Knowledge and Practice of Seizure Management among School Teachers in Nepal

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Abstract

A person having a seizure is often subjected to social discrimination in developing countries and, therefore, the situation is improperly handled when it occurs. The purpose of this study was to determine the level of knowledge about seizures and the way to handle that situation, by school teachers in Nepal. All the teachers at three schools run by a private foundation were interviewed (census method) using a self-administered semi-structured questionnaire, together with a separate score sheet, to ascertain their level of knowledge and understanding about, seizures, and their practice to handle sufferers during seizures. It was found that more than 50% of them believed seizures are a result of brain disease. Their source of information about the problem and its management was basically from family members and friends (37%). Almost 45% were found to have inadequate knowledge about seizures and their cause, and almost 48% of the respondents described an inappropriate way of handling a seizure case that might occur at school. The Chi square associations showed that the presence of a health care facility at the school was statistically significant with the management of sick children (χ^2 = 14.25 and p-value < 0.05), however, teachers' educational status had no relationship with their knowledge about seizures (χ^2 = 6.5 and p-value > 0.05). This obviously raises question regarding health safety of children at school. Our findings strongly suggest that school should provide facilities for proper handling of seizure affected children and an intervention program for every school teacher is essential to ensure the proper care of the child suffering from seizure attack at school. This supports to create a safe and non-discriminatory environment for them at school.

Keywords: Knowledge and Practice Level, Seizure in Children, School Teachers, Seizure Management

Introduction

A seizure occurs when the brain functions abnormally, resulting in a change in movement, attention, or level of awareness. Different types of seizures may occur in different parts of the brain and may be localized (affect only a part of the body) or widespread (affect the whole body). Seizures may occur for many reasons, especially in children and if it happens in a child who has never had one, can be frightening to the parent or caregiver (Christopher and Westermeyer II, 2017). Some people are recovered immediately while others may take minutes to hours to feel like normal (Epilepsy Foundation, n.d.). It needs to be managed in time, with the patient immediately given appropriate medical treatment. Management of seizure does not mean to forcefully restrain movements but to protect the child from injury while seizure (Baker, 2002).

When people think of seizure, they often understand uncontrollable convulsions in a person's body, usually in unconscious state of mind. However, the seizure disorder is associated with superstition, discrimination and stigma in many of the countries. Because of a deeply rooted idea that the cause of these frightening attacks is evil spirits, the affected children suffer untold deprivations and discriminations in society which may be more devastating than the disease itself. Nonetheless, children with seizure have the same range of intelligence and abilities as rest of the population and hence there is observed a gap of information programs in the developing world about seizures (Ojha et al., 2012). At the global level, it is estimated that there are nearly 50 million people who suffer from epileptic seizures, more than 80% of them are in developing countries (de Boer et al.,

2008). The World Health Organization (WHO) (2018) estimates that, in low and middle income countries, 90% of the people with epileptic seizure do not receive the treatment they need (Scott et al., 2001). Study says 45% of seizure cases get accidents and out of that 18% are considered serious enough to visit the hospital (Buffo et al., 2008). Of particular relevance to our study, seizures are the most common pediatric neurologic disorder with 4% to 10% of children suffering at least one seizure in the first 16 years of life (Friedman and Sharieff, 2006). The incidence is highest in children younger than 3 years of age, with a decreasing frequency in older children (Ojha et al., 2012). This age group includes all school children and create a doubt if they are receiving poor health safety and care, especially when they are affected by seizure at the school. Therefore we come across the question, do the school teachers have adequate knowledge or appropriate practice about the basics of seizures? This would also dispel some of the stigma surrounding the problem, and would help improving child health safety within the school. With an appropriate utilization of medical resources and skills, the schools would be able to maintain a better psychosocial functioning among school-aged children (Epilepsy Action Australia, n.d.).

The degree of school teachers' knowledge about the seizure attack on children can affect their attitude and behaviour towards those pupils. The negative attitude has consequent adverse effect on handling the affected children at school. As children spend most of their formative years under the tutelage of these teachers, the negative attitude toward children with seizure may have a huge impact on their scholastic activities as well as their future achievements. Teachers usually do not have any formal instructions on seizure during their training, so they should be correctly informed about the disorder and be encouraged to have a positive and optimistic attitude toward the condition (Mott et al., 2012). Several studies on public knowledge and awareness of seizure disorder have reported a more positive attitude to seizure disorder among educated people than among uneducated people (Neni et al., 2010; Akpan et al., 2013). Moreover in Nigeria, teachers had poor knowledge of seizure and as a consequence, they had a negative attitude towards children with seizure disorder (Olson et al., 2004). With appropriate training and availability of good information, teachers could play a significant role in the management and surveillance of children with seizure (Friedman and Sharieff, 2006).

