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THE EFFICACY OF PARENT-BASED SLEEP EDUCATION IN IMPROVING SLEEP PATTERN IN CHILDREN WITH SEIZURE DISORDER: A RANDOMISED CONTROL TRIAL

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ABSTRACT

Every year approximately 1920 children visit the Developmental Paediatrics outpatient service of this tertiary care hospital and 70% have seizure disorder of whom 67.18% also have sleep disorders. **Purpose:** To assess the role of parent education in improving sleep in children with seizure disorder to answer the research question does a parent-based behaviour-modification educational module improve sleep outcomes in these children. **Methods:** Consenting parent-child pairs were serially enrolled to this parallel group, single blind, randomized controlled trial if they fulfilled the selection criteria. They were randomized, with allocation concealment, to the interventional group or the comparator group by computer generated permuted block randomisation. Parents allocated to Group A were administered an educational module comprising of sleep education, behaviour modification strategies and instruction in maintaining a sleep diary. Parents allocated to Group B received standard care. The Family Inventory of Sleep Habits (FISH) and Sleep Disturbance Scale in Children (SDSC), administered before and after the intervention, by a blinded assessor, were used to assess changes in sleep profile. **Results:** Of the 73 parent-child pairs who were recruited, 64 completed the study. Most of the children (56%) were diagnosed to have generalized onset of seizures by the ILEA classification. The pre- and post- FISH and SDSC scores were compared using the Mann Whitney U-test. Parent-based education brought about positive change in sleep pattern of children with seizure disorder significantly (P= >0.005) improving scores in the SDSC and the FISH scales. **Conclusion:** Parent-based sleep education and behaviour modification improves sleep pattern in children with seizure disorder.

KEY WORDS: Seizure, epilepsy, sleep disorders, sleep hygiene, habits, sleep latency, sleep education

INTRODUCTION

Sleep is an essential physiologic state that restores wellbeing and consolidates the memory functions. Ineffective or inadequate sleep is common in children with seizure disorder and can exacerbate daytime drowsiness, cognitive and memory dysfunction and may even contribute to intractable seizures.[1]

Ekinci showed in a case control study that children with seizure disorder have a higher frequency of sleep problems than healthy controls and sleep problems lead to a poor quality of life.[2] Epileptiform discharges may be activated by sleep and anti-epileptic drugs (AEDs) may alter sleep architecture. Disruptions in sleep architecture, such as longer Stage 1 sleep and latency to REM sleep may manifest significant sleepiness and fatigue.[3] Some AEDs have detrimental effects on sleep, particularly benzodiazepines and barbiturates, phenytoin and carbamazepine while others, especially gabapentin, levetiracetam and valproate seem to actually improve sleep quality and have been found to be sleep-friendly drugs.[4] Sleep disruption can thus be due to the direct effect of seizures, adverse events due to AED therapy, presence of psychiatric co-morbidity, or coexisting sleep disorders.[4,5, 6]

Subjective sleep disturbances are twice as prevalent in people with epilepsy and include insufficient sleep, increased nocturnal and early morning awakenings, impaired sleep initiation and most commonly, excessive

daytime sleepiness. [7] The lack of sound sleep impacts neurocognitive and psychological function. It is also known that children with epilepsy have greater risk of daytime behavioural problems such as inattention and hyperactivity [8] Attention to behavioural problems and sleep remains important in clinical management of children with idiopathic epilepsy. When seizures occur during sleep, the seizure may wake up the patient, which could be mistaken as a sleep disturbance, hence there is a need to diagnose seizure disorder and manage sleep disturbances.[9] Improvement in the long-term cognitive–behavioural prognosis of children with epilepsy requires both good seizure control and good sleep quality. [10]

Sleep hygiene is a set of practices, habits, and environmental influences that impact the duration and quality of sleep. These practices optimize conditions for good sleep.[8, 11] Inadequate sleep hygiene is characterized by sleep and wake difficulties resulting from daily living activities that are inconsistent with the maintenance of good-quality sleep and normal daytime alertness. The basic principles of sleep hygiene are three fold, firstly regular sleep timings, secondly physical and psychological optimisation of the sleep environment and thirdly monitoring of the external activities that influence sleep.[1] Paying attention to sleep hygiene practices to enhance quality of sleep is even more essential and reasonable in children with seizure disorder than in normal subjects.[9]

