individualised and thus the results are non-normative.
6. Factors such as comprehension, attention, fatigue and motivation need to be considered in designing and teaching the practices where individual responses are highly variable and challenging.
7. Enhanced confidence levels, subjective well being and acceptance of disease condition are marked changes noted in the yoga trained group.
8. Taking charge of the situation and developing a positive outlook of life was demonstrated in most of the subjects. Seeking and finding suitable employment, settling down with marriage etc., were positive outcomes observed in some subjects. Most

of the students (and their family members) reported better social skills and improved relationship with others.

9. Apart from the personal yoga practice, group support and regular group activity has played a vital role in mediating the healing process for all the subjects. Group sessions have been responsible for sustaining momentum and motivation among the subjects over a period of 18 months. The study group has now evolved into an Epilepsy Support Group that continues to bring the subjects together for yoga practice and healthy discussions and learning.

Implications and Future Directions

This project is unique in applying the technique of yoga training in managing seizure condition, improving quality of life and psychosocial health among seizure patients. The uniqueness of the study is in applying yoga as a holistic therapy involving the various tools and techniques that are used according to the specific needs and abilities of the individuals. Rather than having a disease oriented approach this study holds an individual oriented approach.

The study provides evidence on the role of yoga in managing seizure condition highlighting the effectiveness of postures, breathing, visualisation and such other techniques in enhancing the overall quality of life of patients and simultaneously coming to terms with the disease processes.

This study has also used qualitative data to understand the role of yoga in rehabilitating seizure patients. The evidence in terms of training inputs, group sessions and individual feedback provide rich database and material to develop the training programmes for these patients. This forms a guideline for future application both in training and research.

There are some areas where the study has not provided evidence in terms of cognitive changes and reduction in severity, duration of seizures, drug dosage and neuro-physiological correlates such as EEG and ANS changes relating to training.

The exact mechanism by which certain postures and techniques like diaphragmatic breathing influence seizure activity needs to be studied to understand the internal mechanism of change. Future studies in this direction can provide evidence and support for the present findings.

Further studies can focus on using more sensitive instruments to evaluate the outcome such as Quality of Life in Epilepsy instrument.

Future studies can also use samples that are more homogeneous in terms of type of seizures, epileptic syndrome, frequency of attacks etc.