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Effectiveness of Self Instructional Module on "Care of Stroke Patients" Among Primary Caregivers

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Abstract: *Stroke is a common clinical problem that occurs without a warning and care of stroke patients have complex associated care needed which share the common goal of maximizing the patients and their dependence in self care for as long as possible and supporting overall coping. The greatest challenges for the patient and care givers occur after the patient has survived from the initial acute stroke period. The patient and family need to be included in all explanations of interventions and procedures, as well as to be provided with realistic appraisals of the patient's future status and deficits. Study was conducted to determine the effectiveness of self instrumental module on "care of stroke patient" among primary caregivers in Spandana Nursing Home and K.C. General Hospital Bangalore., India. Pre-experimental and evaluative approach was used with one group pre test and post test design to evaluate the effectiveness of self instructional Module. 30 primary care givers of stroke patient of a population selected to participate in research study. Purposive sampling technique was used in selecting the respondents for the study. In this study majority of the respondents 86.67 % have no previous experience and maximum numbers of respondents have not any exposure to structured health education programme. The major finding revealed that self Instrumental module enhanced the knowledge of the primary care givers on care of stroke patient. The overall mean percentage of post test knowledge score of responding is 63.08% is apparently higher than the overall mean percentage of pre test knowledge score 37.50%.This study revealed that the self instructional Module on care of stroke patient was effective in terms of increasing the knowledge of the primary care givers.*

Keywords: *Assess, effectiveness, primary caregivers, self instructional module, and stroke.*

I. Introduction

Cerebrovascular accident is the most common neurological disorders in adults and is the third leading cause of death, after cancer and heart disease .[1] Stroke is a medical emergency and cause permanent neurological damage and death if not promptly diagnose, treated and leaves many of its survivors with physical and mental disabilities. Thus creating a major social and economical burden.[2]

In the United States an (2002) estimated 550,000 people experience a stroke each year and incidence increases to 700,000 per year.[1] Stroke can affect patients' physical, mental, social, psychological and economical aspects. Disability affects 75% of stroke survivors enough to decrease their employability. Stroke is the third most common cause of death and the second most common cause of disabling neurologic damage after Alzheimer's disease.[2]

In India (2002) it has been noted that stroke incidence may vary considerably from country to country. The prevalence of stroke in India was estimated as 203 per 100,000 populations above 20 years, amounting to a total of about 1 million cases.[3]

One of the most significant stroke risk factors is advanced age. 95% of strokes occur in people age 45 and older, and two-thirds of strokes occur in those over the age of 65. A person's risk of dying if he or she does have a stroke also increases with age. However, stroke can occur at any age, including in fetuses. Men are 1.25 times more likely to suffer strokes than women, yet 60% of deaths from stroke occur in women. Since women live longer, they are older on average when they have their strokes and thus more often killed. Blacks are more likely than whites to have a stroke and to die of it.[2]

Current trends in managing stroke survivors which includes carotid endarterectomy, thrombolytic therapy, speech therapy, physical and occupational therapy, interdisciplinary management, rehabilitation, ,extended care facilities, continuity and co-ordination of patient care, post discharge monitoring, transition to community and community support.[4]

Recent years have seen an increased emphasis on aggressive stroke rehabilitation, but this can be increase the pressure on the family to attempt to manage the patients care at home. Decision making about care is difficult and nurse attempts to support all parties, facilitate communication, and ensure that the family has all the information they need. Involvement in the patient's daily care may help the family have a more realistic picture of the patient needs for assistance and their ability to provide such support at home.[5]

Those who have stroke are discharged to home disabled; the responsibility for providing adequate care to patient has fallen primarily on family members. Family caregivers play an important role in the recovery from stroke.[7] Support by family members or care givers are critical to achieving the best possible long-term out come for individuals with disabilities.[5]

New therapies can now prevent or limit the extent of damage to the brain tissue. It is now really a challenge for the nurse to provide comprehensive care to stroke survivors as well as to care givers. The nurse should have up to date information, keep pace with the latest technological advances, newest treatments, most current diagnostic tests, and provide standard care with evidence based practices.[1]

Approximately 31% of stroke survivors require assistance with self care impairment in vocational ability up to 7years following the stroke and 16% are institutionalized. It is important to provide education and training to caregivers so that they should provide better care to their patients.[1]

