

Characteristics of Epileptic Children Treated with Physiotherapy

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Abstract

Background

Epilepsy is a chronic disorder, a neurological condition which affects the central nervous system and causes unprovoked, recurrent seizures. Many epileptic children do not need physical therapy, those who need it are children who have limited mobility or are injured. The goal of physical therapy is to maximize their functional level, self confidence, doing the daily routine, participate in playing games with their peers, increase the range of motion and strength, increase concentration and attention.

Aim

To emphasize necessity of physiotherapist evaluation and features of treatment with physiotherapy as a part of teamwork medical approach.

Materials and Methods

48 patients from Department of Pediatric Physiotherapy at University Hospital Center “Mother Teresa”, Tirana, Albania, were evaluated. Inclusion criteria: Epileptic children under the age of 16 years old who have limited mobility or are injured and need physical therapy.

Result

Gender variation, Females, F=26, males, M=22 , so F:M=1.2:1. 29 children have focal seizure, 11= general seizure, 8= unknown onset. 27=unknown cause, 7= brain malformation, 2= lack of oxygen, 1=brain tumor, 6=head trauma or intracranial hemorrhage, 5=brain infection. 6 of them have undergone physiotherapy sessions 2 times a week. 19= 3 times a week. 11= 4 times a week. 7= 5 times a week. 3=6 times a week. 2 = 7 times a week.

Conclusion

The mean age of this children was 7,6 years old with a female predominance. The most common type of seizures were focal but the etiology of epilepsy for a significant part of cases remains unknown. About half of the cases had undergone physical therapy 3 times a week. Early diagnosis and team approaches, including physiotherapy offer the best results.

Introduction

Epilepsy is a chronic disorder, a neurological condition which affects the central nervous system and causes unprovoked, recurrent seizures. Epileptic Seizures are caused by disturbances in the electrical activity of the brain [1,2]. About 25 - 30% of patients diagnosed with Epilepsy belong to paediatric ages [2]. Many Epileptic children do not need physical therapy, those who need it are children who have limited mobility or are injured. Physiotherapy through various approaches including stretching, different exercises and skills development can help enhance mobility and coordination [3]. The overarching goal of physical therapy for epileptic children is to maximize their functional level such as self confidence, doing the daily routine, participate in playing games with their peers, increase the range of motion and strength, increase concentration and attention.

Materials and Methods

This was an eight years prospective study conducted on 48 patients from Department of Pediatric Physiotherapy at University Hospital Center “Mother Teresa”, Tirana, Albania. The institutional ethical clearance was taken before undertaking the study.

Inclusion Criteria: Epileptic children under the age of 16 years old who have limited mobility or are injured and need physical therapy.

Exclusion Criteria: All the other patients.

Methodology: Patients fulfilling the above criteria were enrolled in the study after taking an informed consent. A detailed history of the disease is taken, symptoms of epilepsy depend on the type of seizures (focal, generalized or unknown onset). Some common symptoms of epilepsy include: staring spell, confusion, loss of consciousness or recognition, uncontrollable movement like jerking and pulling, repetitive movements, fear, anxiety, déjà vu [4]. The management of these children through physiotherapy consist on many different exercises like stretching and warm up, holding the head up, roll over from back to stomach, sit up and play, walking, running [5,6].

In some cases who have limited mobility of extremities we have to work on those limbs to increase ROM (range of motion) [7]. In other cases who have diverse injury we work with those children to increase strength and functionality [3,8]. The number of physiotherapeutic sessions depends on many factors such as quantity and type of seizures, the age of the child, the degree of injury or damage, the ROM [9]. The physiotherapeutic session last 45 - 60 minutes. The type of seizure impact on physiotherapy session, we continue doing physiotherapy even during seizures, but if the seizure last longer than 5 min we have to transport the child to emergency room.

Results

A total of 48 cases of Epileptic children were included in the study. The age range was between 0 - 16 years, with the mean age of 7,6 years. (Tab/Chart-1). 26 cases (54.2%) were females and 22 (45.8%) were males with a female to male ratio of 1.2:1. (Tab/Chart-2). 29 children (60%) have focal seizure, 11 children (23%) have general seizure and 8 children (17%) have unknown onset. (Tab/Chart-3). 27 children (56%) have unknown cause of epilepsy, 7 children (15%) have brain malformation as cause of epilepsy, 2 children (4%) had lack of oxygen during birth as cause of epilepsy, 1 case (1%) had brain tumor as cause of epilepsy, 6 children (12%) had head trauma or intracranial hemorrhage as cause of epilepsy, 5 children (10%) had brain infection as cause of epilepsy. (Tab/Chart-4). 6 children (12.5%) have undergone physiotherapy sessions 2 times a week, 19 cases (39.5%) have been treated 3 times a week, 11 children (23%) have undergone physiotherapy 4 times a week, 7 children (14.5%) have done physical therapy 5 times a week, 3 children (6%) have done physiotherapy 6 times a week, 2 children (4%) have done physiotherapy 7 times a week. (Tab/Chart-5).

Table 1

Age	Number of cases	Percentage
0 - 3 years	7	14.4%
4 - 7 years	19	39.6%
8 - 11 years	13	27%
12 - 16 years	9	19%

Table 2

Sex	Number of cases	Percentage
Female	26	54.2%
Male	22	45.8%

Table 3

Type of Seizure	Number of cases	Percentage
Focal	29	60%
General	11	23%
Unknown	8	17%

Table 4

Etiology	Number of cases	Percentage
Unknown	27	56%
Brain malformation	7	15%
Lack of oxygen	2	4%
Brain tumor	1	2%
Head trauma / intracranial hemorrhage	6	12.5%
Brain infection	5	10.5%

Table 5

Number of physiotherapy sessions in a week	Number of cases	Percentage
2	6	12.5%
3	19	39.5%
4	11	23%
5	7	15%
6	3	6%
7	2	4%

Discussion

Epilepsy is a chronic disorder, a neurological condition which affects the central nervous system and causes unprovoked, recurrent seizures. Epileptic seizures are caused by disturbances in the electrical activity of the brain [1,2]. In our study, 48 cases of epileptic children were evaluated. Most of them were 4-11 years old

(67%), with a mean age of 7,6 years and there was female predominance with a female to male ratio of 1.2/1. This is in comparison with other studies as well [10-12]. The most common type of seizures were focal types (60%), followed by the general type (23%) which is quite similar to statistics and facts about epilepsy on www.healthline.com [2]. The cause of epilepsy remains unknown for most of the cases, exactly 27 cases or 56% which is close to a study done by a group of Estonian doctors [12]. Regarding the number of physiotherapeutic sessions in a week, about 40% of the cases have undergone physiotherapy 3 times a week and another 23% have been treated 4 times per week.

Conclusion

One third of diagnosed Epileptic patients are children. The mean age of diagnosed epileptic children was 7,6 years old with a female predominance. The most common type of seizures were focal but the etiology of epilepsy for a significant part of cases remains unknown. About half of the cases had undergone physical therapy 3 times a week.

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