Considerable research has gone into the development of guidelines which are designed to enhance good sleeping, and there is evidence to suggest that these strategies can provide long-term solutions to help children. Parents are often unaware of the need to prepare children for sleep and so do not use good bed-time habits that will enhance sleep. This is especially the case in this rural community and structured education can help them to see the value of good sleep-enhancing bed-time habits. Once they are convinced of their benefits, the good practices of sleep hygiene may help to develop a routine which will enhance initiation and maintenance of quality sleep and this in turn may improve seizure control. Reed et al found that adjusting the sleep environment by conveying sleep expectations in an effective way through parent-based behaviour modification was effective in improving sleep and daytime behaviour in children with autistic spectrum disorder. They found brief parent-based behavioural sleep workshops were effective in improving subjective and objective measures of sleep, sleep habits, and daytime behaviour of children.[11] Parent-based education appears to be a feasible and effective way of improving sleep and daytime behaviour in children with sleep disturbances.

We undertook this study to find out if motivating and educating parents to practice good bed-time sleep hygiene will help in developing a routine and ritual which will result in better initiation and maintenance of quality sleep in their child. This in turn may improve the control of the child's seizures. So, this interventional study was planned to assess the efficacy of parent-based education to effect change in the sleep pattern of children with seizure disorder.

MATERIALS AND METHODS

Approval for this study was obtained from the Institutional Review Board and the Institutional Ethics committee of the institution and registered with the Central Trial Registry of India (CTRI) before commencement of recruitment. The study also was approved for a Short-Term Studentship by the Indian Council of Medical Research (ICMR – STS).

Written informed consent was received from each parent after explaining the details of the study. Consenting parent-child pairs, attending the out-patient clinic of the Developmental Paediatrics and Child Neurology department of this tertiary care hospital, were serially recruited to this parallel group, single blind, randomised control trial, if they fulfilled selection criteria. Children below 15 years of age, diagnosed to have seizure disorder and receiving anti-epileptic medication for at least six months duration were eligible to participate in the study. As the intervention was an educational module, children of healthcare workers and children taking medication irregularly were excluded. The 2017 International League against Epilepsy (ILEA) classification of seizure types was used to classify the seizures into focal onset, generalized onset and unknown onset.[12]

The developmental assessment was done for each child using the Jeffree and McConkey Parent Involved Programme (PIP) developmental charts and the cognitive, motor, sensory and movement functions were classified as age appropriate or not.

The study instruments used in this study were the Family Inventory of Sleep Habits (FISH), which gives an overview of the child's sleep habits and the Sleep Disturbance Scale for Children (SDSC), which assesses sleep disturbance.

The FISH questionnaire is a parent-based questionnaire developed by Malow et al in 2008. It is a 22-item questionnaire which assesses the sleep habits, bed-time rituals and daytime habits that affect sleep like physical activity. Parents rate the frequency of sleep habits over the last month on a 5-point Likert scale.[13]

The SDSC developed by Bruni et al (1996) assesses sleep behaviour and disturbances during the previous six months. The questionnaire of 27 items in a Likert-type scale, with values 1-5, with the wording arranged so that higher numerical values reflected a greater clinical severity of symptoms. The six types of sleep disturbance assessed by the SDSC included initiating and maintaining sleep (DIMS), sleep breathing (SBD), arousal (nightmares) (DA), sleep wake transition (SWT),

excessive somnolence (DES) and sleep hyperhidrosis (SHY).[14]

The objective of this study was to assess the role of the structured educational and behaviour modification intervention to effect a change in the child's sleep profile, as assessed by FISH and SDSC.

The sample size was calculated by nMaster computer software, version 2.0 based on a pilot study.[15] A sample size of **32 in each group** is needed for a 0.7 probability of observing the mean score of Group A (X) is greater than the mean score of Group B (Y) by more than half i.e. P[X>Y] = ½ , for a power of 80% and alpha error of 5%.

