Vol 3 | Issue 1 | Pages 39-40

Journal of Pediatric Neurology and Neuroscience
ISSN: 2642-4797

Review Article

DOI: 10.36959/595/403

The Effect of Seizures on Sleep and Behavior in Children

*Toni Barkley**

Department of Neuroscience, Utica College, USA

Children with seizures experience a wide range of different problems that are a result of their different forms of epilepsy. Some problems children experience are sleep disturbances, behavior issues or mood swings, social problems and poor academic performance. The severity of these problems that each individual child may experience is dependent upon the locations of the seizures and the child themselves. Some studies have shown the parents may have an impact on sleep disturbances but not any other problems that child experience. These symptoms have both been expressed and observed by the children themselves and their parents. Children however are not the only population that experiences these problems; Beattie says that adults have also experienced sleep disturbances [1]. This means that most likely these difficulties experienced by children are just not exclusive to their age range but rather anyone who has a seizure disorder as a whole.

This raise the question however as to why these problems are more predominate in children than in adults or the elderly [2]. An explanation of this may something's as simple of parents notice more problems with children then they do with themselves or other people their age [3]. Or those adults with seizures contribute their tiredness or inability to sleep to other factors in their lives. Or it could be that when children are diagnosed with seizures it is during their early developmental years and it has an effect on how they grow and mature. This brings us back to behavioral issues and mood swings along with academic performances and social development.

A major factor in these problems that are common in children is the location of which the seizures occur. Different sections of the brains provide different functions to the body. For example, the frontal lobe of the brain is who a person is on the outside, its their personality. Therefore, a child with seizures in the front frontal lobe we would expect to see problems with behavior and mood swings [4]. This is the case that most studies have found. However, these same studies are finding that children with frontal lobe seizures are more likely to experience difficulties with sleep.

Beattie states the "66% of patients with frontal lobe epilepsy have nocturnal seizures" [1]. This means that for children with frontal lobe seizures most of their seizure activity is happening at night or during their sleep. How night time seizures affect the sleeping patterns of children can be looked at in a few different ways [5]. First it needs to be consider as to how these children's seizures present. Are they having silent seizures, where the body shows no sign of convulsions but the brain shows abnormalities in the wave patterns? Or do they have grand mal or petit mal seizures where both the body and the brains respond to the brain wave changes.

If the patient is having a silent seizure does this seizure disrupt the body from sleep or just the sleep cycle that humans go through. This is an important thing to consider and look at because if the sleep cycle is broken or disrupted then the brain is not entering the critical levels of sleep that help a person to feel rested or not. If the body is disrupted then it is a defiant disruption in the sleep cycle because the patient is having been most likely awoken, in which means the sleep cycle is needed to start all over again [6].

If patients are having grand mal or petit mal seizures new questions arise that need to be considered when talking about sleep. First does the patient have an aura that tells them one is going to happen, and is this aura a conscious or subconscious aura (one that may happen in a dream). The reason for having to look at if the aura is conscious or subconscious is because it will give clues and important feedback as how sever the seizure may be. Patients are able to tell when one is coming and able to tell how bad of one they are about to experience [7]. With both the grand and petit mal seizures it is clear that the sleep cycle is disturbed and a resulting negative side effect from the lack of good sleep with be seen in the patient. But does the patient know in the morning that they had a seizure or not. A person who is having seizures may not think to connect the brain disorder with problems sleeping.

This is especially seen in children because they simply do not know any better. They may not know that they are having seizures nor may the parents. However, the effects of sleep disturbances are seen in the way the child behaves. When a child does not receive the proper amount of sleep that they need every night it will begin to affect all aspects

***Corresponding author:** Toni Barkley, Department of Neuroscience, Utica College, 1600 Burrstone Rd Utica NY 13502, USA, Tel: 1(785)423-0639

Accepted: June 11, 2019

Published online: June 13, 2019

Citation: Barkley T (2019) The Effect of Seizures on Sleep and Behavior in Children. J Pediatr Neurol Neurosci 3(1):39-40

of that child's life. When the brain does not have enough of the proper sleep it begins to not function as efficiently as it should. This is where we begin to see the poor academic performances; it may not be because the child has a learning disability but because the brain is working slower and harder from the lack of sleep. The lack of sleep will also contribute to mood swings and behavioral issues. When people are running on little sleep they become more easily irritated and agitated. They also could experience sudden out bursts of irrational or unjustified anger or sadness.

