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Effectiveness of Self-Instructional Module on Knowledge Regarding Prevention of Stroke among Adults in Selected Rural Area

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Abstract: ***Aim of the study: The study aims to find the effectiveness of self-instructional module on knowledge regarding prevention of stroke among adults in selected rural area. Objectives of study: 1) To assess the pre test knowledge score regarding prevention of stroke among adults. 2) To develop and administer SIM on knowledge regarding prevention of stroke 3) To find out the association between the pre test knowledge score with selected demographic variables. Method: Quasi experimental one group pre test post test design and quantitative approach was carried out on 60 adults selected by simple random sampling technique to test effectiveness of self instructional module. The data was collected by using structured questionnaire consists of 30 items. Results: The presents study evaluates and found that demographic variables, 22 (36.67%) of adults were in the age group of 31-35 years, 32 (53.33%) were females, 34 (56.67%) of were married, 20 (33.33%) of adults were educated up to higher secondary, (30%) of were self employed, majority 40 (66.67%) of adults were not having any previous knowledge 7 (11.67%) of adults were having information from mass media, Interpretation and conclusion: Analysis data shows that highly significance difference found between the pre -test and post- test knowledge scores at the level of (P<0.05). Self instructional module is proved to be effective in improving the knowledge of adults at selected rural area regarding prevention of stroke.***

1. Introduction

"One of the best aspects of health care reform
Is it starts to emphasize prevention"

Neuroscience nursing is a unique area within the nursing discipline, which specializes in the care of individuals who have biological, physiological, social and spiritual alteration due to nervous system dysfunction.[1] Stroke occurs when there is ischemia (inadequate blood flow) to a part of the brain or hemorrhage into the brain that results in death of brain cells. Function such as movement, sensation or emotions that were controlled by the affected area of the brain are lost or impaired. Stroke is sometimes called brain attack and it is an immediate medical attention is crucial to reduce disability and death. Stroke is a major public health concern. [2] Every year 15 million people worldwide suffer a stroke.

In India the incidence of stroke is between 116 and 483/100,000 per year, when compare to 1999 incidence rate is 2-3 fold increase in the number. Stroke is a major cause of death and disability. The stroke victims are a major burden on health care system. [3] Smoking, hypertension, heart disease, high cholesterol level ,obesity, sedentary lifestyle, diabetes, use of oral contraceptives, excess alcohol intake, and stress are the main risk factors for strokes .[4] The good news is that 80 % of all stroke are preventable, it starts with managing the risk factors.

2. Need for the study

Stroke can affect patients" physical, mental, social, psychological and economical aspects. Disability affects 75% of stroke survivors enough to decrease their employability. [5] Among chronic non communicable diseases, stroke is the second leading cause of death and third leading cause of disability worldwide. In 2011, an estimated 6.2 million people had died because of stroke worldwide. [6] Indian population of about 1.27 billion, approximately 1.8 million people may suffer from stroke annually and about one-third of them may die. [7] About one sixth of the population of the world lives in India. [6] A majority (70%) of population of India lives in rural areas and is at high risk of morbidity and mortality from stroke because of lack of knowledge about the risk factors and access to preventive and curative care. [8] Lack of information and poor control of risk factors contribute to the rising incidence of stroke in developing countries. Therefore, by early detection and reduction of these modifiable risk factors, it is possible to reduce the incidence of stroke and this is influenced by the public knowledge and perception of stroke and its risk factors.

3. Review of Literature

Prajakta Adhav (2016**).** A study was conducted to assess effectiveness of Information booklet on knowledge regarding home care of stroke patients among care givers in selected hospital of city. Sample size 50 caregivers of stroke patient were selected using convenient sampling technique. There was significant difference in mean pretest and posttest knowledge scores of samples after administering information booklet. Thus the researcher concluded that informative booklet in beneficial in improving knowledge regarding home care of stroke patient.

Assumption:

1) Rural adults may have some knowledge regarding prevention of stroke.
2) Self instructional module will enhance the knowledge of rural adults regarding prevention of stroke. **(3)** Rural adult's level of knowledge will be influenced by demographic variables.

Limitation

1) The study is limited to adults residing in selected rural area.
2) The sample size is limited to 60 adults.
3) The study is limited to adults who are willing to participate in the study.

Hypothesis

H_{01}- There is no significant difference between the pre test and post test knowledge score of adults exposed to self-instructional module on prevention of stroke.

H_{02}- There is no significant association between the pre test knowledge score with selected demographic variables.

H_1- There is significant difference between the pre test and post test knowledge score of adults exposed to self-instructional module on prevention of stroke.

H_2- There is significant association between the pre test knowledge score with selected demographic variable.

4. Methodology

Research approach: An evaluative approach was used for this study

Research design: Quantitative, quasi-experimental one group pre test post test design

Variables under study: (1) Independent variable: self instructional module on prevention of stroke. (2) Dependent variable: knowledge of adults on prevention of stroke.

Setting: The study was conducted in selected rural area of Jalgaon district.

Population: In this study, the population includes adults. **Target population** consists of adults in selected rural area. **Accessible population** adults present at the time of data collection.

