A Quasi Experimental Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding First Aid Management of Epilepsy among Teachers of Selected Primary Schools of District Shimla, Himachal Pradesh

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ABSTRACT

Introduction:- Children comprise one third of our population and all of our future and their health is our foundation. The childhood period is also a vital period. But unfortunately, children are at risk of diseases, the reason may be many. One of such disease is epilepsy disorder which threatens life of the child. Present study was done to assess the effectiveness of structured teaching program on knowledge regarding first aid management of epilepsy among teachers . If teachers will be trained they would be able to educate other older students about management of emergency situations. **Objectives:-** To assess the pre-test knowledge regarding first aid management of epilepsy among teachers. To evaluate the effectiveness of structured teaching program on knowledge regarding first aid management of epilepsy among teachers. To find out the association of level of knowledge regarding first aid management of epilepsy among school teachers with their selected demographic variables. **Methods and Material:** Qausi - experimental one group pretest post test design was used. Sample size was 60 primary school teachers selected by convenience sampling from Glory international public school Rohru, Shimla , Shivalik International Public School, Saraswati Nagar Shimla. Saraswati Vidya Mandir Jubbal, Shimla. Data was collected by self -structured knowledge questionnaire. Structured teaching program was administered. **Results:** In pre-test majority of subjects 31(51.7%) had poor knowledge, 29(48.3%) had average knowledge and none of them had good knowledge before the intervention whereas in post-test majority of subjects 45(75%) had good knowledge, 15(25%) had an average knowledge and none of them had poor knowledge regarding first. This difference reflects an average score gain of 39.33%. In pre-test the mean score of knowledge was 10.55±3.265 and in post- test mean score was 22.35±3.56. The mean difference was 11.80. The calculated paired 't' value was 23.645 which was statistically significant at 'p' <0.001 level. This indicates that the educational intervention had a substantial impact, as subjects showed a considerable increase in their knowledge levels about epilepsy after intervention. **Conclusion:** The study concludes that the use of teaching programs in primary school teachers is effective intervention for improving the knowledge regarding first aid management of epilepsy.

KEYWORDS: Structured Teaching Program, knowledge, Seizure and epilepsy.

INTRODUCTION

"The time is always right to do what is right "- Martin Luther King.

Children comprise one third of our population and all of our future and their health is our foundation. The childhood period is also a vital period because many of the health problems will arise from this period and most of the studies reveal that many children are suffering from one or the other disease. . One of such disease is epilepsy disorder which threatens life of the child. The term epilepsy derives from the Greek work "epilepsia" which means "to take hold of" or "to seize". It is a symptom complex arising from disordered brain function that itself may be secondary to variety of pathologic process. Epilepsy is characterized by recurrent seizures or convulsions. Seizures are defined as a transient occurrence of signs and symptoms due to the abnormal, excessive, or synchronous neuronal activity in the brain characterized by abrupt and involuntary skeletal muscles activity. According to WORLD HEALTH ORGANIZATION (2012), Epilepsy disorder is a common neurological problem in children. Many epilepsy disorders have their origin in childhood. **NATIONAL SCENARIO:** There are very few epidemiological studies looking at the incidence of epilepsy from India. The limited data show that the incidence and prevalence rates are surprisingly similar to those in developed countries. A recent study conducted in Kolkata's urban population showed an annual incidence rate of 27.27 per 100,000 per year. **GLOBAL SCENARIO:** The incidence of epilepsy varies between industrialized countries and developing ones. In Western countries, new cases per year are estimated to be 33.3–82/100,000, in contrast to the maximum incidence of 187/100,000 estimated in developing countries **STATE SCENARIO: Pola Santhosh Kumar et al. (2022)** A retrospective chart review of children age between 1month-18 years diagnosed with epilepsy was done in the department of Pediatrics, Maharishi Markandeshwar Medical College and Hospital, Solan, Himachal Pradesh, India. Nearly, 80% of them had less than ten episodes of seizures before diagnosis. Seizures were of focal onset in 15 children, generalized onset in 12 children and of unknown onset in 26 children. Teachers usually do not have any formal instructions on epilepsy during their training, so they should be correctly informed about the disorder and encouraged to have a positive and optimistic attitude toward the condition. Other children may be quite helpful if they are aware that about seizures and its emergency management. If teachers will be trained they would be able to educate other older students about management of emergency situations. So it shows that there is a great need of training teachers to manage the epileptic seizures at the site of its occurrence so as to prevent further complications due to its mismanagement and lack of first aid management.