Considering the importance of role of the teachers in these situations, this study was conducted in three different schools run by a private foundation in Kathmandu valley of Nepal. The study assessed the level of knowledge about seizures among the teachers of primary, secondary and higher secondary level, and their ability handling seizures that might occur in their school, before, during and after the attack.

Methods and Materials

The cross-sectional survey study conducted during October and November of 2014, had obtained Ethical clearance from Institutional Review Committee of NIHS collage. A written consent was taken from the Director of foundation and the verbal consent for data collection was obtained from the principal of each of the three schools. All the teachers were included in the interview process (census method). The interviewers were verbally informed about aim of the research work and written consents were taken before the data collection process. From all 3 branches of the schools; primary, secondary, and higher secondary levels, altogether, 78 permanent and full time teachers of the foundation were sampled. Out of them, 2 were absent during the days of data collection and one abstained from the process and therefore a total of the 75 teachers who participated in the study, had been involved in current profession for more than 6 months. Before collecting the data, a pre-testing

was done taking 10% of the total sample population, among similar school teachers. Necessary modifications were made in the questionnaire after literature review

The semi-structured questionnaire, comprising 25 questions, was self-administered during survey. Additionally, separate knowledge and practice test score sheets were administered for testing the knowledge and practice level of teachers about the seizure. The score sheets contained 14 questions for the knowledge test and 8 for the practice test, with each question being scored 1 for a positive answer and 0 for a negative answer. Analysis followed the scalar scoring method (Bansal et al., 2015; Sharma and Chalise, 2018). The total score for each of the positive and negative answers was added separately. If the total score for positive answer was 60% or more, the individual's knowledge about seizure was considered adequate or practice of handling a suffering child to be appropriate (Wang et al., 2015).

The collected data were checked for its completeness and accuracy. The data entry and analysis were done with SPSS software. The analysis had simple descriptive statistics like percentage, frequency and mean. The Chi-Square test was applied for establishing association between the variables. P-value less than 0.05 (5% level of significance) was considered to be statistically significant association. The analyzed data were presented in tables, charts and narrative forms. The demographic status of the respondents were such that 61% of the respondents were female and most of them (93%) were Hindu. Almost half of the study population (46.7%) of the respondents were the graduates (Table 1).

Table 1 Demographic detail

Characteristics	Number (n = 75)	Percent
Gender		
Male	29	38.7
Female	46	61.3
Total	**75**	**100.0**
Religion		
Hindu	70	93.4
Buddhist	4	5.3
Christians	1	1.3
Total	**75**	**100.0**
Educational Status		
Secondary	1	1.3
Higher Secondary	14	18.7
Graduate	35	46.7
Post Graduate	25	33.3
Total	**75**	**100.0**

Results

Figure 1 illustrates that 37% of the respondents gained the knowledge about seizure through family and friends and only 3% of the respondents knew about the seizure through health professionals. Table 2 shows that 52% of respondents perceived about the cause of seizure to be only mental fatigue and the stress. About 28% thought that it was caused due to brain disorder.

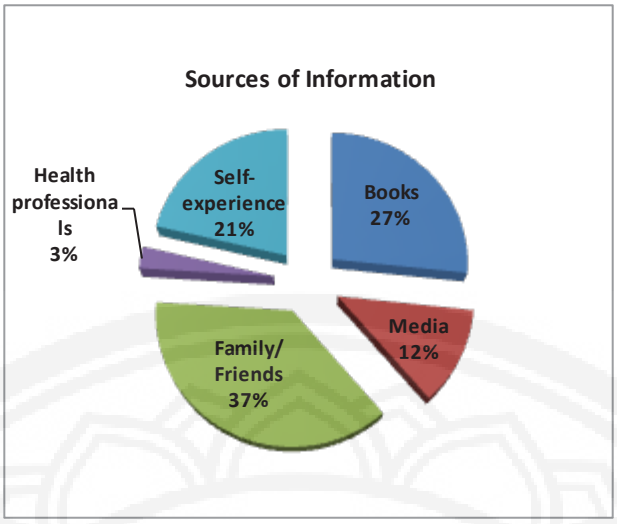

Figure 1 Source of knowledge about seizure

Table 2 clears that 75% teachers admitted about the lack of medical checkup of the students during their admission to detect the cases of seizure. 52% had a view that it was a result of mental fatigueness and stress and 75% of them opined that such patients might develop the psychological problems. 61% opined that it affected the intelligence of a child as well. However, 80% of them thought the disease not to be communicable or contageous at all. Also, they thought it to be a curable disease (80%), some 80% thought the seizure affected children should involve in social functions and they need to equally participate in sports activities (64%) with their friends. Almost 55% of the respondents had adequate knowledge about seizure (Figure 2) and 52% of them had appropriate practice of its management (Figure 3).

