A STUDY TO ASSESS THE EFFECT OF PLANNED TEACHING ON THE KNOWLEDGE REGARDING STROKE AND ITS MANAGEMENT AMONG HIGH-RISK POPULATION FROM SELECTED COMMUNITY OF MUMBAI

Anuja Mahadik[1] Dr. Shobha Gaikwad[2]

[1]M.Sc. Nursing Student 2018 -2019. Leelabhai Thackersey College of Nursing S.N.D.T Women's University Mumbai-400020, anujamahadik127@gmail.com

[2] Asst Professor, L.T. College of Nursing S.N.D.T Women's University, Mumbai- 400020, shobha.gaikwad14@gmail.com

Abstract:

Background: Strokes are one of the leading causes of long-term disability and the leading preventable cause of disability. This study focused on the prevention of strokes as 80% of the time one can prevent these strokes, so putting in place proper education on the signs of stroke is very important. Hence, Stroke education in the community has been established as an effective method of creating awareness about stroke, its warning signs and risk factors. It contributes to desired behavioral change in the high-risk population i.e. Those who have hypertension and diabetes. Thus, this study aimed to determine the baseline knowledge of high-risk population about stroke and its risk factors as well as the effect of stroke education on their stroke awareness.

Aim: The knowledge regarding stroke and its management among high-risk population should improve after planned teaching.

Objective: To assess pre and post test knowledge regarding stroke and its management among high-risk population after planned teaching.

Material and Methods: One group pre-test post test design. 60 individuals were selected from the selected community of Mumbai. Non probability convenience sampling method was used. Data collection included use of planned teaching, self-reporting questionnaire and observation checklist.

Analysis: The study concluded that the comparison between pre-test and post test knowledge scores was greater than the tabulated value therefore, there was a significant difference in the knowledge of the high-risk populations. The post test score of mean knowledge in high-risk population after planned teaching was significantly higher than the pre-test score before planned teaching, which shows its effectiveness.

Conclusion: The knowledge scores depicted marked improvement after planned teaching.

Implications: Planned teaching to improve the knowledge among high-risk population can be taken in nursing service and used for preventive and promotive purposes. It can also be used in communities and hospitals to spread awareness. Nursing education serve as a guideline to use planned teaching as an effective method to disseminate information, can impart knowledge to others. In nursing research tools and technique can be used for further reference, other researchers may use the suggestion and recommendation for conducting further study and findings can be added to the literature. A similar study can be conducted on a larger sample from different set up, for further generalization of results

Key words: planned teaching, knowledge, high risk population, stroke.

DOI Number: 10.14704/nq.2022.20.9.NQ44805 **Neuro Quantology 2022; 20(9):6900-6907**

Introduction:

Stroke is a global health problem. It is the second commonest cause of death and the fourth leading cause of disability worldwide (Strong 2007). Approximately 20 million people each year will suffer from stroke and of these 5 million will not survive (Dalal 2007). In developed countries, stroke is the first leading cause of disability, the second leading cause of dementia and third leading cause of death.

Worldwide, stroke is the commonest cause of mortality after coronary artery disease, also, it is the most commonest cause of chronic adult disability. The lifetime risk of stroke after 55 years of age is one in five for women and one in six for men. Stroke is no longer a disease of the developed world: developing countries account for 85.5% of total stroke deaths worldwide and the number of disability-adjusted life years in these countries was approximately seven times that in high income countries (Mathers 2006)

More than four -fifth of all strokes occur in developing countries. Utility analyses show that a major stroke is viewed by more than half of those at risk as being worse than the death. The effective screening, evaluation and management methods for stroke are well instituted in high -income countries but these are not being fully implemented in India (Jeyaraj. D. Pandian. et al., 2005). In contrast to industrialized western countries where there has been a steady decline in stroke over the past 30 years, India is currently facing the challenge of a high stroke incidence. The major reason is the common risk factors of stroke, namely Hypertension, diabetes, smoking and dyslipidemia are not adequately controlled. Public awareness in this regard is still quite poor in our society.