After the extensive review of literature it has been found that the highest prevalence of epilepsy found among students. Therefore, preventive strategies , such as implementation of effective educational intervention among teachers are very much needed. So data suggests the need to assess the effectiveness of STP on knowledge regarding first aid management of epilepsy among teachers.

MATERIALS AND METHODS:

A quantitative research approach was used to assess the the effectiveness of structured teaching program on knowledge regarding first aid management of epilepsy among teachers. Qausi - experimental one group pretest post test design was used. Sample size was 60 primary school teachers selected by convenience sampling from Glory international public school Rohru, Shimla , Shivalik International Public School, Saraswati Nagar Shimla. Saraswati Vidya Mandir Jubbal, Shimla. Data was collected by self - structured knowledge questionnaire. Structured teaching program was administered. The research tool consisted of two sections, Section A that is Demographic Variables, Section B that is Self structured knowledge questionare regarding first aid management of epilepsy. The content validity was done by 9 experts from different areas such as: 1 clinical psychologist , 2 from Preventive Social Medicine, 6 from field of child health nursing. five experts in the field of Nursing. Pilot study is conducted in the ECI Chalet Day School Shimla (H.P) among 6 samples. Reliability score was obtained and showed the is r = 0.90 which showed tool is reliable for researcher to conduct main study. Prior to the data collection, written formal permission was obtained from the concerned authorities of Shivalik International Public-School Saraswati Nagar, Glory international public school Rohru, Saraswati Vidya Mandi, Jubbal, Distt. Shimla H.P., and the final main study was conducted. The data was collected in the month of June 2024. The researcher collected information of primary school teachers and personally contacted each respondent for data collection. The investigator collected data at respective schools. The nature and purpose of the study was explained to the participants and written consent was obtained from them . The investigator assured that the information given by them will be kept confidential. Total 60 teachers were selected by non-probability convenience sampling techniques The sample was divided into 3

groups. Firstly, pre-test was taken in which demographic data sheet with structured knowledge questionnaire e was administered to the participants separately to each group and were asked to mark appropriately according to their responses. In case any subject felt any problem in understanding the tool it was explained by the researcher properly to get appropriate responses from the study subjects. On the same day Structured Teaching Program was administered with the help of power point presentation approximately for 45 minutes separately to each group. During the session, doubts were clarified by the researcher. After 7 days, the post-test was taken by using the same tool to the same participants. After data collection, the investigator thanked the subjects for their participation in the study.

The data collected were analyzed and interpreted through descriptive and inferential statistics.

RESULT
SECTION-A: Description of demographic profile of subject under study.
shows selected demographic variables of study, according to age group majority of teachers 30 (50.0%) were in the age group of 31-40 years, 19(31.7%) teachers in the age group of 20-30 years. There is a smaller representation 11(18.3%) in the 41-50 years , with no participants aged over 50 years..

With regards to gender the majority of participants were female 41(68.3%), while males make up the remaining 19(31.7)%.According to educational qualifications of the participants vary, majority of teachers 40(66.7%) were having master degree and the rest 19(31.7%) were graduates and single participant with a 12th-grade qualification 1 (1.7%), and no participants have a 10th-grade qualification or a Ph.D. With respect to area of teaching all participants teach in private schools (100.0%), indicating a homogeneous teaching environment in private educational settings. The distribution of teaching experience among participants shows that majority of teachers 19(31.7%) had experience of less than 5 years and between 5-10 years 19(31.7%), 18(30.0%) had 11-15 years and 4(6.7%) had more than 15 years of teaching experience. According to prior information majority of teachers 46 (76.7%) had no prior information regarding epilepsy and only 14 (23.3%) have prior information .Among those with previous information on epilepsy, the most common source is social media (71.4%), followed by workshops/seminars and information from friends (each 14.3%). Newspapers did not serve as a source for any participant. According to experience majority of teachers 58(96.7%) had no experience. Only 2(3.3%) have had experience with a child with epilepsy in their classroom.

SECTION – B Assessment of pre-test and post-test level of knowledge regarding first aid management of epilepsy among school teachers.

Table 1: Frequency & Percentage distribution of pre-test and post-test level of knowledge.