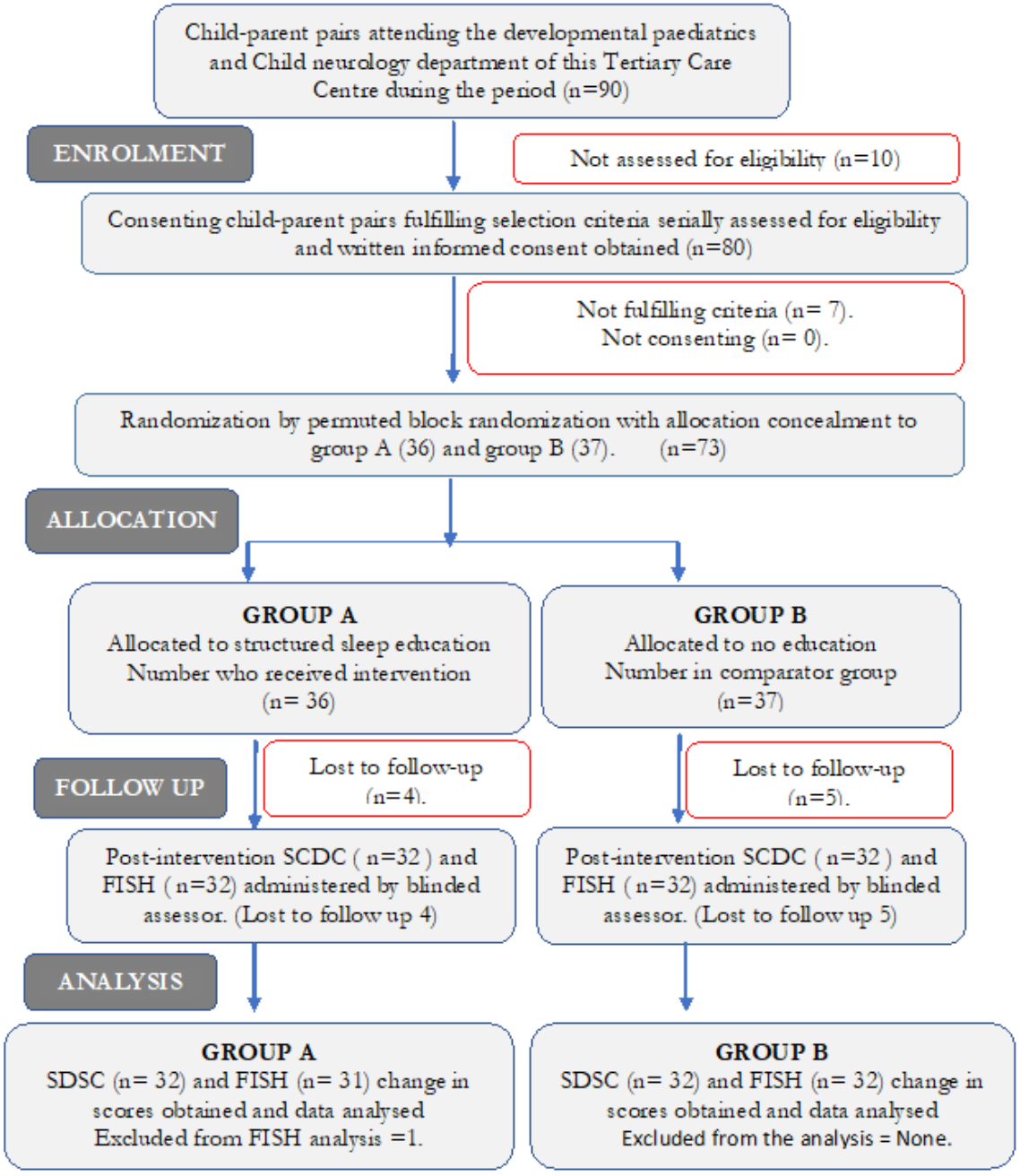
Children were consecutively randomised by permuted block randomisation into Group A, the intervention group and Group B, the comparator group, with allocation concealment from investigators using opaque envelopes.[16] Parents allocated to Group A were administered the parent-based sleep education intervention. The educational intervention in this study, comprised of a sleep hygiene handout detailing good practices in sleep hygiene, a one–to-one interactive teaching session with behaviour modification strategies to improve child's sleep hygiene and instruction in how to maintain a sleep diary sheet. Parents were helped to compile a list of stimulating and relaxing activities, strategies related to minimizing bedtime resistance and night waking, modifying the sleep environment and bedtime routine, and providing optimum sleep duration and regularity. They were taught to observe and document the child's sleep pattern using a sleep diary. All interactions with the child and the family were carried out in a friendly ambience using good counselling principles such as maintaining eye contact, active listening and adequate explanation under the supervision of a psychologist. contained sleep hygiene measures and strategies.