Cardiovascular disease including stroke comprised 19 percent of death in India in 2001-2003, and is estimated to rise to 36 percent by 2030. On 4th January 2008, the ministry of health launched the national program for prevention and control of cancer, diabetes, cardiovascular diseases and stroke (NPCDCS), which includes development of public awareness and improvement of logistics facilities right from the grassroot level to deal with various non-communicable diseases. The program, if implemented successfully, will achieve the WHO target of 25 percent reduction in cardiovascular disease and stroke by year 2025 Stroke prevalence among elderly in rural India was 1.1 percent and urban India was 1.9 percent. Prevalence is directly proportional to education levels of stroke survivors (Feri 2011). However, it believed that the average age of the patients with stroke in developing countries is 15 years younger than that in developed countries (Tripathi 2011).

India studies have shown that about 10 percent to 15 percent of strokes occur in people below the age of 40years (Feign 2007). In India, nearly one -fifth of patients with first ever strokes occur in people below the age of < 40 years (Pandian 2005). Higher proportions of younger individuals are affected in India compared to developed countries

Interim analysis of 3092 patients in a study (INSPIRE) conducted in India found that approximately 27% (814) of the patients with stroke were below the age of 50 and 30 % (935) of patients had poorer socio -economic status. Thus, suggesting the higher incidence of stroke among younger age group and also among poorer population in India (Xavier 2012). This concurs with previous evidence: Das et al demonstrated that the incidence and prevalence of stroke was greater among slum dwellers in Kolkata than in non-slum dwellers, but the difference was not statistically significant (Das et al 2007)

Poor recognition of early stroke symptoms and low perception of threat lead to delayed arrival of stroke subjects at hospitals, therefore in India, awareness of warning symptoms of stroke among general public is far from satisfactory. Surveys in last decade revealed that about one – fourth of the urban and one -third of rural respondents who were unaffected had no knowledge of any warning symptom of stroke. Only 55 percent of the urban population were aware of one warning symptoms. Analysis has shown that improved socioeconomic status and higher education raise awareness of the warning symptoms of stroke for both rural and urban public Stroke is an expensive illness. Its status off income if the victim is an earning member of the family usually for the rest of life. So, Stroke has significant economic effects on clients and families and on the total economy. The heavy toll in terms of human sufferings and disruption of lives must also be considered the need for continued improvement in the control of risk factors and the preventions of Stroke is critical.

Compared to above mentioned studies, the recent survey reveals no meaningful improvement of knowledge and practice among general public

regarding stroke especially in crucial hour of stroke were early recognition and management is required, and hence there is an urgent need for stepping up awareness drive in our country.

Research Question?

How much improvement in knowledge regarding stroke and its management among high-risk population.

Objectives: To assess pre and post-test knowledge score of individuals regarding stroke and its management among high-risk population before and after planned teaching.

Materials and Methods: One group pre-test post-test design; 60 individuals were selected. Non probability convenience sampling method was used. Knowledge about stroke and its management among high-risk population was assessed by self-reporting questionnaire. Planned teaching about stroke and its management among high-risk population was given to individual group. Post-test on knowledge taken by self-questionnaire.

Participants: Target population comprised of the individuals who has hypertension and diabetes. Individuals who can understand and speak English, Hindi or Marathi and individuals who are willing to participate were included in the study. General public who has mental disorder and are physically ill were excluded from study. The researcher selected individuals according to inclusion criteria knowledge assessed by self-questionnaire. Planned teaching involved; lecture with discussion using point presentation. On 7th day post test administered, for knowledge self-questionnaire was used.

Ethical considerations: The study was part of a larger research project approved by the members of Ethical Committee for Research of Leelabai Thackersey College of Nursing S.N.D.T. Women's University. Participant's consent and information sheet was obtained prior by making them aware the steps of the data collection.

