

# A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge of First Aid Management on Seizures among School Teachers of Selected Schools of Belagavi, Karnataka

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**Abstract:** *Epilepsy is a disorder of recurrent seizures that are neural in origin. Partial seizures are usually due to a structural cerebrocortical lesion and may be simple or complex. Brain injuries may alter inherent neuronal properties and neuronal circuits and lead to recurrent excitatory activity. Potentiation of excitatory synapses and depression of inhibitory synapses are probable critical events in epileptogenesis. The pathogenic factors underlying primary or idiopathic generalized seizures are not as well understood. A more diffuse or multifocal state of neuronal excitability may be the result of early congenital events that are magnified over time. The progression of subclinical neuronal excitatory activity to a clinical seizure may relate directly to the phenomenon of cortical plasticity.* **Objectives of the Study:** 1) To assess the pre-test knowledge of the school teachers regarding importance of first aid management of seizures 2) To assess the effectiveness of structured teaching programme of school teachers regarding importance of first aid management of seizures. 3) To assess the post-test knowledge of school teachers regarding importance of first aid management of seizures. 4) To associate the post test level of knowledge of school teachers with selected demographic variables. **Method:** An evaluative one group pre test and post test pre experimental design was used. With the purposive sampling technique samples (N=40) were selected from Mahila Vidhyalaya English Medium School, Belagavi, Karnataka. Data was collected by using a structured knowledge questionnaire with 24 items. Reliability of structured knowledge questionnaire was found to be 0.92. STP was administered after conducting pre-test and post test was conducted. Data was analyzed by using descriptive and inferential statistical technique. **Results:** The data analysis revealed that the mean% of post test knowledge score (83.33%) was higher than that of pre test knowledge score (50%). The calculates paired 't' test value (t=16) is greater than table value (p<0.05, df39) which is suggestive of significant difference between mean pre test and post test knowledge scores. **Interpretation & Conclusion:** The findings of the study showed that, school teachers had inadequate level knowledge before the administration of STP. The results indicate that, STP administered was effective in enhancing the knowledge of school teachers regarding first aid management of seizures.

**Keywords:** Effectiveness, STP, knowledge, Importance, and first aid management, Seizures

## 1. Introduction

As children are spending most of their days in school, they may have frequent attacks of seizure, larger doses of anti epileptic drugs, may affect the ability to learn. It can lead to impaired growth and development, frequent hospitalization, increased absenteeism from school and poor quality of life. A student's memory, concentration and attention can be affected. Epilepsy can also cause students to miss school due to hospital visits or night time seizures.

Epilepsy is one of the most frequent chronic disorders of childhood. 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.

A seizure happens when abnormal electrical activity in the brain causes an involuntary change in body movement, function, sensation, awareness, or behavior. Seizures can vary from a momentary disruption of the senses, to short periods of unconsciousness or staring spells, to

convulsions. Epilepsy is a chronic condition and cannot be transmitted from person to person.

Teachers' knowledge and attitude towards epilepsy was found to have a direct impact on students with epilepsy in terms of school performance, social skill development, success in finding employment after school, as well as finding friends. If children living with epilepsy are discriminated by their teachers at school, it will negatively affect their lives in future.

The cause of most cases of epilepsy is unknown. Some cases occur as the result of the brain injury, stroke, brain tumors, infections of the brain, and birth defects through a process known as epileptogenesis. Epileptic seizures are the result of excessive and abnormal neuronal activity in the cortex of the brain.

## 2. Methodology

Research methodology is a way to solve the research problem systematically. It deals with defining the problem, formulation of hypothesis, methods adopted for data collection and statistics techniques used for analyzing the data with logic behind it.<sup>37</sup>

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The methodological decision has crucial implications for validity and credibility of the study findings. Methodology of research indicates the general pattern for organizing the procedure for the empirical study together with the method of obtaining valid and reliable data for an investigation.

This chapter deals with the methodology selected by the investigator to “A study to assess the effectiveness of STP on knowledge of first aid management on seizures among school teachers of selected schools of Belagavi”. It includes the research design, the setting, population, sample and sample size, sampling technique, development and description of tool, validity and reliability, data gathering process and plan for data analysis.

