

## PSYCHOLOGICAL MANAGEMENT OF EPILEPSY

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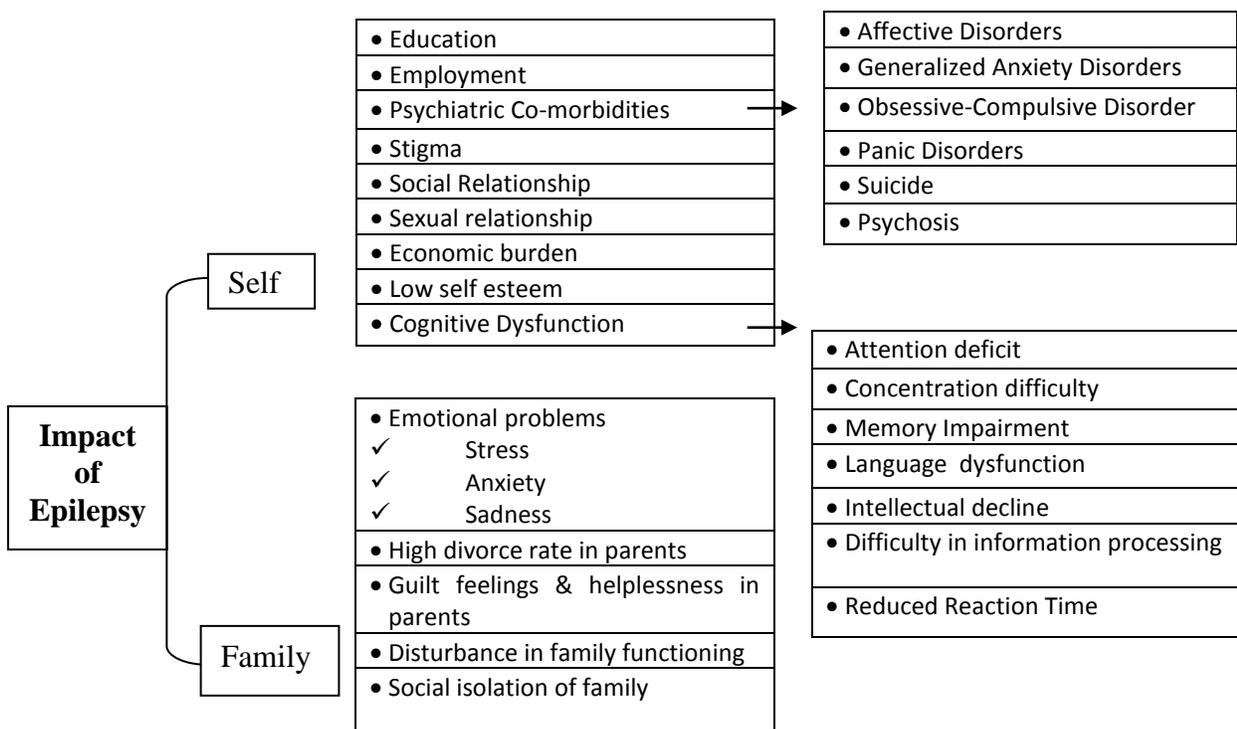
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### ABSTRACT