Stroke is a common clinical problem that occurs without a warning. The hospital mortality rate for stroke patients is now approximately 20%. Those who survive stroke are discharged to home disabled and the responsibility for providing adequate care to the patient has fallen primarily on family members. In recent years, chronic patients being treated at home are being joined by increasing numbers of acute and sub-acute patients. Although there has been a considerable expansion of formal services for home hospitalization, nevertheless a significant part of the burden of caring for strokes patients falls on their families. Maintaining the patients in the community may be ideal but it is not without cost. Although it is known that the role of family is critical to stroke rehabilitation, relatively few studies have examined care giving within context of stroke, and nursing care is still limited to the patients ignoring family caregivers. [6]

A study conducted on training to care givers simple training was given to care givers that will improves the quality of life of the patients as well as their care givers .Care givers, who were looking after stroke patients, to an intervention consisting of training in basic nursing and helping with activities of daily living or to standard care. The trained care givers show that care giving was less of a burden, and they were less anxious or depressed.[7]

Stroke is a common clinical problem that occurs without warning. It can affect patients physically, mentally, emotionally, or a combination of three. After stroke patients discharged to hospital the responsibilities for providing adequate care to their patients has fallen primarily on family members. So it is important to provide adequate information, education and simple training to care givers so that they provide better care to their patients, and improve the quality of life.

The aforementioned literature leaves an apparent picture of care of stroke patients. Amidst of increasing demands of health care, it would consume large amount of time if all stroke patients has to be hospitalized till their complete recovery. With this perception, the researcher has taken up this study to educate, orient and impart knowledge to caregivers where they can be develop to grow their skills and knowledge in caring the stroke patients thereby their contribution towards the health care will remain valuable to the patients, families and community.

II. Statement of the Problem

A study to determine the effectiveness of self instructional module on "care of stroke patients" among primary caregivers in a selected hospital, Bangalore.

III. Objectives of the Study

3.1 Objectives of the study are as follows as :

1. To assess the pretest knowledge of primary care givers regarding care of stroke patients.
2. To find the effectiveness of Self Instructional Module by comparing pre test and post test knowledge scores among primary care givers.
3. To find out the association between posttest knowledge score and demographic variables.

3.2 Hypothesis:

H1. There will be a significant difference between the means of pre-test and post-test knowledge scores of respondents exposed to Self Instructional Module on 'care of stroke patients'.

H2. There will be a significant difference between the post test knowledge scores and selected demographic variables.

H01. There will be no significant difference between the means of pre-test and post-test knowledge respondents of

subjects exposed to Self Instructional Module on 'care of stroke patients'.

H02. There will be a no significant difference between the post test knowledge scores and selected demographic variables.

IV. Material and Methods

4.1 Research Approach: Evaluative approach was used.

4.2 Research Design: A one group pre-test post-test Pre experimental design was adopted.

4.3 Setting of the study: The study is conducted in two selected Hospitals, Spandhna nursing home, K.C. General Hospital, Bangalore.

4.4 Target Population: The population for this study comprising of primary care givers of stroke patients in selected Hospitals, Bangalore.

4.5 Sample: The sample for the present study comprises of 30 primary care givers of stroke patients in selected Hospitals, Bangalore.

4.6 Sampling technique: Non-probability Purposive sampling technique was used in selecting the sample for this study.

4.7 Development of Tool for Data Collection: It consists of two parts:-The researcher prepared a self administered structured questionnaire is used as tool for the study. A self administered structured questionnaire consisted of two parts:

Part A: It design to obtain general information of the respondents and it consist of 9 items related to demographic variables of the primary care givers.

Part B: It consists of 40 items regarding the knowledge on care of stroke patients aspect wise among primary care givers.

4.8 Validity of Instruments: To ensure the content validity the instrument was given to ten experts from different fields along with blue print, objective of the study, evaluation criteria checklist and Self instructional module .The expert included seven from the field of medical surgical nursing, two from neuro-physician, and one from research department. The experts were requested to give their opinions and suggestions regarding the relevance, adequacy and appropriateness of the tool. The structured items regarding baseline variables 40 Items regarding knowledge on care of stroke patients.

4.9 Reliability: After obtaining formal administrative permission the English and Kannada version of the tool was administered to 30 primary care givers as per the set criteria. The scores were calculated and then give for statistical analysis. The reliability was established by using split half method.