Table 2 Respondents knowledge and perception about the seizure

Characteristics	Frequency (n = 75)	Percent
Childs' medical checkup during admission		
Yes	19	25.3
No	56	74.7
Total	**75**	**100.0**
Knowledge on causes of Seizure		
Genetics	9	12.0
Brain disease	21	28.0
Trauma	4	5.3
Mental fatigue and stress	39	52.0
Others	2	2.7
Total	**75**	**100.0**
Seizure causes psychological problems		
Yes	56	74.7
No	7	9.3
Don't know	12	16.0
Total	**75**	**100.0**

Table 2 (Cont.)

Characteristics	Frequency (n = 75)	Percent
Seizure affects child's intelligence		
Yes	46	61.3
No	18	24.0
Don't know	11	14.7
Total	**75**	**100.0**
Seizure is contagious / communicable		
Yes	4	5.3
No	60	80.0
Don't know	11	14.7
Total	**75**	**100.0**
Seizure is a curable mental disease		
Yes	60	80.0
No	6	8.0
Don't know	9	12.0
Total	**75**	**100.0**
Affected children can attend social functions		
Yes	60	80.0
No	7	9.3
Don't know	8	10.7
Total	**75**	**100.0**
Prevent the affected children from sports		
Yes	15	20.0
No	48	64.0
Don't know	12	16.0
Total	**75**	**100.0**

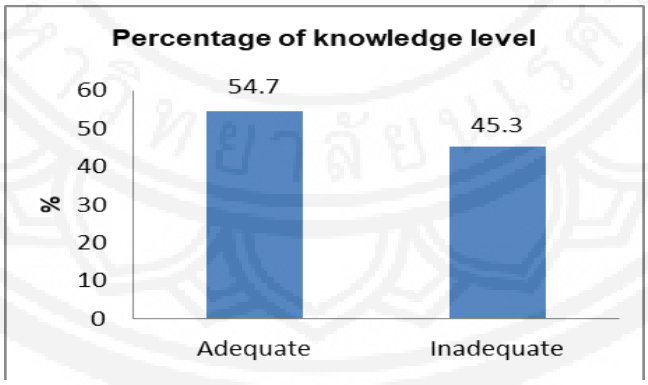

Figure 2 Percentage of respondents with adequate or inadequate knowledge

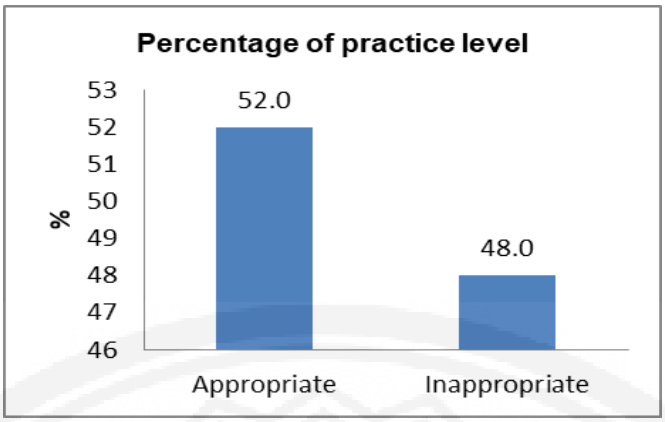

Figure 3 Percentage of respondents with appropriate or inappropriate practice level

Table 3 shows the cross tabulations between, knowledge and educational level of respondents and Table 4 explains the association between self-reported practice and available facilities to handle the seizure cases. There was significant statistical association between teacher's practice level of handling patient and available facilities (p-value < 0.05) in the school. However, the knowledge about seizure cases showed no association with the level of education of the teachers (p-value > 0.05).