Sample and sampling technique

Sample: In the present study sample is adults from selected rural area.

Sample size: The sample size for the present study is 60 adults who fulfill the set inclusion criteria.

Sampling technique: A probability simple random sampling technique.

Inclusion criteria-

Adults included in the study those who are

- Between to age group 20-40 year of age.
- Available at the time of data collection.
- Able to read write and understand Marathi.

Exclusion criteria

Adults excluded from the study those who are -

- Not willing to participate in the study.
- Belongs to urban area.
- Professional health worker

Tool preparation

Tool used for the research study was structured questionnaire, regarding prevention of stroke. The tool was prepared after extensive review of literature search, consultation with experts, and based on the past clinical experience of the investigator.

Development of tool:

The research instrument consists of two parts:

Part I- Demographic data: It consist of 7 items related to demographic variables such as age, gender, marital status, educational status, occupation, previous knowledge and source of information.

Part II– Structured knowledge questionnaires: - It consists of 30 items. Each item was multiple choices with 4 responses.

Preparation of self instructional module (SIM):- The title of the module was "Stroke Information Booklet" The self instructional module was consists of the following contents definition , incidence, types, causes & risk factors, sign & symptoms, diagnosis, prevention & management of stroke

Validation of the tool: To ensure the content validity the instrument was given 11 experts from the field of medical surgical nursing, Neuro-physician, and from biostatistician. The experts were requested to give their opinions and suggestions regarding the relevance, adequacy and appropriateness of the tool. Their suggestions were taken into consideration in the preparation of the tool and self instructional module.

Reliability: In order to establish reliability of the tool, test re test method was used. Reliability of the tool was **0.79** which showed that tool was highly reliable.

Feasibility of the study: The investigator conducted a Pilot study.

Pilot study: The pilot study was conducted from 20/11/2017 to 29/11/2017 on adults from selected rural area, to assess the feasibility of the study and to decide the plan for analysis.

Data collection procedure: Prior permission will be taken from the selected rural area. Informed consent will be taken from study participants and data will be kept confidential. The period of data collection was from 06/12/2017 to 29/12/2017. The data was collected by the investigator. Pre-test was conducted on adults who fulfill the inclusion criteria soon after the pre-test self-instructional module was administered. Evaluation was done by conducting post-test after 7 days of administration of self-instructional module by using the same structured questionnaires.

Plan for data analysis: - (1) Description of demographic characteristics of the adults was computed by using frequency and percentage. (2) Mean, Standard deviation of pre and post- test knowledge scores was computed. (3) "t" test was applied to determine the significance of mean difference between mean pre-test and post- test knowledge scores. (4) Chi- square test was used to find the association of knowledge score with demographic variables and the findings were documented in tables, graphs and diagram.

Scoring mode: Score 1 was given to every correct answer. 0 was given to every wrong answer. Based on the percentage of scores, level of knowledge was graded as **Poor**- 0 to10 **Average**- 10 to 20**, Good**- 20 to 30.

5. Results

Organization of the data: The collected data is tabulated, analyzed, organized and presented under the following sections:

Section –I: - Description of adults with regards to demographic Variables

Table 1: Frequency and percentage distribution of demographic variables

Sr.No.	Variable	Groups	Frequency	Percentage
1	Age	20-25	18	30.00
		26-30	15	25.00
		31-35	22	36.67
		36-40	5	8.33
2	Gender	Male	28	46.67
		Female	32	53.33
3	Marital Status	Married	34	56.67
		Unmarried	18	30.00
		Divorced	6	10.00
		Widow	2	3.33
4	Educational Status	Primary	15	25.00
		Secondary	18	30.00
		Higher Secondary	20	33.33
		Graduate	6	10.00
		PG & above	1	1.67
5	Occupation	Self employed	18	30.00
		Homemaker	16	26.67
		Govt Employee	8	13.33
		Private Employee	10	16.67
		Other	8	13.33
6	Previous Knowledge	Yes	20	33.33
		No	40	66.67
7	Source of Information	Mass Media	7	11.67
		Family	5	8.33
		Friends	4	6.67
		Books	4	6.67

Section II- Description of pre-test knowledge score by using frequency and percentage of pre-test knowledge score.

Table 2: General assessment with pre-test, N=60

	Groups		Frequency	Percentage
Pre Test	0-10	Poor	51	85.00
	11-20.	Average	9	15.00
	21-30	Good	0	0.00
	Total		60	100.00

Section III -Description of post- test knowledge score by using frequency and percentage of post test knowledge score.

Table 3: General assessment with post –test, N=60

	Groups		Frequency	Percentage
Post Test	0-10	Poor	14	23.33
	11-20.	Average	41	68.33
	21-30	Good	5	8.33
	Total		60	100.00

Section V- Description of effectiveness of self instructional module

Table 4: Showing mean percentage of pre test and post test knowledge score.