4.10 Data collection procedure: The written permission was obtained from the authorities concerned, the Medical superintendent, of K.C. general Hospital and Spandana Nursing Home, Bangalore, prior to the data collection. The data was collected from October17th to November 30th, 2007. The purpose of the subject was explained to them and informed consent was obtained from the respondents. A pretest with the structured questionnaire was given on the first day, following which a copy of the SIM was given to the respondents with instruction to retain and read the SIM thoroughly and prepared for the post-test on the 6th day. Post-test was administered by on 6th day following the administration of Self Instructional Module using the same questionnaire. The data collection process was terminated by thanking the respondent for their patience and co operation.

4.11 Analysis of Data Plan: Both descriptive and inferential statistics analyzed on the basis of the objectives and hypotheses of the study. using descriptive and inferential statistics. The plan of data analysis was developed. The knowledge of primary care givers regarding care of stroke patients assessed before and after the administration of Self Instructional Module would be calculated using frequency, mean and standard deviation and inferential statistics used to analyze Paired't' test and Chi-square test. The data was also presented graphically and in the form of table.

V. Results

The analyzed is made on the basis of the objectives and hypotheses of the study. In order to find out the gain in knowledge of respondent and also to find out the relationship between the variables and knowledge, the data gathered were tabulated, analyzed and interpreted using both descriptive and inferential statistics.

5.1 Based on Objective and Hypothesis the Data are presented Under the Following Sections:
Section 1: Description of demographic variables of primary care givers of stroke patients.
Section 2: Analysis of existing knowledge of primary care givers regarding care of stroke patients aspect wise.
Section 3: To find out the effectiveness of Self Instructional Module on knowledge among respondents.
Section 4. Association between post test knowledge scores and demographic variables.

Section 1: Description of demographic variables of primary care givers of stroke patients.

- Distribution of respondents in relation to their age group, majority of the respondents 12 (40%) belongs to the age groups between 36-45years, 8(26.67%) were 46 and above years, 8(26.67%) were less than 20 years were observed in this particular study.
- Distribution of respondents in relation to gender of the primary care givers depicts the finding shows that majority of respondents 19(63.33) were females and 11(36.67%) were males.
- Distribution of respondent in relation to educational qualification revealed that majority of respondents, 11(36.67%) studied degree and above, 8(26.67%) studied PUC, 7(23.33%) studied secondary education, 4(13.33%) studied primary education.
- Distribution of respondents in relation to type of family depicts, that of the 30 respondents, 20(66.67%) were from joint family, 10(33.33%) were from nuclear family.
- Distribution of respondents in relation to occupation among the respondents 11(36.67%) were private employee, 7(23.33%) were house wife.6(20%) were Govt. employee, 6(20%) have business.
- Distribution of respondents in relationship to care recipient reveals that majority of respondents 13(43.33%) were wife. 7(23.33%) were husband, remaining all, 3(10%) were daughter and son, sister only 1 (3.33%) was brother.
- Distribution of respondents in relation to previous experience Majority of respondents 26(86.67%) have no previous experience and 4(13.33%) have previous experience in providing care to stroke patients
- Distribution of respondents in relation to exposure to health education training programme revealed that majority of respondents 10(33.33%) were exposure to health education training in urban hospital, 8(26.67%) were PHC, 6(20%) private hospital, 6(20%) in polyclinic.
- Distribution of respondents in relation to exposure to structured health education programme regarding care of patient with stroke revealed that majority of respondents 22(73.33%) have not any exposure to structured health education programme, 8(26.67%) have exposure to structured health education programme regarding care of patient with stroke..

Section 2: Analysis of existing knowledge of primary care givers regarding care of stroke patients aspect wise.

Table: 1 Aspect wise pre-test knowledge score of respondents on care of stroke patient.

N=30

Aspects	Max score	Range	Mean	SD	Mean %
Meaning and definition of stroke	2	0-2	0.80	0.81	40.00
Causes and types of Stroke and risk factors of the stroke	4	0-3	1.37	0.96	34.17
Sign and symptoms of stroke	4	0-4	2.20	1.10	55.00
Physical Therapy	6	0-5	1.50	1.31	25.00
Communication	6	0-5	2.10	1.21	35.00
Nutrition	6	0-5	2.37	1.35	39.44
Self care	6	0-5	2.50	1.17	41.67
Complication and its prevention	6	0-5	2.17	1.26	36.11
Total	40	8-20	15.00	4.12	37.50

This above table no.1 depicts the data revealed that in pre test primary care givers were having on total mean pre-test knowledge scores was 37.50% with standard deviation of ± 4.12.