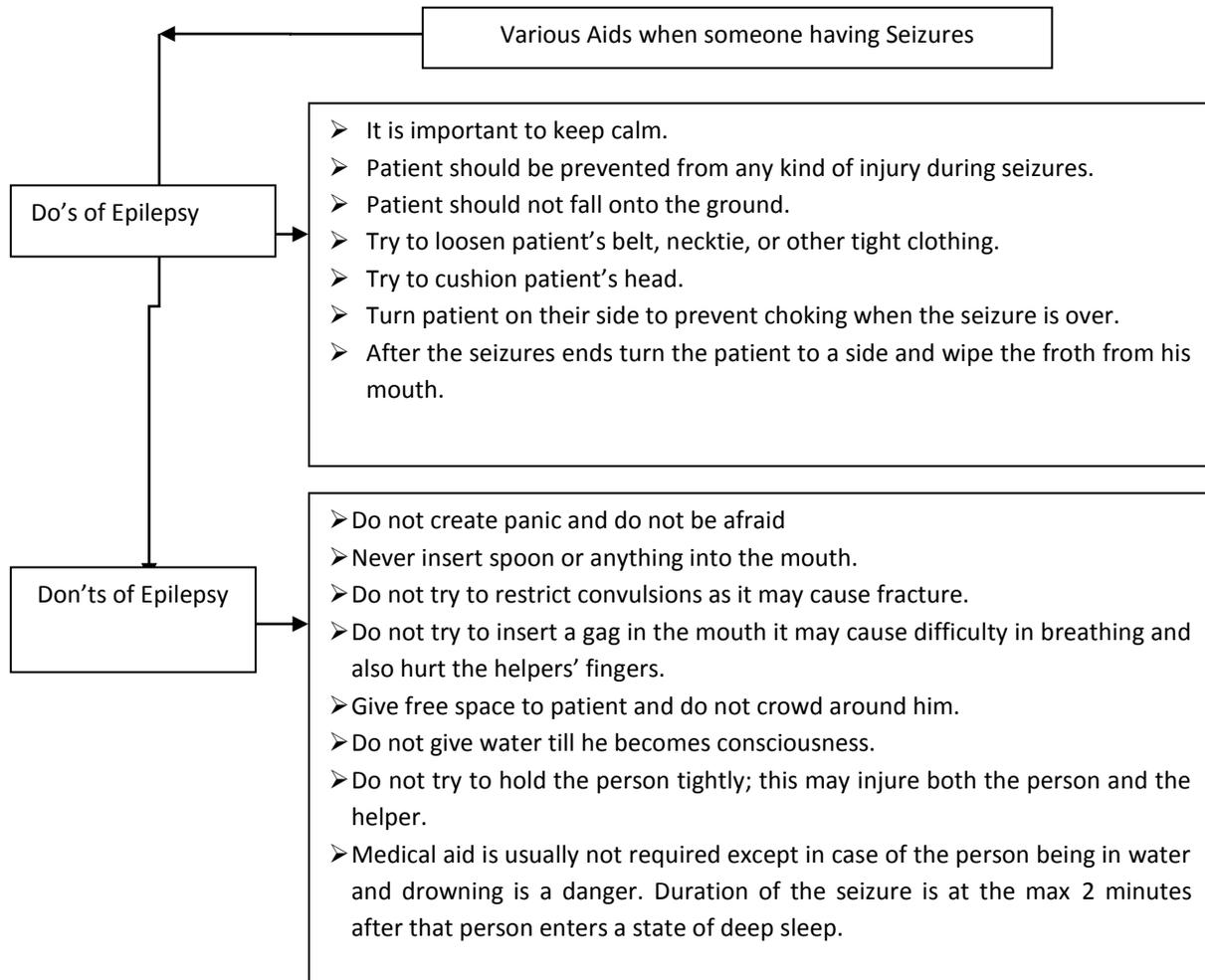
*Epilepsy is a kind of brain disorder characterized by an enduring predisposition to generate seizures and leads to diverse set of neurobiological, psychological, and social consequences. International League against Epilepsy (ILAE, 1993) defined Epilepsy as a condition characterized by recurrent (two or more) epileptic seizures, unprovoked by any immediate identified cause.*

*According to the World Health Organization (WHO), total 50 million people suffering from epilepsy worldwide, out of which 80% are from developing countries (WHO, 2006). It was estimated that Epilepsy account for 0.5% of the global burden of disease and as result account for 7,307,975 disability adjusted life years (DALYs) in 2005 (WHO, 2006). Epilepsy not only affects the person suffering from the illness rather impact of Epilepsy also extends beyond those affected by seizures to other members of the family. It is very common for family members or care givers of a person with epilepsy to experience anxiety, feelings of helplessness, or guilt in response in parents to the child's seizures and seizure risk. Figure-1 shows various impact of epilepsy on diverse area of individuals' life which may be associated with self and family.*



