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A PRE-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING CARE OF PATIENT WITH CEREBROVASCULAR ACCIDENT AMONG STAFF NURSES

Mr. Akeel Ahamad[1], Mr. Shailendra Verma[2], Dr. Anitha Martin[3]

1. Nurse practitioner, SB hospital, Kanpur, Uttar Pradesh.
2. Assistant professor, Teerthankar Mahaveer university, Moradabad, Uttar Pradesh.
3. Professor cum vice Principal, Rohilkhand college of Nursing, Bareilly Uttar Pradesh.

Corresponding Author: Mr. Akeel Ahamad
Nurse practitioner, SB hospital, Kanpur, Uttar Pradesh, India.

E-mail:- akeel2211@gmail.com

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Abstract

Introduction: Cerebro vascular accident is the medical term for a stroke. A stroke is a medical emergency that occurs when the blood supply to the brain is stopped or reduced due to a blockage in a blood vessel or the rupture of a blood vessel [1]. WHO states that stroke is the second leading cause of death globally. Immediate treatment is required to minimise the brain damage and improving patient outcome [2]. Hence the study was conducted to assess and enhance the knowledge level on care of patients with cerebrovascular accidents among the staff nurses. **Objective of the study**: 1. To evaluate the effectiveness of structured teaching programme on knowledge regarding care of patient with cerebrovascular accident among staff nurses.2. To determine the association between the pre-test knowledge scores regarding care of patient with cerebrovascular accident among staff nurses and with their selected socio demographic variables.

Material and method: Pre experimental, one group pre test post test design was chosen to

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conduct a study at selected hospital with 60 samples based on simple random sampling technique. data was collected by using self-structured knowledge questionnaires, structured teaching and the post test was done after 7 days by using the same tool.

Results: the collected data were analysed the result revealed that the mean post test knowledge score [22] was higher than the mean pretest knowledge score [11.8] and the mean difference of 10.2**.**

Conclusion: the finding of the study reveals that structured teaching programme was an effective teaching method to teach the participants and also helps to enhance the knowledge of the staff nurses regarding care of patient with cerebrovascular accident.

Keywords: Structured Teaching Programme, CVA, stroke, Knowledge, Staff Nurses.

Introduction

Cerebro vascular accident (CVA) is known as stroke, it is due to lack of blood supply or due to bleeding in the blood vessel in the brain. there are certain factors for the risk of stroke such as high blood pressure, diabetes, heart diseases, smoking age, family history of stroke, obesity, unhealthy life style, race and ethnicity. stroke can lead to lasting brain damage, long term disability or even death. It requires prompt treatment, post stroke rehabilitation and prevent further complications [1].

Need of the study

In 2023,15 million people worldwide had a stroke, in 2021 stroke was the third leading cause of death, approximately 10% of total deaths [3]. According to ICMR stroke is the third leading cause of death and sixth leading cause of disability in India. The incidence of stroke in India ranges from 119 to 145 per 100,000 population annually with a higher prevalence observed in urban areas as compared to rural regions [4] .Patient will have varying levels of disability following stroke depending on the severity of the stroke, length of time before treatment to be started [3] . Severe stroke can leave the patient disabled requiring total care in feeding, bathing and turning. Long term deficit can lead to depression for the patient and their family members.

Since it is an emergency condition Nurses responsibility to early recognise the symptoms of stroke, intensive nursing care, focusing on treatment, prevention of complication, promoting rehabilitation and improving patient outcome [5]

Statement of problem

A pre-experimental study to assess the effectiveness of structured teaching programme on

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knowledge regarding care of patient with cerebrovascular accident among staff nurses at a selected Hospital, Bareilly. U.P.

Aim of study

To assess the effectiveness of structured teaching programme regarding care of patient with cerebrovascular accident among staff nurses.

Objective of the study

1. To evaluate the effectiveness of structured teaching programme on knowledge regarding care of patient with cerebrovascular accident among staff nurses.
2. To determine the association between the pre-test knowledge scores regarding care of patient with cerebrovascular accident among staff nurses and with their selected socio demographic variables.