Parents allocated to the comparator group received standard care and did not receive the intervention. However, they were counselled at the next visit after study data had been collected so that these families also benefitted from the intervention. The SDSC and FISH questionnaires were assessed in both groups before the intervention. After two weeks a blinded assessor administered the SDSC and FISH scales to all participants. The change in scores between the initial assessment and the second assessment were computed in both the groups and compared to find if the parent-based sleep educational module effected any change in the child's sleep pattern. Additional outcome variables were the change in scores of the six sleep disturbances assessed by the SDSC sub-scales.

As the Kolmogorov-Smirnov and Shapiro-Wilk tests did not confirm normality, the difference between the initial and follow-up median scores with their inter-quartile ranges in the FISH and SDSC scales in the two groups were compared using the non-parametric Mann Whitney U-test.

The CONSORT study flow diagram is given in Figure 1.

Figure 1. Study Flow Diagram (Consort Guidelines)



Legend: The study flow chart based on the CONSORT guidelines obtained from the CONSORT website <consortstatement.org>

RESULTS

A total of 73 parent-child pairs were recruited to the study from the Developmental Paediatrics outpatient service. The children were all diagnosed to have seizure disorder and were on treatment for at least six months. The mean age of the children was 6.97 (SD 3.08) years. The mean weight of the children was 21.3 (SD 10.01) kg. Of the 64 children included in the study 20 (31.3%) were female and 44 (68.8%) were male. The demographic data of the parent-child pairs participating in the study are given in table 1.

Table 1: Baseline Demographic Features of Parent-child Pairs.

Baseline Characteristics		Group A (n=32)	Group B (n=32)	Total (n=64)
Gender	Female	5 (15.6%)	15 (46.9%)	20 (31.2%)
	Male	27 (84.4%)	17 (53.1%)	44 (68.8%)
Age	1 - 5 years	15 (46.9%)	14 (43.7%)	29 (45.3%)
	6 - 10 years	15 (46.9%)	12 (37.5%)	27 (42.2%)
	11 - 15 years	2 (6.2%)	6 (18.8 %)	8 (12.5%)
Mother's education	Plus 2 and above	30 (93.8%)	30 (93.8%)	60 (93.8%)
	Less than Plus 2	2 (6.2%)	2 (6.2%)	4 (6.2%)
Father's education	Plus 2 and above	31 (96.9%)	30 (93.8%)	61 (95.3%)
	Less than Plus 2	1 (3.1%)	2 (6.2%)	3 (4.7%)
Mother's occupation	Professionals/skilled work	13 (40.6%)	6 (18.8%)	19 (29.7%)
	Unskilled workers	19 (59.4%)	26 (81.2%)	45 (70.3%)
Father's occupation	Professionals/skilled work	27 (84.4%)	18 (56.2%)	45 (70.3%)
	Unskilled workers	5 (15.6%)	14 (43.8%)	19 (29.7%)

The ILEA classification of the 64 children with seizure disorder showed that 25 (39.1%) were of focal onset, 36 (56.3%) were generalised and 3 (4.7%) were of unknown onset.[12]

Regarding anti-epileptic medication, the majority 60 (93.7%) were on monotherapy, 39 (60.9%) of the 64 children were receiving carbamazepine, 19 (29.6%) were receiving valproic acid alone and 4 received valproic acid with add-on agents like levatiracetam, topiramate or clobazam. The data regarding children's seizure disorder and treatment is given in table 2.

Table 2: Details of the Child's Seizure Disorder and Medication.

Details of Seizure Disorder of Children		Group (n=32)	Group B (n=32)	Total (n=64)
ILEA 2017 Seizure type	Focal onset	15 (46.9%)	10 (31.3%)	25 (39.1%)
	Generalised	16 (50.0%)	20 (62.5%)	36 (56.2%)
	Unknown	1 (3.1%)	2 (6.3%)	3 (4.7%)
Anti-epileptics - number	Monotherapy	30 (93.8%)	30 (93.8%)	60 (93.7%)
	Bi-therapy	1 (3.1%)	2 (6.2%)	3 (4.7%)
	Polytherapy	1 (3.1%)	0 (0.0%)	1 (1.6%)
Dosage forms	Syrup	21 (65.6%)	18 (56.3%)	39 (60.9%)
	Tablets	11 (34.4%)	14 (43.7%)	25 (39.1%)
Antiepileptic Medication Carbamazepine		21 (65.7%)	18 (56.3%)	39 (60.9%)
Valproic acid		8 (25.0 %)	11 (34.4%)	19 (29.6%)
Topiramate		1 (3.1%)	0	1 (1.6%)
Levatiracetam		0	1 (3.1%)	1 (1.6%)
Valproate + clobazam		1 (3.1%)	1 (3.1%)	2 (3.1%)
Valproate + levatiracetam		0	1 (3.1%)	1 (1.6%)
Clobazam + valproic acid + levatiracetam		1 (3.1%)	0	1 (1.6%)

