A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING THE PREVENTION OF CEREBROVASCULAR ACCIDENT AMONG HYPERTENSIVE PATIENTS IN SELECTED HOSPITALS AT JAIPUR

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Abstract

To assess the level of knowledge regarding prevention of cerebrovascular accidents among hypertensive patients in a selected hospital. To evaluate the effectiveness of structure teaching programme regarding prevention of cerebrovascular accidents among hypertensive patients in a selected hospital. To find out the association between the pre-test level of knowledge with their selected demographic variables. The study was based on Imogene Kings Goal Attainment Theory Evaluator approach was adopted for this study. pre- experimental one group pre-test post-test design was adopted for this Study. The study was conducted at ETERNAL Hospital at Jaipur. Sample Size: The Sample size was 60 hypertensive patients. The Nonprobability purposive sampling technique was used to select the samples. Data was collected from the hypertensive patients to assess the level knowledge by using semi-structured knowledge questionnaire before implementation of cerebrovascular accidents. Post test was conducted 1 week after administration of cerebrovascular accidents, the level of knowledge was assessed. The collected were tabulated and analysed by descriptive and inferential statistic. The result showed that, there was a significant difference between pre-test and post- test level knowledge regarding prevention of cerebrovascular accidents among hypertensive patients. The obtain t-value (8.30) was greater than the table value at 0.05 level of significant. This study concludes that structure teaching programme was effective in improving the level of knowledge regarding prevention of cerebrovascular accidents among hypertensive patients.

Keywords: Effectiveness, Structured Teaching Programme (STP), Hypertensive patients, Cerebrovascular accidents (CVA), knowledge

INTRODUCTION

The brain, and every other organ in the body, depends on a constant supply of energy to function normally. Fuel for the brain is carried in the blood. The brain requires more fuel than any other organ in the body. The two main energy sources that the brain uses are sugar and oxygen. When a part of the brain doesn't receive an adequate supply of blood, or when the blood does not carry enough oxygen or sugar, that portion of the brain becomes unable to perform its normal functions.1 Hippocrates [460-370 BC] was first to describe the phenomenon of sudden paralysis that is often associated with ischemia. World Health Organization defined Cerebrovascular accident as a "neurological deficit of cerebrovascular cause that persists beyond 24 hours or is interrupted by death within 24 hours". 2

Cerebrovascular accident is termed as rapidly developing loss of brain functions due to ischemia of the brain cells caused by hemorrhage or clot. Risk factors for Cerebrovascular accident include

advanced age, hypertension, previous Cerebrovascular accident or transient ischemic attack [TIA], diabetes, high cholesterol, cigarette smoking and atrial fibrillation. Pregnancy, childbirth, menopause and hormone replacement therapy are the known risk factors in females. Depending on the area involved the patient may develop clinical manifestations like visual disturbance, motor paralysis, speech difficulties etc. and even leading to coma or death. Some words which mean the same as stroke include "apoplexy, cerebral infarction, cerebral thrombosis, cerebral hemorrhage, and cerebrovascular accident".3

Cerebrovascular accident is a very serious condition in which the brain is not receiving enough oxygen to function properly. A cerebrovascular accident is also called cerebrovascular accidents, brain attack, cerebrovascular disease, cerebral infarction or stroke. A cerebrovascular accident often results in permanent serious complications and disability and is a common cause of death. Cerebrovascular disease is the third leading cause of death after heart disease and malignancy, and it is estimated that an average of 500,000 new strokes will occur each year in the USA. Cerebrovascular disease is the most disabling of all neurologic diseases. Approximately 50 percentage of survivor have a residual neurologic deficit and greater than 25 percent require chronic care. Stroke incidence and mortality are declining primarily due to the successful treatment of hyper tens the risk for stroke and transient ischemic attack increases exponentially with age. Hypertension is one of the modifiable risk factors for stroke. Lowering blood pressure is helpful for primary and secondary prevention of stroke. Most stroke patients have well known risk factors for cerebrovascular disease, sometime before stroke. Thus, it is possible to decrease the stroke incidence by reducing the prevalence of risk factors in the population and identifying "high risk" individuals, who can be treated. Risk factors can be broadly classified into controllable and uncontrollable risks or modifiable or non-modifiable risk factors. Modifiable risk factors include, hypertension, smoking, heart diseases, Transient Ischemic Attacks (TIA), diabetes mellitus, high cholesterol, physical inactivity and obesity, alcohol and drug abuse, injury to brain. Non modifiable risk factors include age, sex and genetic factors.6, 7