Operational definitions

Effectiveness: Refers to the positive outcome of structured teaching programme regarding care of patient with Cerebrovascular Accident among staff nurses.

Structured teaching programme: Refers to the systematically developed information regarding care of patient with Cerebrovascular Accident among staff Nurse.

Knowledge: Refers to the facts and information gained by staff nurses regarding early identification of stroke, assessment and Nursing care and psychological need of the patient with Cerebrovascular Accident.

Staff nurses: Nursing personnel specially trained, qualified & registered to provide scientific nursing care to patients.

Cerebrovascular Accident: Refers to a condition in which neurological deficits result from a sudden decrease in blood flow to localized area of the brain.

Hypothesis

- H_1- There will be a significant difference between mean pre-test knowledge score and mean post-test knowledge score regarding care of patient with Cerebrovascular accident among staff nurses at 0.05 level of significant.
- H_2- There will be a significant association between mean pre-test knowledge score regarding care of patient with Cerebrovascular accident among staff nurses with selected demographic variables at 0.05 level of significant.

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Assumptions

The study assumes that-

- Staff nurses may possess some knowledge regarding care of patient with cerebrovascular accident.
- Structured teaching programme is an effective method to improve the knowledge of staff nurses regarding care of patient with cerebrovascular accident.

Review of literature

Vishram Singh Gurjar (2024); conducted a non-experimental research approach with exploratory descriptive study among staff nurses in Jaipur. The aim of the study is to assess the knowledge and practice regarding care of cerebrovascular accident patient. Data was collected from 90 staff nurses by using non-probability convenient sampling technique through structured questionnaire, checklist and information booklet regarding care of cerebrovascular accident. Data was analyzed using standard deviation, chi-square and co-relation coefficient. The result shows that the chi-square analysis revealed statistically significant associations between the present working area of staff nurses and their knowledge ($\chi^2 = 1.221$, $p < 0.05$) and practice ($\chi^2 = 1.211$, $p < 0.05$) regarding CVA patient care. Additionally, significant associations were found between staff nurses' professional experience and their knowledge ($\chi^2 = 2.708$, $p < 0.05$) and practice ($\chi^2 = 3.888$, $p < 0.05$) in caring for CVA patients. The conclusion of the study's findings revealed that staff nurses possessed moderate knowledge and practice regarding care for CVA patients[6].

Neethu M, Anupama Varghese, Binutha V P, et.al (2025) conducted a quasi-experimental one group pretest and posttest study among nurses in Kerela. The aim of the study is to assess the baseline knowledge of staff nurses regarding stroke care, evaluate the effectiveness of an educational intervention program, and compare pre- and post-test knowledge scores to determine its impact. Data was collected from 40 nurses by using non-probability purposive sampling technique through structured questionnaire comprising 30 multiple-choice questions on stroke care. Data were analysed using paired t-test and chi-square test. The result shows that the mean pretest knowledge score was 14.60 (SD = 5.95), which significantly increased to 19.65 (SD = 3.98) in the post-test ($t = 13.39$, $p < 0.001$). Knowledge levels shifted markedly, with a reduction in poor knowledge (37.5% to 2.5%) and an increase in good knowledge (15% to 42.5%). No significant associations were found between knowledge scores and demographic variables such

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as age, education, years of experience, workplace, or prior stroke care exposure ($p > 0.05$). The educational intervention program effectively enhanced nurses' knowledge regarding stroke care, irrespective of demographic characteristics. These findings underscore the importance of structured, ongoing, and stroke-specific educational programs in improving nurses' competencies and ensuring evidence-based, high-quality care for stroke patients [7].