The developmental assessment using the Jeffree and McConkey Parent Involved Programme (PIP) developmental charts showed that most of the children had various developmental delays. Of the 64 children, 49(76.6%) did not have age appropriate cognitive functions, 41(64.1%) had less than appropriate motor function, a similar number 38(59.4%) did not have age-appropriate sensory function and 42(65.6%) had less than age appropriate movement function. The distribution of developmental function is illustrated in Figure 2.

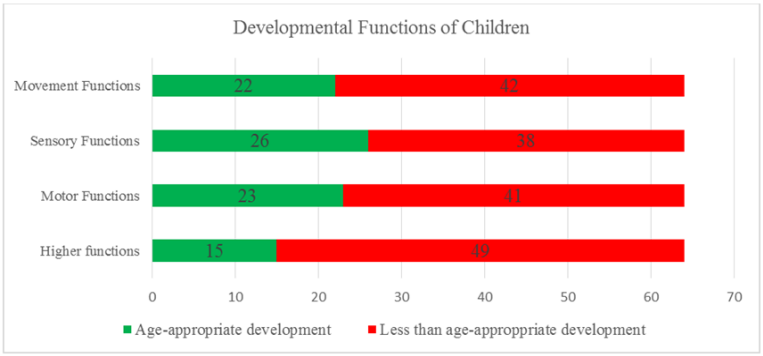


Figure 2: Developmental Functions of the Children in the Study.

Legend Figure 2. More than half the children had less than age appropriate development in the cognitive, motor, sensory and movement domains of development (n=64).

The sleep profile and bed-time habits of the children are shown in table 3. The mean duration of sleep of the 64 children recruited into the study was 9.09 (SD 1.19) hours. In Group A it was 9.41 (SD 1.29) hours and in Group B it was 8.78 (SD 1.01) hours. Most families said they tried to make the sleeping area cosy and comfortable but several had constraints of space in the house. Just over 50% of families had a regular bed-time and encouraged quiet activities before bed. More than half the children had difficulties of waking up at night (36 {56.3%}) and as the whole family slept in the same room, all were disturbed when the child woke up. Of the 64 children 34 (53.1%) reported daytime drowsiness. Nearly 80% of children were prone to having bad dreams. Of the 64 families, 35 children had bath before bed and only 22 (34.4%) of the children were allowed to watch television before bed-time. Most of the children slept in the same room and shared the bed with their parents (60 {93.8%}) and only one of the 64 families (3.1%) had the ritual of a bed-time story. The details of the sleep habits and bed-time routines are given in table 3.

The change in the pre- and post-intervention total scores in the FISH inventory showed that there was a significant improvement in the sleep habits of children whose parents received the educational package (p=0.000). Parents from the interventional group, Group A, reported an improvement in sleep pattern and less day-time drowsiness.

There was also a reduction in the post-intervention total scores in the SDSC questionnaire compared to the pre-intervention scores, showing that there were less sleep disturbances reported after the parents started implementing the strategies conveyed to them in the educational intervention (p=0.000).

The median values of the differences in the pre- and post-intervention scores in the FISH and SDSC scales, were compared using the Mann Whitney-U test and found to be highly significant. In the subgroups, difficulty of initiating and maintaining sleep (DIMS), sleep breathing disorders (SBD), disorders of arousal (DA), sleep-wake transition disorders (SWTD), disorders of excessive somnolence (DOES) and sleep hyperhidrosis (SHY) were also compared in the two groups. The change in score and significance values are given in table 4.

Table 3: Sleep Profile and Bed-time Habits of Children.