N=60

Level of knowledge	Knowledge score	Pre-test		Post-test	
		f	%	f	%
Poor	0-10 (<50%)	31	51.7	0	0
Average	11-20 (51-75%)	29	48.3	15	25
Good	21-30 (>75%)	0	0	45	75

Maximum Score=30 Minimum Score=0

Table 1 depicts that in pre-test of the majority of teachers 31(51.7%) had poor knowledge, 29(48.3%) have average knowledge and none of the them had a good level of knowledge before the intervention. In post-test majority of teachers 45(75%) had good knowledge, 15(25%) had an average level of knowledge and none of them had poor knowledge regarding first aid management of epilepsy
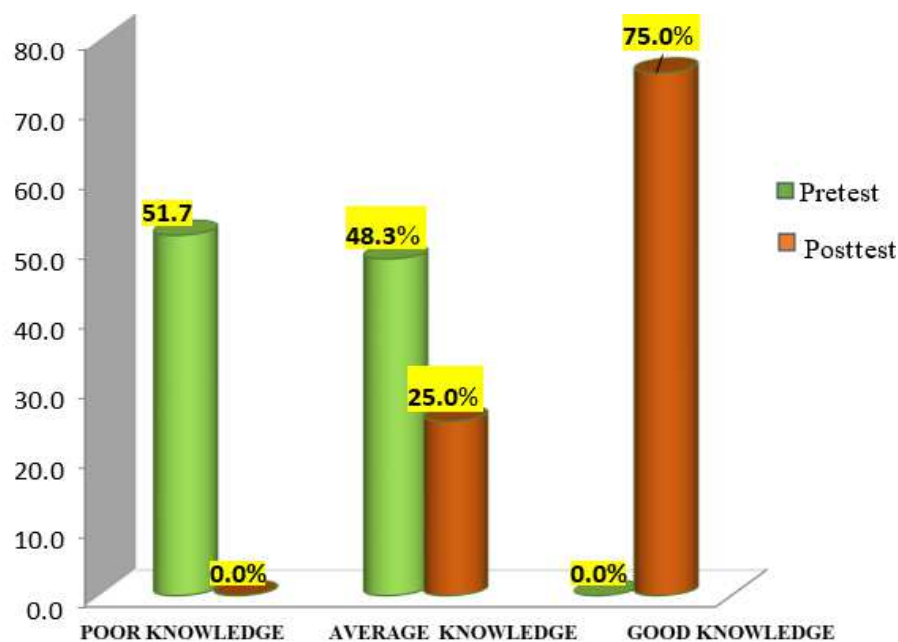
Figure 1:- Percentage distribution of pre-test and post-test level of knowledge regarding first aid management of epilepsy among teachers

Table 2 – : Descriptive statistics of pre-test and post-test knowledge score

N=60

Descriptive Statistics	Mean	S.D.	Median Score	Max. Score	Mini. Score	Range	Mean%
Pre-test	10.55	3.265	10	18	4	14	35.20
Post-test	22.35	3.560	22	28	11	17	74.50