Material and methods

Research design: pre experimental, one group pre test post test design

Research setting: Rohilkhand Medical college and Hospital

Population: Staff Nurses

Sample: Staff Nurses working at a selected Hospital

Sample size : 60 (rules of thumb)

Sampling technique: Simple random sampling technique (Lottery method)

Data collection tool:

The tool used for the present study is Self-Structured Questionnaire with two sections:

Section 1: Demographic variables

Section 2: Structured knowledge questionnaire

Section I- Demographic variables It consist of 6 items such as age, gender, professional education, year of experience, marital status and source of information

Section 2- structured knowledge questionnaire This section consists of 30 multiple choice questions. The scoring for each item is like '0' for wrong answer and '1' for right answer. Criteria measure for knowledge questionnaire

Maximum score = 30 Minimum score = 1

Method of data collection: self-reported (pen and paper method)

Data collection procedure

Data collection was done after getting permission from Medical Superintendent of Rohilkhand Medical College & Hospital, Bareilly. Through Lottery method samples were selected. The investigator has Self-introduced & the purpose of the study has explained. Investigator took informed consent from the samples & explain that they can leave study at any time. Data collection was done by using pen & paper method, knowledge was assessed by using pre-test for 15 minutes with the self-structured questionnaire regarding care of patient with cerebrovascular accident. Same day structured teaching programme was given, after 7 days post test knowledge

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was assessed with the same self-structured questionnaire.

Plan for data analysis

The data was tabulated and analyzed using descriptive and inferential statistics by using SPSS version 22. Frequency & percentage were used for analysis for demographic data. Chi square was used for to find the association between pre test mean score with their selected demographic variables and paired 't' test used to compare the pre-test & post-test score.

Organization of the study finding

- SECTION 1: Findings related to frequency and percentage distribution of staff nurses in terms of demographic variables.
- SECTION 2: Finding related to the assessment of knowledge regarding care of patient with Cerebrovascular accident among staff nurses before and after administration of structured teaching programme.
- SECTION 3: Finding the mean, mean difference, standard deviation and 't' value of knowledge regarding care of patient with Cerebrovascular accident among staff nurses
- SECTION 4: Finding related to chi square test was used to describe the association between the knowledge score with selected demographic variables.

SECTION 1: Findings related to frequency and percentage distribution of staff nurses in terms of demographic variables.

Table 1: Frequency and percentage distribution of demographic variables

N=60

S. NO	DEMOGRAPHIC DATA	FREQUENCY (f)	PERCENTAGE (%)
1.	Age of staff nurses a) 24 years and below b) 25-27 years c) 28 -30 years d) 31 years and above	 21 18 9 12	 35% 30% 15% 20%
2.	Gender of staff nurses a) Male b) Female	 22 38	 37% 63%

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S. NO	DEMOGRAPHIC DATA	FREQUENCY (f)	PERCENTAGE (%)
3.	Education of staff nurses a) G.N.M Passed b) B.SC Nursing passed c) Post B.SC Nursing passed d) M.SC Nursing passed	 36 15 9 0	 60% 25% 15% 0%
4.	Years of experience a) <1 years b) 1-3 years c) 4-6 years d) <6 years	 9 25 14 12	 15% 42% 23% 20%
5.	Marital status a) Unmarried b) Married c) Divorce d) Widow	 31 28 1 0	 52% 47% 1% 0%
6.	Source of information a) Books b) Journals c) Mass media d) Health personnel	 43 8 7 2	 72% 13% 12% 3%

SECTION II: Finding Related to Knowledge Regarding Care of Patient with Cerebrovascular Accident Among Staff Nurses Before and After Administered the Structured Teaching Programme.

Table 2: Frequency and percentage distribution of pre-test and post-test knowledge score regarding care of patient with cerebrovascular accident

N=60

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GRADING OF SCORE	GRADING OF KNOWLEDGE	PRE-TEST		POST-TEST	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
0-9	Adequate	20	33%	0	0%
10-19	Moderate adequate	40	67%	16	27%
20-30	Inadequate	0	%	44	73%

SECTION III: Finding the Mean, Mean Difference, Standard Deviation and "T" Value of Knowledge Regarding Care of Patient with Cerebrovascular Accident Among Staff Nurses.

Table 3: Mean, mean difference, standard deviation and 't' value of knowledge regarding the care of patient with cerebrovascular accident among staff nurses.

N=60

S.NO	MEAN	MEAN DIFFERENCE	SD	*t VALUE
Pre test	11.8	10.2	3.4	7.74
Post test	22		3.16	

df (59) = 1.6 at 0.05 level of significance

Table 3 interpreted the mean post-test knowledge score (22) was greater than the mean pre-test knowledge score (11.8) and the mean difference of 10.2. The calculated t value was (t=7.74)

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more than the tabled value (t69 = 1.6). Henceforth the finding denoted there is significance difference in the mean post-test knowledge scores.