The incidence of stroke and stroke mortalities has gradually declined in many industrialized countries in recent years because of increased recognition and treatment of the risk factors. Modifiable risk factors can be reduced or eliminated through lifestyle changes. Hypertension is the most important modifiable risk factor for both ischemic and hemorrhagic stroke. Adequate blood pressure control is associated with a 38% reduction in stroke incidence.5, 8
Cardiovascular disease and atrial fibrillation are also associated with an increased risk of stroke. Diabetes mellitus increases the risk of stroke and morbidity and mortality after stroke. Prior stroke, carotid stenosis, and a history of transient ischemic attacks are considered modifiable risk factors for stroke. Early recognition and treatment of carotid stenosis and treatment of transient ischemic attacks with antiplatelet agents reduce the risk of stroke. Alcohol conception and drug abuse increases the risk of ion and control of risk factors.5

Cerebrovascular disorders may occur at any age, at any time, in either sex or in all races, each of these non-modifiable factors affect the incidence of stroke. Non modifiable factors cannot be prevented or treated. Advancing age is one of the most significant risk factors for stroke. An individual with a history of stroke or heart attack is at a higher risk of another stroke. Stroke and

heart disease are responsible for more deaths and disability among both male and female, than any other killer and it is quickly establishing itself as the leading cause of death and disability. 5, 9 Ischemic and degenerative brain diseases are a major health problem leading to a devastating loss of autonomy. Hypertension has been shown to carry an increased risk not only for cerebrovascular morbidity and mortality but also for cognitive impairment and dementia. Although diastolic blood pressure is considered as an important risk factor, it is now clear that isolated systolic hypertension and elevated pulse pressure also play an important role in the development of brain complications. Therefore, the treatment of these conditions must urgently become a widespread tool of prevention.10

OBJECTIVES OF THE STUDY

1. To assess the existing knowledge level regarding prevention of cerebrovascular accident among hypertensive patients.
2. To assess the post-test knowledge level regarding prevention of cerebrovascular accident among hypertensive patients.
3. To compare the effectiveness of structured teaching program regarding prevention of cerebrovascular accident among hypertensive patients.
4. To determine the association between pre-test knowledge level regarding prevention of cerebrovascular accident and selected demographic variables of hypertensive patients.

HYPOTHESIS

Ø H1: There will be significance difference between pre-test and Post-test knowledge regarding prevention of cerebrovascular accident and selected demographic variables of hypertensive patients.

Ø H2: There will be significant association between pre-test knowledge regarding prevention of cerebrovascular accident and selected demographic variables of hypertensive patients.

ASSUMPTIONS

Ø The hypertensive patients may have inadequate knowledge regarding prevention of cerebrovascular accidents.

Ø Patients with hypertension may develop hemorrhagic cerebrovascular accidents in case of irregular treatment or poor awareness.

Ø Hypertensive patients may have interest to know more about prevention of cerebrovascular accidents.

Ø Structure teaching programme will enhance the knowledge of hypertensive patients on cerebrovascular accidents.

NEED FOR STUDY

The world health organization (WHO) report, "Preventing chronic diseases a vital investment" says global action to prevent chronic disease could save the lives of 36 million people who would otherwise be dead by 2015. Currently, chronic diseases are by far the leading cause of death in the world and this impact is steadily growing. The report projects that approximately 17 million people die prematurely each year because of global epidemic of chronic diseases. 15

According to the World Health Organization, 15 million people suffer stroke worldwide each year.