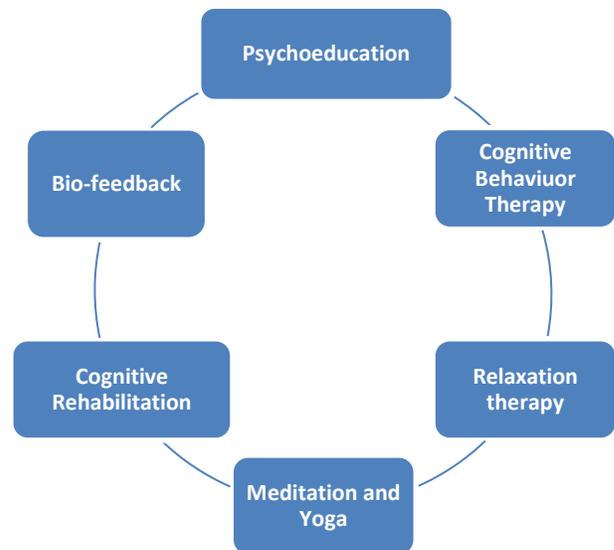
### Do's and Don'ts during Seizures

Witnessing a seizure is generally very terrifying especially if one has lack of adequate knowledge about it. Therefore, it is essential to be aware of how to react if someone has epilepsy. Figure-2 emphasise on several aids when someone is having epilepsy.



**Psychological Therapies in Epilepsy**

The management of epilepsy is not restricted to antiepileptic medication and neurosurgery but also includes psychological and social interventions. Psychological therapies play a vital role in the treatment of the psychological problems associated with epilepsy such as anxiety and depression, but they may also play a role in seizure control. There are various psychological interventions available for treatment of person with epilepsy which is shown in Figure-3.



## Psycho-education

The primary goal of psycho-education programs is to help patients to adapt to their life situation and emotional turmoil when diagnosed with epilepsy, by psycho-educating them about the disorder. Patients often have lack of knowledge regarding epilepsy. Most of the patients go through recurrent seizures which lead to psychosocial and emotional problems and finally report restrictions and disability in their daily life activities because of their epilepsy. Psycho-educational programs intend to improve knowledge about the epilepsy, awareness of effective coping with epilepsy, prevalence, causes and modes of treatment for epilepsy, helps to increase patient's quality of life, compliance, and finally health status (May&Pfafflin,2005).

Studies (Helgeson,Mittan, Tan &Chayasirisobhon, 1990; Lewis, Salas, Sota, Chiofalo&Leake, 1990; Olley, Osinowo&Brieger2001; May &Pfafflin, 2002) have explored the impact of education based interventions on psychosocial functioning of the individual with epilepsy. Helgeson et al.(1990)carried out a study to see the effect of a two-day psycho-education program for 100 adults with epilepsy and found that treatment group showed significant improvement in their level of understanding and knowledge of epilepsy, a significant reduction in fear of seizures, and they also had decreased hazardous medical self- management practices. Lewis et al., (1990)found significant improvements of a child centred, family focussed, educational program on 252 children in age range of 7 to 14 years, suffering from epilepsy in which self-competence, changes in the children's awareness of seizures, changes in the children's and their parents' behaviour were studied. Olley et al., (2001)found significant improvement in the treatment group compared to the control group after a two day psycho-educational program, the difference was basically in terms of patient's depression, neurotic trends and understanding of epilepsy.Hence, studies mostly investigated the outcome of their interventions on associated psychosocial variables other than seizures.

## Relaxation Therapy:

It is observed that stress has a strong connection with occurrence of seizure. Relaxation methods have

been developed to manage stress that may result in seizures. Jacobson introduced progressive relaxation, or muscle relaxation, in 1929, based on the assumption that muscle relaxation would interrupt the stress cycle and as a result contribute to reduction of anxiety throughout the whole body. Certain relaxation methods such as biofeedback, yoga, and contingent relaxation have been studied only in refractory epilepsy patients.

Relaxation has been investigated as a possible treatment for epilepsy in at least four controlled studies. The particular form of relaxation generally used has been progressive muscular relaxation (PMR). Rousseau, Hermann, & Whitman (1985) performed a controlled study and placed eight subjects into two groups on a sequential, alternating basis. Group I underwent a training session in PMR and then asked to practise the exercise twice daily for the next 3 weeks. Group II were initially trained in a sham treatment and sat quietly for 20 min twice daily, relaxing as best as they could. Baseline seizure frequency was recorded for the 3 weeks before training and both groups continued to record seizure frequency through the first 3 weeks of the study. At the end of 3 weeks, group II was taught PMR and practised twice daily for the next 3 weeks, recording seizure frequency. There was a significant decrease in seizure frequency after PMR training (by 43–100%) compared with after the sham (0–51%), although two subjects also did well with the sham.