Details of Child's Sleep and Bed-time Habits		Group A n=32	Group B n=32	Total n=64
Difficulty falling asleep	No	19 (59.4%)	17 (53.1%)	36 (56.3%)
	Yes	13 (40.6%)	15 (46.9%)	28 (43.7%)
Waking up at night	No	14 (43.8%)	14 (43.8%)	28 (43.7%)
	Yes	18 (56.2%)	18 (56.2%)	36 (56.3%)
Dreams	No	26 (81.2%)	24 (75.0%)	50 (78.1%)
	Yes	6 (18.8%%)	8 (25.0%)	14 (21.9%)
Daytime drowsiness	No	17 (53.1%)	13 (40.6%)	30 (46.9%)
	Yes	15 (46.9%)	19 (59.4%)	34 (53.1%)
Regular bedtime on most nights	No	18 (56.2%)	12 (37.5%)	30 (46.9%)
	Yes	14 (43.8%)	20 (62.5%)	34 (53.1%)
Quiet activities before bedtime	No	14 (43.8%)	21 (65.6%)	35 (54.7%)
	Yes	18 (56.2%)	11 (34.4%)	29 (45.3%)
Pre-bedtime bath	No	14 (43.8%)	15 (46.9%)	15 (23.4%)
	Yes	18 (56.2%)	17 (53.1%)	35 (54.7%)
Bed-time TV allowed	No	23 (71.9%)	19 (59.4%)	42 (65.6%)
	Yes	9 (28.1%)	13 (40.6%)	22 (34.4%)
Bed-time story	No	32 (100%)	31 (96.9%)	63 (98.4%)
	Yes	0 (0.0%)	1 (3.1%)	1 (1.6%)
Sleep environment – Own bed	Own	0 (0.0%)	4 (12.5%)	4 (6.3%)
	Shared	32 (100.0%)	28 (87.5%)	60 (93.8%)

Table 4: Change in Pre- and Post-intervention Scores in FISH and SDSC.

Change in Pre- and post-intervention scores			Mann Whitney U Test
Item	**Group A Median (IQR)**	**Group B Median (IQR)**	**Significance (two-tailed)**
FISH (n=31)	8.0 (3.0, 18.0)	0.0 (0.0, 0.75)	p = 0.000
SDSC (n=32)	-10 (15.75, -3.25)	0.0 (-3.0, 0.0)	p = 0.000
SDSC - DIMS	-1 (-5, 0.0)	0.0 (-0.75, 0.0)	p = 0.010
SDSC - SBD	-0.5 (-2.0, 0.0)	0.0 (0.0, 0.0)	p = 0.000
SDSC - DA	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	p = 0.724
SDSC - SWTD	-1.5 (-6.0, 0.0)	0.0 (-1.5, 0.0)	p = 0.022
SDSC - DOES	-2.0 (-4.75, 0.0)	0.0 (0.0, 0.0)	p = 0.005
SDSC - SHY	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	p = 0.037

FISH (n=31) Family Inventory of Sleep Habits (Items 1-22)
SDSC (n=32) Sleep Disturbance Scale for Children (Items 1- 26)

- SDSC - DIMS Difficulty in initiating and maintaining sleep (Items 1,2,3,4,510,11).
- SDSC - SBD Sleep breathing disorders (Items13, 14,15).
- SDSC - DA Disorders of arousal (Items 17, 20, 21).
- SDSC - SWTD Sleep/wake transition disorders (Items 6,7,8,12,18,19)
- SDSC - DOES Disorders of excessive somnolence (Items 22,23,25,25,26).
- SDSC - SHY Sleep hyper-hydrosis (Items 9,16).

DISCUSSION

Lack of sleep is an important trigger for epileptic seizures, therefore regular sleep must be a part of the management strategy in children with epilepsy. Poor sleep hygiene leads to fragmentation of sleep that can exacerbate seizures and cause daytime sleepiness that may affect neuro cognitive functioning of the child. Behavioural therapy and regular sleeping habits may reduce the problem to some extent.[17]

The International League Against Epilepsy (ILAE), through the Commission for Classification and Terminology, has developed a working classification of seizures and epilepsy. The new ILEA classification of seizures does not represent a fundamental change but allows greater flexibility and transparency in naming seizure types. Most of the children in our study (56%) were diagnosed to have generalized onset of seizures by the ILEA classification.[12]

Regarding anti-epileptic medication, the majority 59 (92.2%) were on monotherapy with either carbamazepine or sodium valproate. Of the 64 children, 39 (60.9%) were receiving carbamazepine, 22 (34.4%) were receiving valproic acid either alone or as bi-therapy with levatiracetam, or clobazam, either alone. One child received topiramate and one received levetiracetam as monotherapy. Only one child with intractable seizures was reciving polytherapy. Ekinci et al found that 77% (n = 41) of the patients were on AED monotherapy, while Grammino et al found 68.6% to be on monotherapy and 23.2% to be on bi-therapy.[2, 18] Of the 64 children in this study, 60 (93.7%) were on treatment with a single AED and 3 (4.7%) were on bi-therapy.