Of these, 5 million die and another 5 million are permanently disabled. High blood pressure contributes to over 12.7 million strokes worldwide. Europe averages approximately 650,000 stroke deaths each year. In developed countries, the incidence of stroke is declining - largely due to efforts to lower blood pressure and reduce smoking. However, the overall rate of stroke remains high due to the aging of the population. Stroke results in substantial morbidity and mortality globally. Strokes can and do occur at any age. Of all strokes, 87 percent are ischemic, 10 percent are intracerebral hemorrhage, and 3 percent are subarachnoid hemorrhage 16

Cerebrovascular disease made up 16.7 million, or 29.2% of total global deaths according to World Health Report 2003. By 2010, will cerebrovascular disease be the leading cause of death in developing countries. At least 20 million people survive heart attacks and strokes every year; many require continuing costly clinical care. Over 143,579 people die each year from stroke in the United States. Stroke is the leading cause of serious, long-term disability in the United States. Each year, about 795,000 people suffer a stroke. About 600,000 of these are first attacks, and 185,000 are recurrent attacks. The risk of having a stroke more than doubles each decade after the age of 55. 18 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. The male to female ratio was 1.7. Around 12% of all strokes occurred in population below 40 years. The estimation of stroke mortality was seriously limited by the method of classification of the cause of death in the country. The best estimate derived was 102,000 deaths, which represented1.2 % of total deaths in the country. The Indian subcontinent (including India, Pakistan, Bangladesh, Sri Lanka and Nepal) is home to 20 percent of the world's population and may be one of the regions with highest burden of cardiovascular disease in the world. 17, 18

DISCUSSION

The study intends to find out the effectiveness of structured teaching programme to improve the knowledge of Hypertensive patients regarding Prevention of Cerebrovascular Accident. The overall Experience was a satisfying one. The investigator found that the STP is an effective teaching strategy to improve the knowledge of hypertensive patients.

The present study was conducted to evaluate the effectiveness of structured teaching programme among the Hypertensive patients of selected hospital at Jaipur. To achieve the objectives of the study, a pre-experimental one group pre-test post -test design was adopted. The data was collected from 60 subjects who admitted in ETERNAL Hospital Jaipur and were willing to participate in the study. The findings of the study were discussed under following sections.

SECTION I
Ø Description of socio-demographic characteristics of samples
SECTION II
Ø Percentage distribution of overall knowledge levels and knowledge in Specific areas related to Prevention of Cerebrovascular Accident among Hypertensive patients in pre-Test and post-test.
Ø Mean, mean% and standard deviation of pre-test and post- test knowledge scores.
SECTION III
Ø Effectiveness of structured teaching programme among Hypertensive patients on cerebrovascular accidents disease knowledge by comparing the pre-test and post-test assessment.
Ø Significance difference between pre-test and post-test knowledge scores.

SECTION IV

Ø Association between the knowledge of hypertensive patients on cerebrovascular accidents disease with selected demographic variables.

SECTION I

Description of demographic characteristics of samples

Ø Distribution of subjects based on the age shows that majority 35% (21) of subjects belonged to the age group of 46-55 years and only 18.33% (11) were distributed in 40-45 years of age.

Ø Distribution of subjects based on the gender revealed that majority 63.33% (38) of subjects Were Male.

Ø Distribution of subjects based on the type of family shows that majority 63.33% (38) of subjects were from joint family.

Ø Distribution of subjects based on Monthly income of the family most of subjects 46.66 % (28) were distributed from 20,001 per month & above family income in rupees, and only 3.33% subjects had 3000-8000/month family income.

Ø Distribution of subjects based on marital status the most of subjects were distributed from 88.33 % (53) were married only 11.66% (7) subjects were unmarried.

Ø Distribution of subjects based on Diet the most of subjects were distributed from 66.33% where vegetarian only 33.33 % subjects were non vegetarian.

Ø Distribution of subjects based on occupation most of subjects 46.66% were distributed from private job, and only 10 % subjects had home maker.

Ø Distribution of subjects based on education most of subjects 45 % were distributed from Secondary education, and only 5% % subjects had illiterate.

Distribution of subjects based on Personnel habits most of subjects 35% were distributed from smoking, and only 10 % subjects had smoking and alcoholism.

Ø Distribution of subjects based on family history of hypertension most of subjects 65% were distributed from not have any history of hypertension.

Ø Distribution of subjects based on additional information received most subjects 51.66 % had received information about hypertension from friends and relatives.

Thus, it highlights the need for conducting more and more in-service education programmed regarding on cerebrovascular accidents disease to improve the knowledge of the Hypertensive patients.

SECTION II

Ø Percentage distribution of overall knowledge levels and knowledge in Specific areas related to on Prevention of Cerebrovascular Accident among Hypertensive patients in pre- test and post-test.