Maximum Score=30 Minimum Score=0

Table 4.3 depicts that the average score on knowledge assessment i.e. mean in pretest was 10.55 out of 30 that has increased to 22.35 in post test. In pre-test standard deviation is 3.265 and in post test it has raised to 3.560. The median score in pre-test was 10 that has increased to 22 in post test. The maximum score in pre- test was 18 that has increased to 28 in post test and minimum score was 4 and 11 in pre-test and post-test respectively .Range in pretest was 14 that increased to 17 in post-test. The mean percentage score is 35.20% in pre-test and 74.50 in post-test.
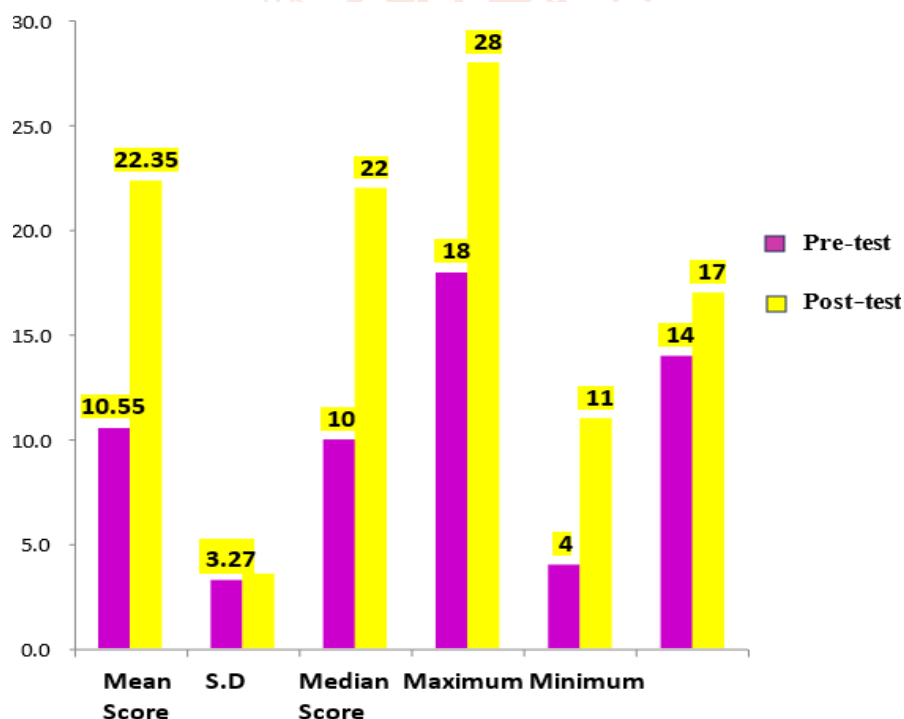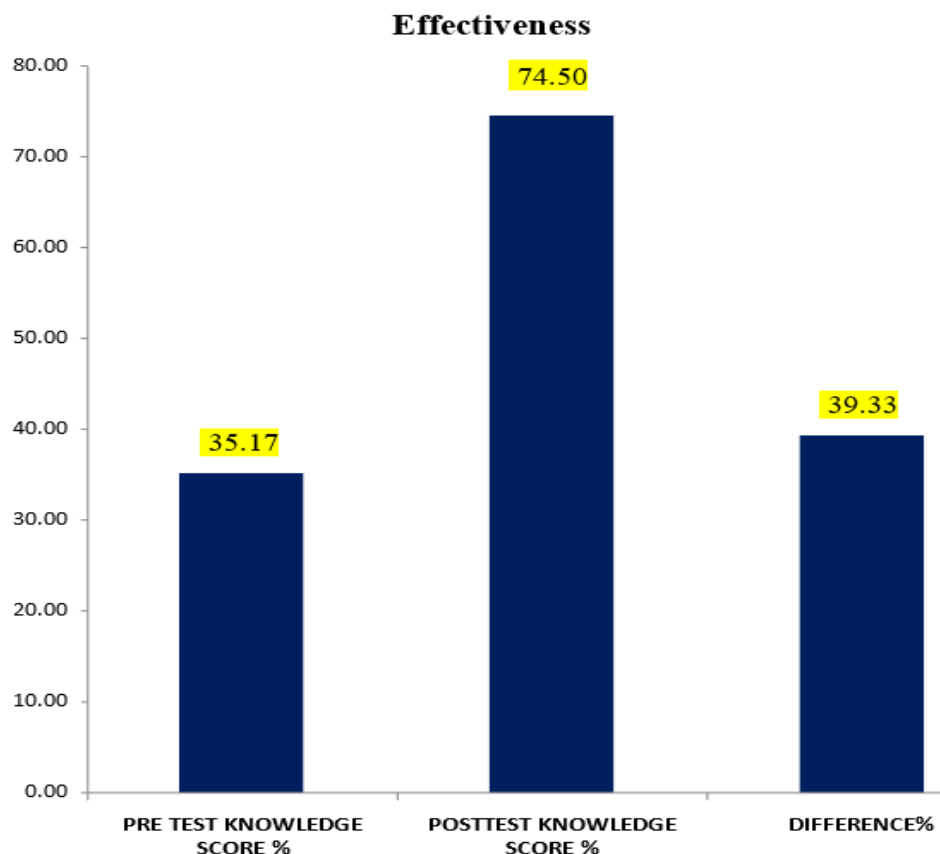

Figure 2 : Descriptive statistics of pre-test and post-test knowledge score

SECTION-C: Effectiveness of structured teaching program on knowledge regarding first aid management of epilepsy among teachers.

Table 3 – : Comparison of pre-test and post-test level of knowledge scores.