### 2.1 Research approach

Research approach refers to the approach or the methodology that has been adopted to conduct the research. It basically involves the selection of research problems, the conceptual frame work that has to be adopted. The research approach employed in the present study is Quantitative Evaluative Research approach. Evaluative research is an applied form of research that involves finding out how well a programme, practice or policy is working. Its goal is to assess or evaluate the

success of the programme. Hence, a quantitative evaluative research approach was designed. A study to assess the effectiveness of STP on knowledge of first aid management on seizures among school teachers of selected schools of Belagavi

### 2.2 Research design

The research design is the plan, structure and strategy of investigation for answering the research questions. It is the overall plan or blue print the researcher selects to carry out the study. The research design selected for the present study is one group pre-test and post test pre experimental design. In this design pre test is conducted followed by structured teaching programme on the same day and the post test is conducted for the same group after 7 days.

Epilepsy can often be confirmed with an electroencephalogram (EEG), but a normal test does not rule out the condition.

Epilepsy that occurs as a result of other issues may be preventable. Seizures are controllable with medication in about 70% of cases. Not all cases of epilepsy are lifelong, and many people improve to the point that treatment is no longer needed.

The schematic representation of the research design is as follows:

Group	Pre Test (O1)	Intervention (X)	Post test (O2)
School teachers Teaching in Mahila Vidhyalaya Belagavi Karnataka	To assess the Effectiveness of Structured Teaching Programme on first aid Management of Seizures among School teachers	Conducted Structured teaching programme (STP)	To assess the effectiveness of Structured Teaching Programme First aid management of among school teachers

#### Keys:

O1: Assessment of pre test knowledge level of school teachers regarding first aid Management of seizures in school children by using Structured Knowledge Questionnaire.

X: Structured teaching programme on importance of management of seizures in school children.

Y: O2: Assessment of post test knowledge level of school teachers regarding importance of management of seizures in school children using the same Structured Knowledge Questionnaire.

### 3. Presentation of the Data

To begin with, the data was entered in a master sheet, for tabulation and statistical processing. In order to find the relationship, the data was tabulated, analyzed and interpreted by using descriptive and inferential statistics. The data is presented under the following headings.

**Section I:** Analysis of demographic characteristics of respondents under study.

**Section II:** Analysis of pre-test and post-test knowledge scores of respondents.

**Section III:** Comparison between pre test and post test knowledge and effectiveness of structured teaching programme.

**Section IV:** Analysis of association between selected demographic variables of respondents with post-test

knowledge.

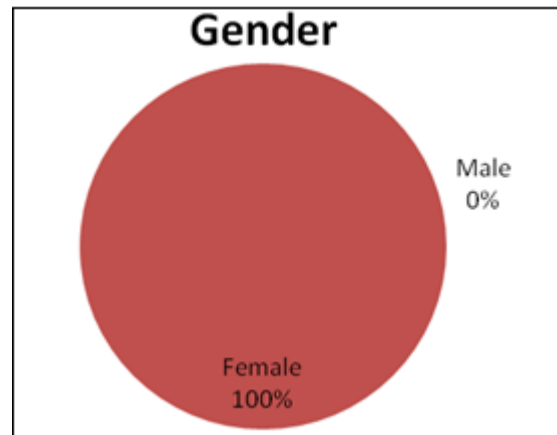
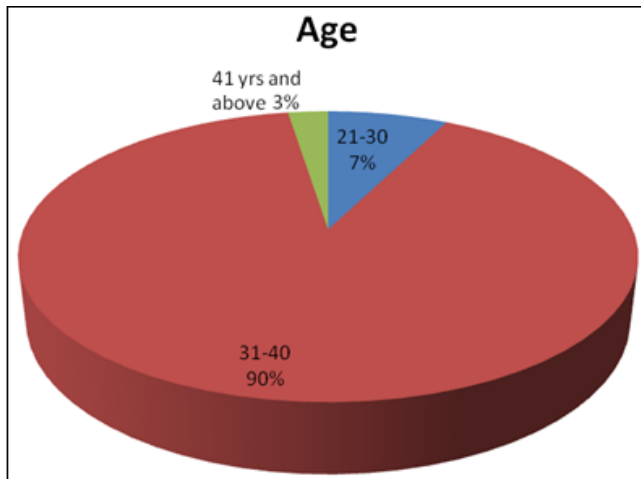
**Section I:** Analysis and interpretation of school teachers according to the socio demographic variables

**Table 1:** Frequency and percentage distribution of the school teachers according to the socio demographic variables, N=40