One study by Dahl, Melin& Lund (1987) found a significant positive effect of relaxation therapy in relieving anxiety and tension. However, this study had several methodological flaws such as wide confidence intervals.

## Bio-feedback Therapy:

Lantz &Stermann(1988) examined the effect of EEG bio-feedback among 24 adults randomized into three groups of contingent EEG bio-feedback, non-contingent feedback, and no intervention controls and reported a significant decrease in seizure frequency following contingent training.Nagai, Goldstein, Fenwick & Trimble(2004) studied the effects of galvanic skin response (GSR) bio-feedback training or sham feedback on seizure frequency among 18 patients with treatment resistant epilepsy and reported that 6 of the 10 patients

in the treatment group had either 50% or higher reduction in seizure frequency, whereas, sham feedback group had no improvement in seizure frequency.

### **Cognitive Behavioral Therapy (CBT)**

Seizure may be a response to a specific stimulus or a more complex response to a variety of cumulative factors including increased levels of anxiety or stress. Behavioral approaches of CBT focus on identifying and avoiding triggers that may be sleep deprivation, alcohol, and hyperventilation. Cognitive approach emphasize on thoughts and feelings to develop adaptive coping skills to reduce levels of anxiety and stress. CBT can be effective in order to reduce the likelihood of seizures occurring. CBT techniques may also be considered as countermeasures.

Studies have shown that patients' behaviour and state of mind are often implicated in increased seizure activity and therefore CBT is found suitable as a psychological intervention. Recent studies showed efficacy of group CBT to reduce seizure frequency among adults.

Risk of anxiety, depression, low self-esteem and stigma are too common among people with epilepsy (Fiordelli, Beghi, Bogliun & Crespi, 1993; Baker, Brooks, Buck & Jacoby, 2000). Anticipated anxiety and Phobias related to occurrence of seizures have been found (Bett, 1992). Epilepsy may lead to family and other interpersonal relationships problem (Ellis et al., 2000), opportunities for employment (Jacoby, 1995).

Studies found evaluating the effect of CBT on seizure control and or psychological functioning (Lundgren, Dahl, Melin & Kies, 2006; Martinovic, Simonović, & Djokić, 2006; Tan & Bruni, 1986), on quality of life (Lundgren et al, 2006; Martinovic et al, 2006). Davis, Armstrong, Donovan & Temkin, (1984) studied the effect of cognitive behaviour therapy among 15 adults with epilepsy and comorbid depression and reported reduction in dysphoria and depression in the treatment group compared to controls. However, study did not attempt to explore effect of intervention on seizures. Tan & Bruni (1986) investigated the efficacy of group cognitive behaviour therapy for 30 adults and found more than 67% reduction in seizure frequency in one of

the 10 participants in the CBT group, two of the 10 in the attention control group, and one of the 10 controls. Lundgren et al, (2006) studied the effect of Acceptance and concomitant therapy for drug refractory epilepsy among 27 South African adults, study demonstrates significant reduction in seizure frequency as well as in seizure index and also reduction on WHO QOL-BREF among participants treated with CBT compared to controls. However, data of the study were skewed and therefore result was difficult to interpret. Martinovic et al, (2006) studied 30 adolescents, newly diagnosed with epilepsy and underlying depression were given either cognitive behavioral intervention or treatment with counseling as usual and found improvement in treatment group as compared to control group in terms of depression and quality of life.

### **Meditation and Yoga**

Yoga combines breathing exercises, physical postures, relaxation and meditation to attain optimal physical and mental health. There are different schools of yoga practice, some emphasize control over the physical body, some control over the breathing and some specifically includes meditation to create peace of mind and achieve 'union of the individual energy ('Prana') with the universal energy ('Brahman'). Several methodological issues are there which emphasize upon the kind of yoga to be used and the problem of participants which have to be overcome (Shorvon, Chadwick, Galbraith, & Reynolds, 1978). Reports of yoga mostly focus on meditative forms for treatment of epilepsy.