Depression and anxiety are other factors that are seen in children with seizure disorders and more predominate in a population among seizure patients then a population of non-seizure patients. Depression could be seen in children with seizure for many reasons, like the child not understanding why they are different, or from embarrassment. They also may experience anxiety from the unknown of when or if a seizure may occur, for the children these unknowns and unexpected actions can be very stressful.

As a result of the stress, depression and anxiety children may withdrawal from an active social life [8]. This may further cause the child to become depressed due to the lack of friends and interaction.

One factor that may play just as major of a roll in sleep disturbance as the type of seizure itself is the parents roll. Everyone has a sleep routine and conditions in which they sleep best under. Children are the same way; however, parents can sometimes be the cause of sleep disturbance in children with seizures. Parents might be disrupting the sleep cycle of their children by checking on the several time a night. By checking on the child the parent is changing the environment in which their systems have adjusted to and are asleep in. For some children the noise of the parent walking, or doors opening is enough to awaken the child enough to break the sleep cycle. The same may be the if the light condition with the room changes by the opening of the door or the parents turning a light on.

Another commonly talked about cause of sleep disturbance is co-sleeping between the parent or parents and the child. The sleeping habits of children and adults are different. Adults do not need as much time to sleep as children and also may like a different sleep setting then the child does. While the parent may feel that co-sleeping is what is best for the child so that they can keep an on them, it may not be the case at all. Co-sleeping may actually be the cause of why the child is having sleep problems.

Other factors may the habit or routine in which the child has grown accustom to going to bed too. Studies have shown that an inconsistence nightly routine; varying hours of going to sleep and waking up, different order to habits at night and the use of electronic devices may also contribute to not only the amount of sleep a child gets but the quality of sleep a child gets.

Different but less emphasized factors that have an affect of sleep may be the type and does of medication that the children are taking. Some medications may be more helpful if taken at night to asset in the sleep process and others may be better taken in the morning as they may inhibit sleep.

Something that was only talk about briefly but is important to consider, is why are children with seizures mostly affected by sleep disturbances. After all, all age rangers can and are affected by several different types of seizures. One possible explanation of this is that several types of seizures may fade in severity as the child grows up [9]. Therefore, the children are not affected in adulthood. They have out grown the seizures. Another possible reason for this that the child by adult hood has become use to the sleep disturbances and has learned how to adapt to them therefore they no long experience as many problems.

Though there are many factors that can affect why a child with seizure may experience sleep disturbances it does not change the fact that side effects from those sleep disturbances are occurring and are often much worse than the seizures themselves. These affects have a negative effect on the child and may result in other long term difficulties for the patients [10]. This is why many of these studies are focused on the quality of life in children with seizure who experience excessive amounts of sleep disruptions.

References

1. Beattie JF, Koch SA, Bolden LB, et al. (2016) Neuropsychological consequences of sleep disturbance in children with epilepsy. Epilepsy Behav 57: 118-123.
2. Baker GA, Hargis E, Hsih MMS, et al. (2008) Perceived impact of epilepsy in teenagers and young adults: An international survey. Epilepsy Behav 12: 395-401.
3. Larson AM, Ryther RCC, Jennesson M, et al. (2012) Impact of pediatric epilepsy on sleep patterns and behaviors in children and parents. Epilepsia 53: 1162-1169.
4. Hamiwka LD, Wirrell EC (2009) Comorbidities in pediatric epilepsy: Beyond "just" treating the seizures. J Child Neurol 24: 734-742.
5. Byars AW, Byars KC, Johnson CS, et al. (2008) The relationship between sleep problems and neuropsychological functioning in children with first recognized seizures. Epilepsy Behav 13: 607-613.
6. Kaleyias J, Loddenkemper T, Vendrame M, et al. (2011) Sleep-wake patterns of seizures in children with lesional epilepsy. Pediatr Neurol 45: 109-113.
7. Parisi P, Bruni O, Villa MP, et al. (2010) The relationship between sleep and epilepsy: The effect on cognitive functioning in children. Dev Med Child Neurol 52: 805-810.
8. Høie B, Sommerfelt K, Waaler PE, et al. (2006) Psychosocial problems and seizure-related factors in children with epilepsy. Dev Med Child Neurol 48: 213-219.
9. Pereira AM, Bruni O, Ferri R, et al. (2012) The impact of epilepsy on sleep architecture during childhood. Epilepsia 53: 1519-1525.
10. Hixson JD, Kirsch HE (2009) The effects of epilepsy and its treatments on affect and emotion. Neurocase 15: 206-216.

DOI: 10.36959/595/403