Ø Mean, mean% and standard deviation of pre-test and post- test knowledge scores.

Percentage distribution of overall knowledge levels and knowledge in Specific areas related to Prevention of Cerebrovascular Accident among Hypertensive patients in pre-Test and post-test

The findings of this study shows that in pre -test majority of the subjects 61.66% (37) had average knowledge and 10% (6) subjects had poor knowledge about the topic, and 28.33% (17) subjects had good knowledge about the topic, and none was found in category of very good. Data present above: revels that in the assessment of post-test knowledge of hypertensive patients, majority 56.66% (34) of subject had very good knowledge while 38.33% (23) of them had good knowledge

about the topic and 3% (5) subjects had average knowledge about the topic and none were found to be average and poor in knowledge

Mean, mean% and standard deviation of pre-test and post- test knowledge scores

The area wise mean, mean %, standard deviation and overall score in pre- test knowledge scores of hypertensive patients comprising of three sections on cerebrovascular accidents disease, the first section involves questions related to general information regarding hypertension data shows that maximum score allotted for this section was 14 and mean score, mean% and SD were consequently 7.600, 55.28%, and 1.77. In section 2 i.e., Questions related to cerebrovascular accident the maximum score allotted was 6 and mean score, mean%, and SD were 3.850, 64.16%, and 1.40 respectively. Section 3 questions related to prevention of cerebrovascular accident among hypertensive patient with maximum score of 10, the mean score, mean% and SD were consequently 4.88, 48.83% and 1.32 respectively.

Finally, overall maximum score was of 30 and overall mean score, mean%, and SD were 16.33, 54.44% and 4.50 consequently.

The area wise mean, mean %, standard deviation and overall score in post- test knowledge scores of hypertensive patients in first section which involves questions related to general information regarding hypertension with the maximum score of 14 in this mean score, mean% and SD were consequently 10.4500, 74.64% , and 1.52. In section 2 i.e., questions related to cerebrovascular accident with the maximum of 6, the mean score, mean%, and SD were 4.98, 83.05%, and .9295 respectively. Section 3 questions related to prevention of cerebrovascular accident among hypertensive patient with maximum score of 10, the mean score, mean% and SD were consequently 7.20, 72% and 1.32 respectively

Finally, overall maximum score was of 30 and overall mean score, mean%, and SD were 7.20, 72% and 1.32 consequently.

SECTION III

Evaluation of effectiveness of structured teaching programme among Hypertensive patients Prevention of Cerebrovascular Accident knowledge by comparing the pre-test and post-test assessment

The present study findings showed a highly significant difference between mean pre-test (X_1=16.33) and post-test (X_2=22.63) knowledge scores. There was also a significant difference between the mean scores of pre- and post- test in all the areas. It is evident from the finding that the administration of STP improves knowledge in all the areas of cerebrovascular accidents disease.

Significance difference between pre-test and post-test knowledge scores

The findings of the study revealed the comparison of knowledge score cerebrovascular accidents disease before and after intervention. The post-test mean score was significantly higher than the pre- test mean score. The tabulated value of 't' score at 0.05% level of significance and 59 degrees of freedom is 2.0010 and the table value was less than the calculated' value (8.30) which represents the significant gain in knowledge through the structured Teaching Program. Thus, it suggests that the STP has been effective in increasing the knowledge of hypertensive patients about cerebrovascular accidents disease. ($p < 0.05$ HS)

SECTION IV

Association between the knowledge of hypertensive patients on cerebrovascular accidents disease with selected demographic variables

The findings of the study showed that the obtained chi- square values of variables of age, type of family, monthly income of family, marital status, diet, occupation, education, personal habits, family history of hypertension, information of cerebrovascular accidents disease measures procedure assisted were less than the tabulated value, so there is no significant association between the knowledge scores and these variables at the 0.05 level of significance. Hence the hypothesis is rejected.

SUMMARY

The findings of the present study were analyzed and discussed with the findings of other similar studies. This helped the investigator to prove that the findings are true, and the protocol was effective in improving knowledge.

CONCLUSION

The study finding provide the statistical evidence that clearly indicates that structure teaching programme has significant effect on the level of knowledge of hypertensive patients.

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