

A Study to Assess the Effectiveness of Learning Package on Knowledge of School Teachers Regarding Care of Children with Seizure Disorder among Primary School Teachers in Selected Schools of Bangalore

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ABSTRACT

Background:

"To acquire knowledge, one must study; but to acquire wisdom, one must observe." Children make up one-third of our population and represent the entirety of our future, with their health forming the foundation of society. The childhood period is crucial because many health issues originate during this time. Studies show that numerous children suffer from various diseases. Our responsibility is to address their specific biological and psychological needs to ensure their survival, healthy development, and overall well-being. Unfortunately, children are at risk of numerous diseases for various reasons. One such disease that poses a significant threat is seizure disorder.

Methodology:

This study evaluates the effectiveness of a learning package designed to enhance the knowledge of primary school teachers regarding the care of children with seizure disorders. A quantitative, evaluative survey approach was employed using a pre-experimental, one-group pretest-posttest design. The study was conducted among 50 primary school teachers from selected schools in Bangalore, Karnataka. Data collection tools included a structured knowledge questionnaire administered before and after the intervention. The learning package, a self-instructional module validated by experts, covered various aspects of seizure disorders, including care practices.

Results:

The results showed a significant improvement in teachers' knowledge post-intervention, with mean knowledge scores increasing from 15.51 to 20.83. The paired t-test revealed a statistically significant difference ($t = 7.38$, $p < 0.05$) between pretest and posttest scores, indicating the effectiveness of the learning package. Additionally, a chi-square test indicated a significant association between the age of the child and post-test knowledge scores ($\chi^2 = 12.36$, $p < 0.05$). Other socio-demographic variables did not show a significant association.

Interpretation and Conclusion:

This study concludes that the learning package is an effective tool for increasing knowledge among primary school teachers regarding the care of children with seizure disorders, which can potentially improve the management and support provided to affected children in school settings.

Keywords: Seizure disorder, primary school teachers, learning package, knowledge evaluation, self-instructional module, pretest-post-test design, quantitative research.

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INTRODUCTION

“To acquire knowledge, one must study; but to acquire wisdom, one must observe.”

Children make up one-third of our population and represent the entirety of our future, with their health forming the foundation of society. The childhood period is crucial because many health issues originate during this time. Studies show that numerous children suffer from various diseases. Our responsibility is to address their specific biological and psychological needs to ensure their survival, healthy development, and overall well-being. Unfortunately, children are at risk of numerous diseases for various reasons. One such disease that poses a significant threat is seizure disorder.¹

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 word “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.²

BACKGROUND OF STUDY

The global prevalence of active epilepsy is 4-10 per thousand. Epidemiological studies have refined our understanding of seizure frequency and Prognosis. Although most individuals with epilepsy achieve good seizure control, they face everyday challenges. A recent meta analysis estimates the epilepsy prevalence rate in India at 5.59 per 1,000, with no significant differences between genders or urban and rural populations. Based on India's 2001 5 population, this translates to 5.5 million people with epilepsy (Becker, 2009).¹⁸

Prevalence rates of epilepsy in Asian countries are higher than the global average: 4.4 in Asia, 1.7 in Japan, 4.7 in Pakistan, 2.4 in Kashmir, India, 9.0 in Sri Lanka, and 4.9 in Guam (Journal of Pediatrics, 2012).¹⁹

In 2014, India had 30 million people with epilepsy. About 1 in 200 school children are affected, with 1 in 20 experiencing a seizure in their lifetime. Idiopathic epilepsy commonly develops before age 20. Systemic conditions like hypoxia or high fever are common causes of seizures in children. As understanding of its physical and social burden increases, epilepsy has gained importance on the global health agenda.²⁰

Seizure are more common among children aged 6 months to 15 Years, especially in the newborn period. It is estimated that 4-6% of children will

have seizures during their lifetime, with 90% of convulsive disorders starting early in life. One in 15-20 children admitted to hospitals has a history of convulsions (Daisy, 2012).²¹

NEED OF STUDY

Epilepsy is a “neurological disorder resulting from a sudden, excessive, disorderly discharge of neurons, in either a structurally normal or a diseased cerebral cortex, It is characterized by the paroxysmal occurrence of short-lived disturbances of consciousness, involuntary convulsion muscle movement, psychic or sensory disturbances or some conditions there of”.¹⁶

According to WHO the annual incidence of unprovoked seizures is 33–198 per 100,000 and the incidence of epilepsy is 23–190 per 100,000. The overall incidence of epilepsy in Europe and North America ranges from 24 to 53 per 100,000 per year, respectively. The incidence in children is eventually higher and even more variable, ranging from 25 to 840 per 100,000 per year, most of the differences being explained by the differing populations at risk and by the study design. In developing countries, the incidence of the disease is higher than that in industrialized countries and it is 190 per 100,000. Although one might expect a higher exposure to perinatal risk factors, infections and traumas in developing countries, the higher incidence of epilepsy may be also explained by the different structure of the populations at risk, which is characterized by a predominant distribution of young individuals and a short life expectancy.¹⁷

METHODOLOGY

Considering the nature of the research problem and the objectives of the study, a quantitative evaluative research approach was adopted. A pre-experimental, one-group pre-test and post-test design was used to evaluate the effectiveness of a learning package on the knowledge of school teachers regarding the care of children with seizure disorders. The study was conducted in selected schools of Bengaluru, Karnataka. The population comprised primary school teachers working in the selected schools, and the sample consisted of 50 school teachers. A non-probability purposive sampling technique was employed to select the participants. Data were collected using a structured tool consisting of two sections: Section A, which included socio-demographic variables, and Section B, a structured knowledge questionnaire consisting of 25 multiple-choice questions designed to assess teachers' knowledge regarding the care of children with seizure disorders, including basic information about seizure disorders, recognition of seizures, first-aid measures, safety precautions, and appropriate care and management during and after a seizure episode.