The FISH questionnaire gives us a quantitative scale of sleep habits, including bedtime routine, sleep environment, and parental interactions with their child. A higher score indicates better sleep hygiene. There was a significant increase in the FISH scores in parents who had received the intervention in this study. Increasing parental awareness by using the FISH questionnaire has been shown to improve parental behavioural interaction with their child.[13] The change in the pre- and post-intervention scores in the FISH inventory showed that parents who were made aware and motivated, were able to modify daytime behaviour and the rituals around bedtime to create a more sleep enhancing environment for the child. Parents also reported a reduction in daytime drowsiness following better night-time sleep. Reed et al have also demonstrated improvement in the FISH score with a parental behavioural intervention.[11]

Children with epilepsy may manifest significant sleepiness because of disruptions in sleep architecture, such as longer Stage 1 sleep and latency to REM sleep and may also present with sleep disorders and parasomnias. Wirrell et al found a significant difference in six areas of sleep disturbance: bedtime difficulties, sleep latency, parasomnias, parent–child interaction during the night, daytime drowsiness, and unrefreshing sleep and sleep fragmentation in children with seizure disorder compared to their normal siblings.[19]

The Sleep Disturbances Scale for Children (SDSC) allows us to have a better understanding of the sleep-wake rhythm of the child and to identify the sleep problems. It has been validated to assess sleep disturbances in children with a variety of conditions including seizure disorder.[14]

The SDSC questionnaire assessed the following six types of sleep disorders.

1. Difficulty in initiating and maintaining sleep (DIMS) defined by seven items related to sleep duration and latency, problems in falling asleep and night awakenings.
2. Sleep breathing disorders (SBD) composed of three items related to sleep gasping, breathing and snoring.
3. Arousal Disorders (DA) defined by three items related to sleep-walking, sleep terrors, dreams and nightmares.
4. Sleep/wake transition disorders (SWTD) assessed by six items related to mannerisms such as jerking, twitching, rocking during sleep transitions
5. Disorders of excessive somnolence (DOES) with six items related to daytime somnolence and restless sleep
6. Sleep hyper-hydrosis (SHY) assessed by two items referred to falling asleep and night sweating.

The change in the pre- and post-intervention scores in the SDSC questionnaire showed that parents who received the educational intervention were able to implement changes in their practices both in daytime behaviour and bedtime practices resulting in a favourable improvement of the sleep pattern of their child. There was also a significant change in the SDSC sub-scales related to difficulty of initiating and maintaining sleep (DIMS), sleep breathing disorders (SBD), sleep-wake transition disorders (SWTD), disorders of excessive somnolence (DOES) and sleep hyperhidrosis (SHY), though the change in scores was not significant in the disorders of arousal domain (DA).

The small numbers in this study may have been the cause for lack of normality which required the use of non-parametric tests for analysis of data. We relied on parentally completed questionnaires to measure improvement in behaviour, which limits us from drawing conclusions, given the tendency of parents receiving any intervention to report improvement. However, parental satisfaction with the intervention was high and all the families given the intervention reported noticeable improvement in the night-time situation in the home as the child was sleeping better.

However, as the relationship between epilepsy, sleep problems and psycho-social factors is complex and has

many dimensions, more studies with larger sample size are needed to clarify the complex relationship of sleep problems and epilepsy.

The study was a model used by Sage publications to highlight the research methodology and protocols of a randomised control trial. [20]

CONCLUSIONS

The educational package had a significant role in improving the pattern and profile of sleep measured by the change in scores of the FISH inventory and the SDSC questionnaire in children with seizure disorder. All the subscales of the SDSC sleep scale showed improvement with the intervention except arousal disorders.

Adequate study of the sleep related disorders may give a clue for new methods of better epilepsy control. Introducing an educational package while counselling parents will help in improving quality of sleep in children with seizure disorder.

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Conflict of interest: Nil

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