Group	Frequency	Average
Pre Test	60	6.78
Post Test	60	14.66

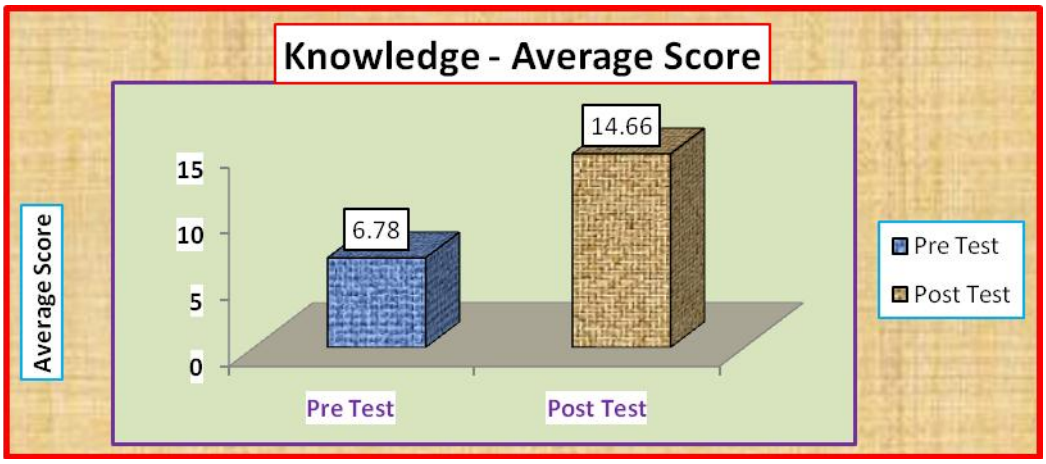

Figure 1: Shows that significance of difference between knowledge score in pre and post- test

Testing of hypothesis: Paired t value of pre- test and post -test knowledge score

Table 5: Significance of difference between knowledge scores in pre and post- test

Group	Frequency	Mean	S.D.	t value	P value
Pre Test	60	6.78	3.51	15.76	0.000
Post Test	60	14.66	4.44		

Here p value is less than 0.05 hence there is significant difference between pre and post test knowledge scores. The null hypothesis (H_{01}) stated there is no significant difference between pre test and post test knowledge. So the null hypothesis (H_{01}) was rejected and **(H_1) hypothesis was accepted.**

Section V: Description on the pre test knowledge score in relation to the demographic variables.

Table 6: Association of pre test knowledge of adults with their selected demographic variables

Sr. No	Variable	Groups	Pre Test		Chi Square	d.f.	p value	Significance
			Poor	Average				
1	Age	20-25	17	1	4.77	3	0.19	Not Significant
		26-30	14	1				
		31-35	16	6				
		36-40	4	1				
2	Gender	Male	25	3	0.75	1	0.38	Not Significant
		Female	26	6				
3	Marital Status	Married	27	7	2.45	3	0.48	Not Significant
		Unmarried	16	2				
		Divorced	6	0				
		Widow	2	0				
4	Educational Status	Primary	15	0	24.44	4	0.00	Significant
		Secondary	18	0				
		Higher Secondary	16	4				
		Graduate	2	4				
		PG & above	0	1				
5	Occupation	Self employed	18	0	12.64	4	0.01	Significant
		Homemaker	15	1				
		Govt Employee	4	4				
		Private Employee	8	2				
		Other	6	2				
6	Previous Knowledge	Yes	12	8	14.7	1	0.00	Significant
		No	39	1				
7	Source of Information	Mass Media	6	1	4.13	3	0.25	Not Significant
		Family	3	2				
		Friends	2	2				
		Books	1	3				

Significant- $p<0.05$

In that variable like **educational status, occupation and previous knowledge** were significantly associated with pre-test knowledge.

The null hypothesis (H_{02}) stated that there is no significant association between pre test knowledge score with selected demographic variable. So the null hypothesis (H_{02}) was rejected and **(H_2) hypothesis was accepted.**

In the demographic variable such as **age, gender, marital status and source of information** there is no association with pre-test level of knowledge.

So the null hypothesis **(H_{02}) was accepted** for above variables.

6. Summary

- Majority 22 (36.67%) of adults were in the age group of 31-35 years,
- Majority 32 (53.33%) were females, 34 (56.67%) of were married,
- Most of subjects 20 (33.33%) of adults were educated up to higher secondary,
- Most of participant (30%) of were self employed,
- majority of sample 40 (66.67%) of samples were not having any previous knowledge
- 7 (11.67%) of adults were having information from mass media.
- The demographic variables such as educational status, occupation and previous knowledge are having association with pre -test knowledge

7. Conclusion

The mean of post test score (14.66%) was higher than the mean of pre- test knowledge score (6.78%). The study findings concluded that adults had poor knowledge regarding prevention of stroke. The self instructional module had great potential for accelerating the awareness regarding prevention of stroke among adults.

8. Recommendations

1) Public awareness about stroke prevention should be maintained through mass media, booklets, and brochures.
2) Health education about stroke, warning signs and symptoms, risk factors, prevention of complications and immediate action on should be introduced among high risk people in different settings.
3) Community based studies are required in the future including both urban and rural population to confirm the findings
4) The study can be replicated on a large scale for wider generalizations.
5) The study can be conducted on the basis of assessing knowledge, attitude and practice.
6) A similar study can be done with control group.

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