RESULT

Section I: Findings related to distribution of demographic variables of subjects.

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In this section the researcher analyzed and categorized the samples of the study to various groups based on the socio demographic variables.

Table-1: Frequency and percentage distribution of subjects according to their socio demographic variable.

Sr. no.	Socio-demographic variables	Frequency (f)	Percentage (%)
1.	Age of School teachers		
	25 - 27	33	66.00
	27 – 29	09	18.00
	29 – 31	06	12.00
	31 & above	02	04.00
	Education of School teachers		
2.	U		
	G	30	60.00
	P	20	40.00
	G	00	00.00
	P	00	00.00
3.	h		
	D	31	62.00
	.	19	38.00
	B.Ed.	00	00.00
4.	Type of family		
	Nuclear	24	48.00
	family	12	24.00
	Joint	00	00.00
	family	00	00.00
5.			

Extended		
family	21	42.00
Source of Information	29	58.00
Health professionals	00	00.00
Social media		
Friends & Peer groups		
Newspaper		
Gender of children		
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6.	Age of child in years		
	Below 1	23	46.00
	1 – 3	17	34.00
	3 – 6	10	20.00
	6 – 12	00	00.00

Section II: Findings related to distribution of pretest and posttest knowledge scores of subjects regarding care of children with seizure disorders.

In this section the researcher analyzed and categorized the pretest and posttest knowledge scores of samples regarding care of children with seizure disorders.

Table 2: Frequency and percentage distribution of pretest and posttest knowledge scores of samples regarding care of children with seizure disorders.

n=50

Knowledge Scores	Pre-test		Post-test	
	Frequency (<i>f</i>)	Percentage (%)	Frequency (<i>f</i>)	Percentage (%)
Good (20 – 25)	10	05.00	30	15.00
Average (14 – 19)	25	12.50	08	04.00
Poor (0 - 13)	15	07.50	12	06.00

Section III: Findings related to mean median, mode, range & standard deviation of pretest and post-test knowledge scores of subjects regarding care of children with seizure disorders

In this section the researcher analyzed and categorized the mean, median, mode, range & standard deviation of pretest and post-test knowledge scores of subjects regarding care of children with seizure disorders

Table 3: Mean Median, Mode, Range and Standard Deviation of knowledge scores of subjects regarding care of children with seizure disorders
Area of analysis Mean Median Mode Standard
n = 50

Area of analysis	Mean	Median	Mode	Standard Deviation	Range
Pre test	15.51	16	16.98	4.34	22
Post test	20.83	20	18.34	3.61	17
Difference	5.32	04	1.36	0.73	5

Section IV: Testing of hypothesis related to data on effectiveness of learning package

In this section the researcher analyzed and categorized the mean difference, standard error and paired' values of knowledge of care of children with seizure disorders among primary school teachers.

Table 4: Effectiveness of learning package on knowledge of Care of children with seizure disorders among primary school teachers.

n = 50

Mean Difference	Standard Error (SE)	Paired 't' Values		df
		Calculated	Tabulated	
5.32	0.72	7.38*	2.02	99

**P* < 0.05

Section V: Testing of hypothesis for an association between pre-test knowledge scores with their selected socio-demographic variables.

In this section the researcher analyzed and categorized the association between pretest knowledge scores of primary school teachers regarding care of children with seizure disorders with their selected socio demographic variables.

Table 5: Association between pre-test knowledge scores with their selected socio demographic variables.

S.N o.	Socio - Demographic Variables	Above Mean	Below Mean	χ^2
	Age of Mothers			

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1.	18-24 years 25-31 years 32-38 years	13 5 4	20 4 4	3.9 8
2.	Type of Family Nuclear family Joint family	22 5	8 15	2.9 3
3.	Education of Mother UG P G P h . D . D.Ed.	5 10 8 5	3 6 4 9	4. 7
5.	Source of Health Information Health professional Mass media Friends	14 3 10	10 1 12	3.9 5
6.	Gender of Child Male Female	15 9	14 12	2.5 5
7.	Age of Child in years Below 1 1-3	9 12	5 10	12. 36

3-6	4	5
6-12	4	1

DISCUSSION & CONCLUSION-

The results showed a significant improvement in teachers' knowledge post- intervention, with mean knowledge scores increasing from 15.51 to 20.83. The paired t-test revealed a statistically significant difference ($t = 7.38$, $p < 0.05$) between pretest and posttest scores, indicating the effectiveness of the learning package. Additionally, a chi-square test indicated a significant association between the age of the child and post-test knowledge scores ($\chi^2 = 12.36$, $p < 0.05$). Other socio-demographic variables Did not show a significant association.

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Conflict of interest – There are no conflict of interest.

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