N=60

Knowledge	Mean	S.D.	Mean Difference	Paired "t" value	P value
Pre-test	10.55	3.265	11.800	23.645	0.001*
Post-test	22.35	3.56			

(*p <0.05 Significant)

Table 3 depicts that the in pretest the mean score of knowledge was 10.55±3.265 and in post test mean score was 22.35±3.56. The mean difference was 11.800. The paired t-test revealed a statistically significant mean difference of 11.80 between pretest and post-test knowledge scores (t = 23.645, p < 0.001). This indicates that the educational intervention had a substantial impact, as participants showed a considerable increase in their knowledge levels about epilepsy after undergoing the intervention. The table also highlights that the calculated t-value (23.645) far exceeds the critical value (2.00) at a significance level of 0.05 shows observed improvement.

Figure 3: Comparison of pre-test and post-test knowledge score representing effectiveness,

SECTION- D: Association of post-test knowledge regarding first aid management of epilepsy among teachers with selected socio- demographic variables.

Table No 4 :- Association of pre-test knowledge scores regarding first aid management of epilepsy among teachers with selected socio-demographic variables.

Demographic Variables	Level of knowledge			Association of knowledge scores			
	Poor Knowledge	Average Knowledge	Good Knowledge	df	Chi-Square	Table value	"p" value
1.Age in years							
a) 20-30	0	5	14	2	4.795	5.991	0.091
b) 31-40	0	10	20				
c) 41 -50	0	0	11				
d) >50	0	0	0				

2. Gender							
a) Male	0	6	13	1	0.642	3.841	0.423
b) Female	0	9	32				
3.Educational qualification							
a) 10th	0	0	0	2	0.625	5.991	0.732
b) 12th	0	0	1				
c) Graduate	0	4	15				
d) Master degree	0	11	29				
e) Ph.D.	0	0	0				
4.Area of teaching							
a) Govt. school	0	0	0	NA	NA	N.A	N.A
b) Private school	0	15	45				
5. Experience in years							
a) < 5	0	6	13	3	2.004	7.815	0.572
b) 5-10	0	4	15				
c) 11-15	0	5	13				
d) >15	0	0	4				
6. Previous information regarding epilepsy							
a) Yes	0	1	13	1	3.106	3.841	0.078
b) No	0	14	32				
If yes, source of information							
a)Workshop/Seminar	0	0	2	2	6.462	5.991	**0.040***
b)Friends	0	1	1				
c)Social media	0	0	10				
d) Newspapers	0	0	0				
7. Ever had a child with epilepsy in classroom							
a) Yes	0	0	2	1	0.690	3.841	0.406
b) No	0	15	43				

Table 4 depicts that there was significant association between pre-test knowledge score and selected demographic variable that is gender (χ^2 = 5.398, table value=3.841) and Previous information regarding epilepsy (χ^2 = 1.260, table value=3.841) at p <0.05 level. There was no significant association between pre-test knowledge score and selected demographic variables i.e. Age in years: (χ^2 = 0.498,table value=5.991), Educational qualification: (χ^2 = 1.087, table value=5.991), Experience in years: (χ^2 = 1.684, table value=7.815), Ever had a child with epilepsy in classroom: (χ^2 = 2.212, table value=3.841) at p > 0.05 level.

DISCUSSION

The discussion deals with the findings of the study derived from the statistical analysis and its pertinence to the objectives of the study and further discussion exemplify these objectives were satisfied by the study. The purpose of the study was to assess the effectiveness of Structured Teaching Program on knowledge regarding first aid management of epilepsy among teachers. The findings of the each objective are as follows:

Findings related to demographic variables of teachers:
In the present study, selected demographic variables of study according to age group majority of teachers 30 (50.0%) were in the age group of 31-40 years, 41(68.3%) were females, majority of teachers 40(66.7%) were having master,19(31.7%) had teaching experience of less than 5 years, 46 (76.7%) had no prior information regarding epilepsy and only 14 (23.3%) have prior information .Among those with previous information on epilepsy, the most common source is social media (71.4%).The findings are supported by Sharma Kumar Naveen, Prasanna K. Lakshmi, Kumar Ashok (2013) conducted a study to assess the effectiveness of structured teaching program on knowledge regarding epilepsy in children among school teachers in Vijayanagar, Bangalore. The finding reveals that the majority of teachers 22 (44 %) were in the age group of 31-40 years, and majority of teachers 48 (96 %) were included in female group, and majority of the subjects, 47 (94 %) were Hindus, 36 (72 %) were B.Ed., 32 (64 %) had 1-10 total years of experience and 20 (40 %) had source of information as radio/TV. **Findings related to demographic variables of teachers:** In the present study, in pre-test majority of subjects 31(51.7%) had poor knowledge, 29(48.3%) had average knowledge and none of them had good knowledge before the intervention whereas