S.No	Socio-demographic variables	Frequency	Percentage (%)
1	Age in years		
	a) 21-30	3	6.66%
	b) 31-40	36	90%
	c) 41 yrs and above	1	3.33%
2	Gender		
	a) Male	0	0%
	b)Female	40	100%
3	Place of residence		
	a) Rural	29	72.5%
	b) Urban	11	27.5%
4	Religion		
	a)Hindu	24	60%
	b) Christian	8	20%
	c)Muslim	8	20%
5	Years of experience		
	a) 1-5	25	62.5%
	b) 6 -10	15	37.5%

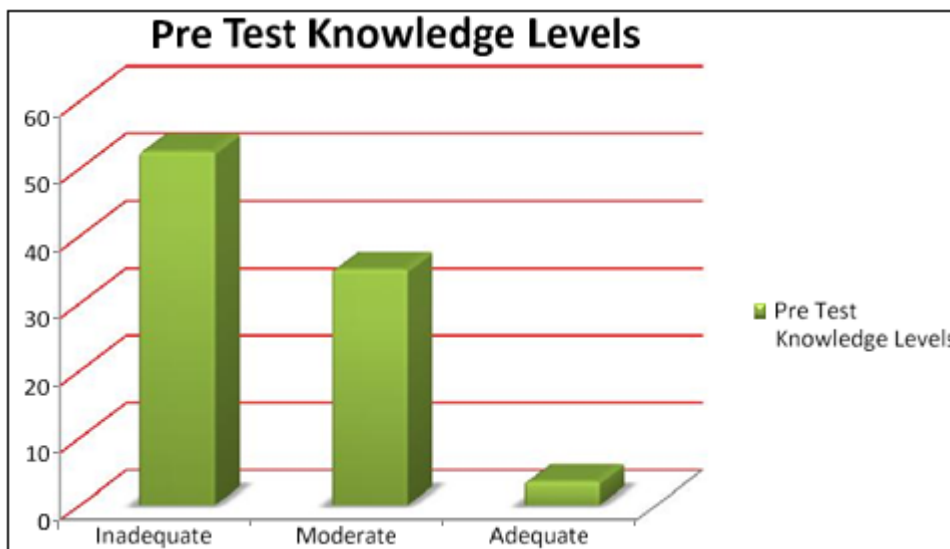
The data shows that, majority 90% of school teachers were aged between 31-40 years, about 6.66% of school teachers were aged between 21-30 years and 3.33% of school teachers were aged between 41years and above.

All 40 (100%) school teachers were females and no male teachers. Majority of school teachers reside in rural area (72.5%) whereas others reside in urban area (27.5%). Majority 24 (60%) of the school teachers were belongs to Hindu, 20% of school teachers were Muslim and 20% of school teachers were Christian.. Majority 67.5% of staff nurses having experience between 5-10 years and only 32.5% were having experience between 1-5 years.



**Respondents on Pre test Knowledge level on first aid management of seizures.**

Knowledge Level	Category	Respondents	
		Number	Percent
Inadequate	< 50% Score	21	52.5
Moderate	51-75 % Score	14	35
Adequate	>75%Score	5	12.5



Pre test Mean, SD, median, mean%, CV of Knowledge scores of Respondents on first aid management of seizures, N=40

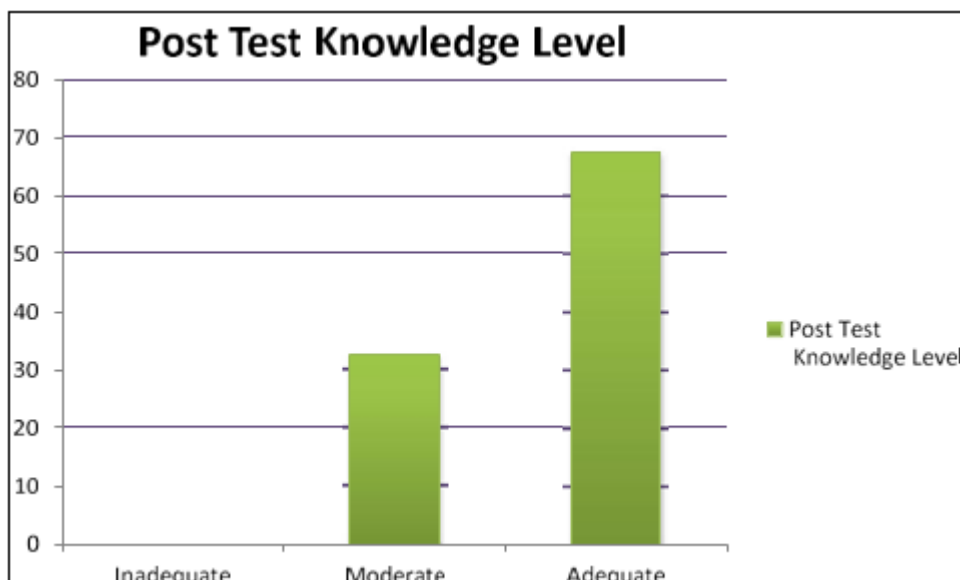
No	Knowledge level	Statements	Max score	Respondents Knowledge				
				Mean	Mean %	median	SD	CV
1	Pretest	24	24	11.6	50%	11.5	11.6	24.16