Table 3 Association between educational status and knowledge of the respondents

Characteristics	Knowledge (n = 75)			$\chi^2_{(df)}$	P-value
	Adequate n (%)	Inadequate n (%)	Total (%)		
Educational Status					
Secondary	1 (1.3)	0 (0)	1 (1.3)	6.5 (3)	> 0.05
Higher Secondary	4 (5.3)	10 (13.3)	14 (18.7)		
Graduate	23 (30.7)	12 (16.0)	35(46.7)		
Post Graduate	13 (17.3)	12 (16.0)	25 (33.3)		
Total	**41(54.7)**	**34 (45.3)**	**75 (100.0)**		

Table 4 Association between facilities and practice of seizure management

Characteristics	Practice (n = 75)			$\chi^2_{(df)}$	P-value
	Appropriate (%)	Inappropriate (%)	Total (%)		
Availability of Facilities					
Yes	37 (49.3)	21 (28.0)	58 (77.3)	14.25 (1)	< 0.05
No	2 (2.7)	15 (20.0)	17 (22.7)		
Total	**39 (52.0)**	**36 (48.0)**	**75 (100.0)**		

Discussion

More than half of the respondents in this study had adequate knowledge (54.7%) and appropriate practice (52.0%). The result was a bit higher than a study in Sudan where 40.4% of the school teachers had good knowledge and 35.0% showed a good practice to handle the school children during seizure (Elhassan et al., 2017). However, similar study but in a community of Nigeria showed not much different results than ours. They had 48.1% respondents having above mean score of knowledge and 50.4% carefully handled the patients so as to avoid the possible injuries to them (Ezeala-Adikaibe et al., 2014). Therefore, the level of knowledge

and practice about handling seizure patients can vary as per society and its socio-economic characteristics. It also depends how they got the initial knowledge about the disease and its management procedures. Our study showed more than a third of respondents (37.0%) knew about epilepsy and seizure from family and friends and only 12% knew from media. None of them heard from health professionals. In Nigeria 55%, that is more than our result, had heard about the problem from family and friends and 11%, similar to ours, had known through the media and a small number (12%) had known from health professionals (Ezeala-Adikaibe et al., 2014). This reflects that the knowledge and practice level of respondents would obviously be lower than expected.

This study from Nepal showed that, educational status of the teachers didn't significantly influence their level of knowledge towards seizure and its management aspects. This finding was coherent with a cross-sectional study carried out among 269 school teachers from various secondary schools in Osogbo, the Osun State capital in South-West Nigeria. The study showed that, despite the high level of education of the teachers, there was significant deficit in terms of general knowledge about epilepsy (Mustapha et al., 2013). In contrast, a study conducted on awareness, knowledge and attitudes towards epilepsy, in rural communities of Malaysia (Neni et al., 2010) and Akwa Ibom state of Nigeria (Akpan et al., 2013) showed that respondents with higher education possessed significantly better attitude and knowledge level, compared to those with lower education level. The study also showed that despite a general high level of awareness (all of them knew about the disease) there was a serious lack of accurate and adequate knowledge regarding epilepsy and seizure disorder. Might be, they lack the technical and scientific knowledge from health professionals about seizure. Therefore we can say that, such a variation in relationship may depend on the socio-economic and cultural conditions of the society. Practice and facilities.

In this study, the epileptic student's personal history was unknown to the teachers. Also, they were neither trained nor skilled about the matter, so that, the case handling or its management was poor over here in Nepal. The result was consistent with a study in Greece where, inability of most teachers to help a convulsing child was related to the lack of personal detail about an epileptic student. This was a significant factor in determining many of the teachers′ responses towards seizure management (Kaleyias et al., 2005).

In our study, majority of the teachers thought that seizure prone child had some sort of psychological problems and can even affect the intelligence of a child. However a positive aspect of the result is that, most of them had perceived it as a curable, non-communicable mental disease and they believed the child should continue their studies and regular activities. This result was coherent with the studies in Greece that the attitude of most teachers was very positive toward the epileptic child, and almost all believed that these children should continue their studies at their regular school (Kaleyias et al., 2005; Madsen, 1996).

However, being a non-experimental study, it does not illustrate about the clinical aspect of handling seizure attacked children at school and this would be a worthy to further extend this research. Besides, similar study at national level would be the next step of this research topic.

Conclusion and Suggestion

Seizure is a common problem, heard and witnessed by most of the teachers. The findings indicated the presence of knowledge and positive attitude about seizure among school teachers, but not among all. However, the self-reported practice to handle the cases is poor among them. Since the disease can lead patients to serious accidents and psychological problems, it needs to be controlled in time, rather than getting them out from the school. Therefore, a need to improve the level of knowledge and practice of first aid management of seizure hit

children among teachers has been observed. Lack of trainings and inadequate knowledge in recognizing or responding to seizure has intense effect on children's safety while they are at school. This study concludes that schools are almost unaware about proper management of the seizure at school and also they do not have enough knowledge, which is full of stigma, which obstructs them to handle the cases in a right way. The schools should provide trainings from health professionals, facilities and assistance to the teachers that can avoid the mishaps and discriminations against pupils with seizure.

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