Section 3: To find out the effectiveness of Self Instructional Module on knowledge among respondents.
This section deals with the knowledge of participants regarding care of stroke patient after administration of Self Instructional Module. The data revealed that in post- test primary care givers were having on total mean post test knowledge scores was 63.08% with standard deviation of ± 3.68.

Table: 2. Aspect wise post test knowledge score of respondents regarding care of stroke patient.

N=30

Aspects	Max score	Range	Mean	SD	Mean %
Meaning and definition of stroke	2	1-2	1.93	0.25	96.67
Causes and types of Stroke and risk factors of the stroke	4	0-4	1.67	0.99	41.67
Sign and symptoms of stroke	4	1-4	2.83	0.99	70.83

Physical Therapy	6	1-6	3.37	1.25	56.11
Communication	6	2-6	3.77	1.07	62.78
Nutrition	6	2-5	4.07	0.91	67.78
Self care	6	1-6	3.80	1.10	63.33
Complication and its prevention	6	2-5	3.80	0.85	63.33
Total	40	19-33	25.23	3.68	63.08

This above table no.2 depicts the data revealed that in post- test primary care givers were having on total mean post test knowledge scores was 63.08% with standard deviation of ± 3.68.

Table No. 3 Analysis of pre and post knowledge scores.

N=30

Descriptive Statistics	Total (Pre-test)	Total (Post-test)
Range	8-22	19-33
Mean	15.00	25.23
Median	15.00	24.00
SD	4.12	3.68

Table No. 3 depicts that the mean ± standard deviation of pretest knowledge score of 30 respondents studied is 15± 4.12 which range between 8-22 with a median of 15, where as post test knowledge score is 25.23 ± 3.68 which ranges between 19-33 with a median of 24.00.

Distributions of area wise comparison of pretest posttest mean knowledge on care of stroke patient.

Table No.4 Comparison of knowledge scores between pre-test and post-test of respondents.

N=30

Aspects	Pre-test		Post-test		t-value	P-value*
	Mean	SD	Mean	SD		
Meaning and definition of stroke	0.80	0.81	1.93	0.25	7.577	<0.001 (S)
Causes and types of Stroke and risk factors of the stroke	1.37	0.96	1.67	0.99	1.201	>0.234 (NS)
Sign and symptoms of stroke	2.20	1.10	2.83	0.99	2.726	<0.011 (S)
Physical Therapy	1.50	1.31	3.37	1.25	6.911	<0.001 (S)
Communication	2.10	1.21	3.77	1.07	6.906	<0.001 (S)
Nutrition	2.37	1.35	4.07	0.91	6.567	<0.001 (S)
Self care	2.50	1.17	3.80	1.10	4.510	<0.001 (S)
Complication and its prevention	2.17	1.26	3.80	0.85	5.977	<0.001 (S)
Total	15.00	4.12	25.23	3.68	13.094	<0.001 (S)

*P-value is considered significant whenever p≤0.05

Table.4 depicts that Comparison of knowledge score between pre test and post test of respondents in all aspects reveals total pretest mean ± standard deviation 15 ± 4.12 and post test mean ± standard deviation 25.23 ± 3.68. the t-value of total all aspects is 13.094 where as p-value is <0.001 (s) significant. This above study states that all the aspects were (S) significant except the causes and types of stroke and risk factors of stroke aspect was (ns) not significant. The null hypothesis H_1 was accepted and HO_1 was rejected suggesting that Self Instructional Module was effective.

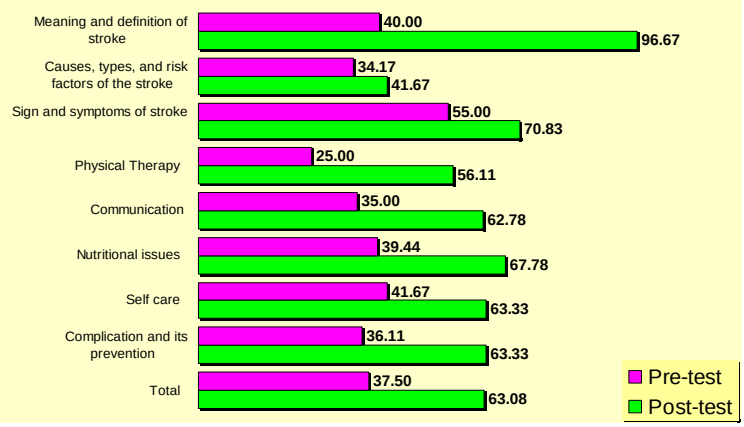

Fig No. 1 Distribution of area wise analysis

Section D: Association between knowledge score and selected demographic variables.