The mean and mean percentage of pre test knowledge scores of respondents in knowledge questionnaire mainly the mean percentage of pre test score of respondents for the whole test is 50.

**Classification of Respondents on Post test Knowledge level on first aid management of seizures, N=40**

Knowledge Level	Category	Respondents	
		Number	Percent
Inadequate	< 50% Score	0	0
Moderate	51-75 % Score	13	32.5
Adequate	>75%Score	27	67.5
Total		40	100.0

Show the classification of respondent’s knowledge according to knowledge level in the post test. The data showed that, majority of respondents (67.5%) had adequate (32.5) have moderate knowledge none of them had the inadequate adequate knowledge.



Post test Mean, SD, median, mean%, CV of Knowledge scores of Respondents On first aid management of seizures, N=40

No.	Knowledge Aspects	Statements	Max Score	Respondents Knowledge				
				Mean	Mean (%)	median	SD	CV
	Combined	24	24	8	33.33	8	3.19	39.87

The mean and mean percentage of post test knowledge scores of respondents of knowledge questionnaire. The mean percentage of post test score of respondents for the whole test is 33.33%.

**Comparison of knowledge scores and effectiveness of structured Teaching Programme.**

Table 6: Mean, SD, Mean %, and SD% of pre test, post test and enhanced knowledge scores of overall test with paired 't' test value

Aspects	Max. Score	Respondents Knowledge					Paired 't' test
		Mean	Mean (%)	median	SD	CV	
Pre test	24	12	83.33%	11.5	2.90	24.16	

Post test	24	20	50%	19	2.16	10.8	
Enhancement	24	8	33.33%	8	3.19	39.87	16

\* Significant at 5% level, t (0.05, 39df) = 2.02

Table 6 and figure 10 depicts the overall pre-test and post test mean percentage knowledge on importance of sports and extracurricular activities. In the Pre test, over all mean percentage knowledge score of the respondents was 39.16% and that of the post-test was 57.23% with the enhancement of 18.06%. The statistical paired 't' (t=24.63) is greater than the table value (2.02) which implies that the difference between the pre-test and post-test knowledge scores found to be statistically significant at 5% level. Hence stated null hypothesis H01 is rejected and alternative hypothesis H1 is accepted. It was concluded that structured teaching programme was effective in increasing knowledge of staff nurses regarding dietary management of myocardial infarction.

Figure 8: Mean, SD, Mean%, and SD% of pre test, post test and enhanced Knowledge Scores of overall test with paired 't' value

**Association of Post Test Knowledge Scores with Selected Demographic Variables**

Characteristics	Category	Sample	Knowledge Level				χ <sup>2</sup> Value	P Value
			<Median		>Median			
			no	per	no	per		
Age	21-30 yr	03	22	5	1	2.5	0.49 (NS)	p>0.05
	30-40 yr	36	24	60	12	30		
	41yr and above	01	1	2.5	0	0		
Gender	Male	0	0	0	0	0	0.18 (NS)	p>0.05
	Female	40	27	67.5	13	32.5		
Place of residence	Rural	29	26	65	3	7.5	23.52	p<0.05
	Urban	11	01	2.5	10	25		
Religion	Hindu	24	17	42.5	7	17.5	0.2 (NS)	p>0.05
	Christian	8	5	12.5	3	7.5		
	Muslim	8	5	12.5	3	7.5		
Working Experience	1-5 yr	13	8	20	5	12.5	2.29 (NS)	p>0.05
	6-10 yr	27	19	47.5	8	20		

## 4. Discussion

The present study was conducted to evaluate the effectiveness of structured teaching programme on first aid management of seizures. In order to achieve the objectives of the study, one group pre test post test design with quantitative approach was adopted. Simple random sampling technique was used to select the sample for the study. The sample comprised of 40 school teachers. The data were collected from them before and after the administration of STP using a structured knowledge questionnaire.