in post-test majority of subjects 45(75%) had good knowledge, 15(25%) had an average knowledge and none of them had poor knowledge regarding first aid management of epilepsy. Before the intervention, in pre-test subjects had an average knowledge score i.e. 35.17% which increased substantially to 74.50% in the post-test. Similar study conducted **by Pattanashetti Natekar, S Deelip, Itti G Jayashri (2023)** to assess the effectiveness of planned teaching programme on knowledge regarding epilepsy management in school children among primary school teachers working in selected primary schools at Bagalkot, Karnataka. Results showed that in pre-test 84% of respondents had inadequate knowledge, 16% had moderate and no one had adequate knowledge. In post-test in experimental group 66% had adequate & 44% had moderate knowledge and in control group knowledge scores has not increased.

Findings related to comparison of pre-test and post-test knowledge scores.

In pre-test the mean score of knowledge was 10.55 ± 3.265 and in post- test mean score was 22.35 ± 3.56. The mean difference was 11.80. The calculated paired 't' value was 23.645 which was statistically significant at 'p' <0.001 level. This indicates that the educational intervention had a substantial impact, as subjects showed a considerable increase in their knowledge levels about epilepsy after intervention. So research hypothesis **(H1)** was accepted and null hypothesis **(H01)** was rejected.

A similar study was done by Yadav Balbir (2020), to assess the effectiveness of structured teaching programme on Knowledge of Primary School teachers regarding Epilepsy in children in Henderson Public School, Mohali. Purposive sampling technique was used with sample size of 40. The results showed overall pre-test mean score of primary school teachers was 11.26 (SD=1.98) and post test mean score was 19.36 (SD=2.22). In conclusion the structured teaching programme was effective in enhancing the knowledge regarding first aid management of epilepsy among primary school teachers.

Findings related to association of level of knowledge with their demographic variables.

There was significant association between post-test knowledge score and selected demographic variable that is source of information (χ^2 = 6.462, table value =5.991) at 'p' <0.05 level. So research hypothesis (H2) was accepted and null hypothesis (H02) was rejected. The similar study was conducted by **Shrestha shirjana, Yadav Urmila, Pahari devi Rama and S margaret seeli (2023),** a pre-experimental study for the evaluation of the

effectiveness of structured teaching programme on knowledge regarding first aid management of epilepsy among primary school teachers in Bangalore. In results significant association was found between demographic variables at 5% level of significance, the study showed that there is the significant association of post-test knowledge level with the demographic variables of respondents on Gender (χ^2= 5.56), marital status (χ^2= 3.97) , Educational status (χ^2= 4.34), know about first aid management of Epilepsy (χ^2= 5.74), teaching experience to an epileptic child (χ^2= 1.89), experience in helping the epileptic child (χ^2= 4.66), ever observed student with epileptic attack in class room (χ^2= 3.99) at (p <0.05).

DELIMITATIONS
The study was limited to teachers at selected primary schools of District Shimla H.P.

The sample size was limited to 60

CONCLUSION
The present study shows that, in pre-test 31(51.7%) teachers had poor knowledge, 29(48.3%) had average knowledge and none of them had good knowledge before the intervention whereas in post-test 45(75%) teachers had good knowledge, 15(25%) had an average knowledge and none of them had poor knowledge regarding first aid management of epilepsy. This difference reflects an average score gain of 39.33%. The study concludes that the use of teaching programs in primary school teachers is effective intervention for improving the knowledge regarding first aid management of epilepsy.

FUNDING

CONFLICT OF INTEREST
Author declares no any conflict of interest.

RECOMMENDATIONS
1. Based on the findings the following recommendations are made:-

2. A similar study can be conducted with large number of sample in different settings.

3. The nurse researcher will recommend that the Government of Himachal Pradesh to create a post of school health nurse and educator in all the schools for the benefit of future citizens.

4. A comparative study can be conducted between Government and Private schools to find out the difference in knowledge.

5. True experimental study with experimental and control group can be conducted.

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