Table No.5 Summary of analysis of association between selected demographic variables and the post-test knowledge score of respondents

N=30

Variable	Category	Post-test score		Chi-square value**	df	Critical value	P-value
		Below median	Above median				
Age (yrs)	<35	6	4.00	Fisher's exact probability = 1.0(NS)			
	>35	12	8.00				
Gender	Male	5	6.00	Fisher's exact probability = 0.266 (NS)			
	Female	13	6.00				
Relationship	Wife	8	5.00	0.037	2	5.99	>0.982 (NS)
	Husband	4	3.00				
	Others	6	4.00				
Type of Family	Nuclear	6	4.00	Fisher's exact probability = 1.0 (NS)			
	Joint	12	8.00				
Educational Qualification	Secondary and below	9	2.00	4.763	2	5.99	>0.092 (NS)
	PUC	5	3.00				
	Degree/PG	4	7.00				
Occupation	Housewife	5	2.00	3.151	3	7.82	>0.369 (NS)
	Private employee	8	3.00				
	Govt. Employee	3	3.00				
	Business	2	4.00				
Exposure to health Education	Urban hospital	4	6.00	4.028	3	7.82	>0.258 (NS)
	Private hospital	3	3.00				
	PHC	6	2.00				
	Polyclinic	5	1.00				
Previous Experience	Yes	1	3.00	Fisher's exact probability = 0.274 (NS)			
	No	17	9.00				
Structured health Education Programme	Yes	2	6.00	Fisher's exact probability = 0.034 (S)			
	No	16	6.00				

*P-value is considered significant whenever p≤0.05.

** Whenever the expected cell frequencies are less than 5 Fisher's exact probability is computed.

Data presented in table No. 5 indicate that Fisher's exact probabilities are computed are computed for those cells where expected frequency is <5. Fisher's exact probabilities are computed for age, gender, type of family, previous experience, structured education programme because statistically significant the expected self frequency was below 5(<5), hence chi square test could not be applied it and found to be not significant except the structured health education programme found to be significant. The fisher's exact probability of age is 1.0, gender is 0.266type of family 1.0, previous experience 0.274, found to be not significant and structured health education programme 0.37 found to be significant. Data presented in table 5 indicate that there is no significant association between post test knowledge scores with demographic variables, hence H2 is rejected and H02 is accepted.

VI. Conclusion

The findings of the study have been discussed with reference to the objectives and hypothesis. The major finding revealed that the self instructional Module on care of stroke patient was effective in terms of increasing the knowledge of the primary care givers. This indicates the need to educate, orient and impart knowledge to primary caregivers where they can be develop to grow their skills and knowledge in caring the stroke patients thereby their contribution towards the health care will remain valuable to the patients, families and community.

Limitations of the study:

The following points were beyond the control of the investigator.

1. The study is limited to the knowledge of primary care givers only.
2. The study did not use any control group.
3. Effectiveness of Self Instructional Module in terms of knowledge scores only.

VII. Recommendation

Based on the findings of the study the following recommendations are been made:

1. A similar study can be replicated with a control group.
2. A comparative study maybe conducted to compare the knowledge and practice regarding care of stroke patient with care givers and trained care givers.
3. A similar study maybe conducted on a large sample for wider generalization.
4. A study can be done to assess the knowledge and practice of care givers regarding care of stroke patient.
5. A study can be done to assess the needs of the care givers regarding care of stroke patient.
6. A similar study can be replicated on a sample with different demographic characteristics.
7. Effective structured teaching programme on care of stroke patient can be done among primary care givers
8. Health education programme and training to caregivers can be arranged for the care givers in the hospital.

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Ethical Standards: This study was conducted before getting approval from the Institutional Ethical Committee and after obtaining written consents from all subjects.

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