In one of the study 11 adults with drug-resistant epilepsy were taught meditation and followed up for a year of practice (20 min daily) (Reynolds & Shorvon, 1981). This group was compared with a waiting list control group of nine subjects, matched for age, duration of illness and seizure type. Treatment group had reduction in attack frequency and duration even at 6 months' follow up.

Study by Panebianco, Sridharan, Ramaratnam (2015) with 50 epilepsy patients shows that yoga and Acceptance and Commitment Therapy had beneficial effect in control of seizures. Yoga treatment found to be better compared with no intervention. No difference

found between yoga and Acceptance and Commitment Therapy.

### **Cognitive Rehabilitation**

Cognitive rehabilitation approach involves the individual's assessment of their cognitive deficits and subsequently cognitive retraining or rehabilitation of impaired cognitive functions. Cognitive impairment is very much implicated in patients with epilepsy. If anyone experience problems with their thought process consult to their doctor. The doctor generally attempt to find out possible cause and Doctor can refer the patient for additional diagnostic procedures such as blood sample test, brain imaging and may also refer patient to consult a neuropsychologist. A neuropsychologist has specialized expertise to identify the nature and type of thinking problems a person may be having. The neuropsychologist can be very helpful in identifying strategies and interventions that can support a person's unique profile of neuropsychological strengths and weaknesses. If a person is having mild-to-moderate problems with attention, executive functions, or memory, there are several adjustments one can make in daily life to support oneself. Besides, there are number of strategies which are used by psychologist retrain different kind of cognitive deficits such as digit cancellation task, Number connection task to improve attention, digit coding test, grain sorting task to enhance mental speed, sequencing of jumbled letters for working memory, dot based design for visuo-constructive ability, maze completion for planning.

### **Family Counselling**

The impact of having epilepsy can lead to significant medical, social, psychological, and financial problems. Epilepsy upsets the equilibrium of the family system and affects everyone in some way. When epilepsy develops in children, families may feel overwhelmed with the burden of disorder. Marital problems, neglect of other siblings, a general breakdown of the family unit, and psychiatric disorders often emerge when early counselling, day care, respite services are not provided. Study of parents with epilepsy has found that the majority of parents suffer from high level of stress, social isolation, and restriction in leisure activities. The need for psychosocial intervention was stressed and if the parents

have a healthy attitude towards epilepsy and encourage normal function, then the child can grow up with epilepsy in its proper place.

The negative impact of epilepsy on a child's self-concept is one of the major long term complications of childhood epilepsy. It is the family that manages the disorder and set the stage for adjustment. According to the Lechtenberg & Akner (1984), the child is at the greatest disadvantage if he or she is told nothing about the parent's disorder. There are many emotional issues in the process of care, especially when the course is stormy and outcome poor. The family unit rest at the core and heart of comprehensive services for the patient with epilepsy. Good care is contingent upon a working partnership between patients and professional that acknowledges both the needs and strengths of families. Family counselling can make a tremendous difference in supporting a healthy adjustment to this disorder.

### **Conclusion:**

It is obvious that psychosocial interventions have positive impact on improvement of quality of life and psychological health of patients with epilepsy (Corrigan, Broome & Dorris, 2016) but still there is limited evidence base to see the impact of psychosocial intervention in case of epilepsy. Gandy, Sharpe and Perry (2013) suggest that interventions are specifically concerned to improve depression and found to be mostly efficacious, whereas there are very less number of studies that focus on improving seizure control. Most of the studies used heterogeneous methodologies and lacked consistency in outcome measures. Apart from, limited evidences continues to be there for interventions to improve epilepsy knowledge, psychological outcomes including quality of life. Therefore, further research is needed to clarify the most effective treatment method, treatment delivery methods, and measurement of outcome variables. There is still need for further Randomised Controlled Trials (RCT) in this area in order to confirm the possible efficacy of these psychosocial interventions in person with epilepsy. Majority of studies seems to consist of various methodological flaws such as studies have not used RCT, proper randomisation for allocation of the participants, have used of small samples, inadequate power, and a lack of blinding.

Hence, there is a need of methodologically sound studies on psycho-social interventions in epilepsy.

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