Quantitative Data analysis:

Data was analysed by Section I demographic variable included age, gender, religion, educational qualification, occupation, income of family per month. Illness of the family per month, close relative who suffered from stroke/paralysis.

Section II data about knowledge was analyzed under 11 subheadings:

1. Knowledge about the meaning of stroke
2. Knowledge about the etiology of stroke
3. Knowledge about risk factors of stroke
4. Knowledge about the pathophysiology of stroke
5. Knowledge about signs and symptoms of stroke
6. Knowledge about the investigation of stroke
7. Knowledge about first aid for stroke
8. Knowledge about medical management of stroke
9. Knowledge about complications of stroke
10. Knowledge about prevention of stroke
11. Knowledge about rehabilitation of stroke

The questionnaire consisted of 30 questions which were multiple choice questions. Each question had four options and one correct option. A score of one was awarded to the correct answer

RESULTS:

COMPARISON OF THEIR MEAN KNOWLEDGE SCORES OF HIGH RISK POPULATION BEFORE AND AFTER PLANNED TEACHING (n=60)

SR NO	PARTICULARS	MAXIMUM SCORES	PRE-TEST		POST TEST	
			MEAN	MEAN %	MEAN	MEAN%
1	Meaning of stroke	3X60	0.6	20	1.5	50

2	Risk factors of stroke	7X60	1.58	22.5	2.6	37.14
3	Signs and symptoms of stroke	2X60	0.4	20	0.45	22.5
4	First aid for stroke	6X60	1.83	25.7	2.4	40
5	Management of stroke	3X60	0.68	22.6	1.1	36.6
6	Complication of stroke	1X60	0.18	18	0.4	41
7	Prevention of stroke	7X60	4.48	64	5.3	88.3
8	Rehabilitation of stroke	1X60	0.41	41	0.6	65

INTERPRETATION

The knowledge score regarding meaning of stroke was 20% in pre-test which improved to 50% in post-test. The knowledge score regarding risk factor of stroke was 22.5% in pre-test which was improved to 37.14% in post-test. Similarly, knowledge score regarding sign and symptoms of stroke was 20% in pre-test which improved to 22.5% in post-test. The knowledge score regarding first aid of stroke was 25.7% which improved to 2.4(40%). The knowledge score regarding management of stroke was 22.6% in pre-test which improved to 36.6%. The knowledge score regarding complication of stroke was 18% which improved to 41% in post-test. The knowledge score regarding prevention of stroke was 64% in pre-test which improved to 88.3%. The knowledge score regarding rehabilitation of stroke was 41% which improved to 65%. The result supports the effectiveness of planned teaching given by the investigator to the samples of high-risk population about stroke and its management

SIGNIFICANCE OF MEAN DIFFERENCE BETWEEN KNOWLEDGE SCORES OF SAMPLES BEFORE AND AFTER PLANNED TEACHING (n=60)

SR NO	PARTICULARS	M	SD	SED	t-VALUE		r-VALUE	SIGNIFICANCE
					TABLE	CALCULATED		
1	**Meaning of stroke**							
	Pre-test	0.6	0.38	0.38	2	2.4	0.3	Significance at 0.05 level
	Post test	1.5	0.4					
2	**Risk factor of stroke**							
	Pre-test	1.5	1.2	1.2	2	5.5	0.6	Significance at 0.05 level
	Post test	2.6	18					
3	**Sign and symptoms of stroke**							

	Pre-test	0.4	0.7	0.06	2	2.2	0.4	Significance at 0.05 level
	Post test	0.45	0.5					
4	**First aid of stroke**							
	Pre-test	1.8	1.3	0.2	2	7.3	0.3	Significance at 0.05 level
	Post test	2.4	5.1					