## 5. Major Findings of the Study

### 1) Finding related to socio demographic variables

The data shows that,

- Majority 90% of school teachers were aged between 31-40 years, about 6.66% of school teachers were aged between 21-30 years and 3.33% of school teachers were aged between 41 years and above.
- All 40 (100%) school teachers were females and no male teachers.
- Majority of school teachers reside in rural area (72.5%) whereas others reside in urban area (27.5%).
- Majority 24 (60%) of the school teachers were belongs to Hindu, 20% of school teachers were Muslim and 20% of school teachers were Christian..
- Majority 67.5% of school teachers having experience between 5-10 years and only 32.5% were having experience between 1-5 years.

### 2) Findings related to analysis of pre-test and post test and effectiveness of structured teaching programme

Pre test Mean, SD, median, mean%, CV of Knowledge scores of Respondents on First aid management of seizures. Data shows that the mean and mean percentage of pre test knowledge scores of respondents in knowledge questionnaire mainly the mean percentage of pre test score of respondents for the whole test is 39.16.

### 3) Findings related to analysis of pre-test knowledge scores

Respondents on Pre test Knowledge level on first aid management of seizures. Table 11 and Figure 14 show the respondent's according to their knowledge level in the pre test. The data showed that, majority of respondent (52.5%) had inadequate knowledge, 35% of respondents had moderate knowledge and 12.5% of them had the adequate knowledge.

### 4) Findings related to analysis of Post test knowledge level

Classification of respondent's knowledge according to knowledge level in the post test. The data showed that, majority of respondents (67.5%) had adequate knowledge.(32.5%) had moderate knowledge. None of them had the inadequate adequate knowledge.

### 5) Findings related to Comparison of knowledge scores and effectiveness of structured Teaching programme

The overall pre test and post test mean percentage

knowledge on first aid management of seizures. In the Pre test, over all mean percentage knowledge score of the respondents was 50% and that of the post-test was 83.33% with the enhancement of 33.33%.The statistical paired (t 't' =16) is greater than the table value (2.02) which implies that the difference between the pre-test and post-test knowledge scores found to be statistically significant at 5% level. Hence stated null hypothesis H<sub>0</sub> is rejected and alternative hypothesis H<sub>1</sub> is accepted. It was concluded that structured teaching programme was effective in increasing knowledge of school teachers regarding first aid management of seizures.

### 6) Findings related to association of post test knowledge scores and selected demographic variables

The calculated  $\chi^2$  values with regard to age, ( $\chi^2=0.49$  (NS),  $P>0.05$ ) 2df, gender ( $\chi^2=0$  (NS),  $P>0.05$ ) 1df, place of residence ( $\chi^2=23.52$  (NS),  $P<0.05$ ), religion ( $\chi^2=0.2$  (NS),  $P>0.05$ ) 2df, working experience ( $\chi^2=0.29$  (NS),  $P>0.05$ ) 1df, were less than the table values at 0.05 level of significance. Hence the null hypothesis H<sub>0</sub> is rejected and research hypothesis H<sub>1</sub> is accepted with regard to these demographic variables.

## 6. Conclusion

This chapter presents the conclusions drawn, implications, limitations, suggestions and recommendations.

The focus of this study was to **A study to assess the effectiveness of Structured Teaching Program on knowledge of first aid management on seizures among school teachers of selected schools of Belagavi, Using** a non probability purposive 40 samples were selected. The data was collected by structured knowledge questionnaire. Data was analyzed and interpreted by applying statistical methods

Knowledge regarding first aid management of seizures is important for school teachers. There is lack of knowledge in some aspects regarding first aid management of seizures So there is a necessity of conducting in service education programme for school teachers.

### The following conclusions were drawn from the study.

- Knowledge regarding first aid management of seizures in school teachers is very important aspect.
- The knowledge of the school teacher regarding first aid management of seizures was inadequate and was inadequately favorable before the administration of structured teaching programme.
- There is a significant difference between mean pre-test and post-test knowledge scores of the school teacher regarding first aid management of seizures. Hence structured teaching programme regarding importance of first aid management of seizures is an effective teaching method to improve knowledge.
- Ages, gender, place of residence, religion, experience,

are not associated with post-test knowledge level of the school children.

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