Research hypotheses (H_1) is accepted.

SECTION IV: Section Describes the Finding of Chi-Square Which Test Was Used to Describe the Association Between the Pre-Test Knowledge Score with Selected Demographic Variables.

Table 4: Chi-square test used to describe the association between post-test knowledge score with demographic variables

N=60

S. NO	DEMOGRAPHIC DATA	Poor	Average	Good	Chi square	df	P value (N/NS)
1.	Age of staff nurses a) 24 years and below b) 25-27 years c) 28 -30 years d) 31 years and above	 8 1 2 9	 13 17 7 3	 0 0 0 0	3.165	3	7.82 P<0.05 NS
2.	Gender of staff nurses a) Male: b) Female:	 9 11	 13 27	 0 0	0.303	1	3.84 P<0.05 NS
3.	Education of staff nurses a) G.N.M Passed b) B.SC Nursing passed c) Post B.SC Nursing passed d) M.SC Nursing passed	 12 5 3 0	 24 10 6 0	 0 0 0 0	0.539	3	7.82 P<0.05 NS
4.	Years of experience a) <1 years b) 1-3 years c) 4-6 years	 7 5 6	 2 20 8	 0 0 0	18.012	3	7.82 P>0.05 S

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	d) <6 years	2	10	0			
5.	Marital status a) Unmarried b) Married c) Divorce d) Widow	 12 7 1 0	 19 21 0 0	 0 0 0 0	13.376	3	7.82 P>0.05 S
6.	Source of information a) Books b) Journals c) Mass media d) Health personnel	 14 2 3 1	 29 6 4 1	 0 0 0 0	24.465	3	7.82 P>0.05 S

NS= Not significant S= Significant

Finding related to association between pre test knowledge score of staff Nurses with their selected demographic variables Chi- square value reveals that among the entire demographic variable there was a significant association illustrated in years of experience, marital status and source of information.

Research hypotheses (H_2) is partially accepted.

Discussion

Comparison of Pre-Test and Post-Test Knowledge Score Regarding care of patients with cerebrovascular accidents

Finding of the present study in similar with the study conducted by Jyotirmayee Satapathy and Hariprasad PC to assess the Effectiveness of the structured teaching programme on knowledge regarding care of patient with cerebrovascular accident among care givers. The findings of the study show that the pre- test mean score was 12.40 with the standard deviation 3.19 and post-test mean score was 24.17 with standard deviation 1.9. The paired T test value of 20.54 was statistically significant at $p<0.001$level [8] .Thus, by comparing the result of both the studies there is more strong evidence that structured teaching programme is very effective in imparting knowledge regarding care of patients with cerebrovascular accidents.

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Association of Pre-Test Knowledge Scores with Their Selected Demographic Variables.

The present study result depicts that there is significant association of pretest knowledge scores with years of experience, marital status and source of information variables. In comparison to other study conducted by Neethu M, Anupama Varghese, Binutha V P, et.al (2025) the result is contradictory. The study result shows there is no significant associations were found between knowledge scores and demographic variables such as age, education, years of experience, workplace, or prior stroke care exposure [7]

Recommendation

On the basis of the study it is recommend that

- Study can be undertaken with a large number of samples
- Study can be replicated in different settings
- Other interventional case scenario method can be adopted

Conclusion

To conclude the main aim of this study was to assess the effectiveness of structured teaching programme on knowledge regarding care of patients with cerebrovascular accident among staff nurses. After conducting a study, analysis and interpretation has done in accordance with objectives. The statistical analysis was done using SPSS version 22 and the level of significance was 0.05. The conclusion was drawn on the finding that the structured teaching programme was effective by observing the significant difference between pre-test and post-test knowledge level.

Ethical consideration

- Ethical clearance was obtained from hospital ethical committee and institutional research committee
- Permission is taken from the Medical superintendent of Rohilkhand Medical College and Hospital, Bareilly
- The informed consent had taken from the staff nurses those who were participating in the study.

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Conflict of interest – No

Source of funding – self

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