SR NO	PARTICULARS	M	SD	SED	t-VALUE		r-VALUE	SIGNIFICANCE
					TABLE	CALCULATED		
5	**Meaning of stroke**							
	Pre-test	0.6	0.38	0.38	2	2.4	0.3	Significance at 0.05 level
	Post test	1.5	0.4					
6	**Risk factor of stroke**							
	Pre-test	1.5	1.2	1.2	2	5.5	0.6	Significance at 0.05 level
	Post test	2.6	18					
7	**Sign and symptoms of stroke**							
	Pre-test	0.4	0.7	0.06	2	2.2	0.4	Significance at 0.05 level
	Post test	0.45	0.5					
8	**First aid of stroke**							
	Pre-test	1.8	1.3	0.2	2	7.3	0.3	Significance at 0.05 level
	Post test	2.4	5.1					
9	**Management of stroke**							
	Pre test	0.6	0.7	0.1	2	3.8	0.7	Significance at 0.05 level
	Post test	1.1	0.9					
10	**Complication of**							
	Pre test	0.1	0.3	0.1	2	3	0.03	Significance at 0.05 level
	Post test	0.4	0.4					
11	**Prevention of stroke**							
	Pre test	4.4	1.2	0.2	2	4.5	1	Significance at 0.05 level
	Post test	5.3	1.3					
12	**Rehabilitation of stroke**							
	Pre test	0.4	0.4	0.5	2	4	0.4	Significance at 0.05 level
	Post test	0.6	0.43					

INTERPRETATION

The table deals with significant difference between knowledge scores of samples before and after planned teaching. It is seen that the calculated "t" value is higher than the tabulated value in all the 12 areas of knowledge which shows the effectiveness of the planned teaching.

SIGNIFICANT DIFFERENCE OF OVERALL MEAN KNOWLEDGE SCORE OF SAMPLES BEFORE AND AFTER THE PLANNED TEACHING (n=60)

SR NO	PARTICULARS	M	SD	SED	t-VALUE		r-VALUE	SIGNIFICANCE
					TABLE	CALCULATED		
	Pre-test	71.31	6.64	0.55	2	3.9	0.793	Significance at 0.05 level
	Post test	73.46	6.18					

INTERPRETATION

The above table deals with significance difference of overall scores knowledge between the pre-test and post test scores of samples.

The obtained value of t (3.9) is greater than tabulated value at 0.05 level and the r value is greater than the critical value at 0.05 level of significance. Hence the post test score of the mean knowledge score of high-risk population after planned teaching was significantly higher than the pre-test score before planned teaching, which shows its effectiveness

DISCUSSION

The main objective of the study was to assess the effect of planned teaching on

knowledge and practices regarding stroke and its management among samples. Knowledge of the selected area was assessed in different areas such as definition of stroke, causes and risk factors of stroke, the pathophysiology of stroke, diagnosis of stroke, management of stroke, prevention of stroke, complications and rehabilitation.

In demographic data, out of the total samples participating in the study, no samples belonged to age group of 18-37 years of age, 31 samples 31(51%) belonged to the age group of 38-56 years of age, 28 (47.4%) fall in the age group of 57-75 years of age group and 1(1.6%) sample belonged to age group of 75 and above.

The relative study conducted by Seshadri S et al. concluded that the LTR (lifetime risk) of stroke in middle-aged adults is (1 in 6) or more, which is equal to or greater than the LTR of AD (Alzheimer's disease).

Out of the total sample participating in the study, all 60(100%) samples were diabetic and hypertensive but none of the samples had heart disease. A similar study done by Woodward M et al. (2003) showed that the rapidly growing prevalence of diabetes in Asia heralds a large increase in the incidence of diabetes-related death in the coming decades.

Out of the total samples, close relatives of 11(18.7%) samples had suffered from

a stroke and 49 (81.7%) samples had not suffered from stroke. The study concluded that documented parental stroke by age 65 years was associated with a three-fold

increase in the risk of offspring stroke.

This increased risk persisted after adjustment for conventional stroke risk factors. Thus, verified parental stroke may serve as a clinically useful risk marker of an individual's propensity to stroke.

The observed prevalence of hypertension in the study conducted by Das SK et al. (2018) suggested the need for a comprehensive national policy to control hypertension in India, and, in other similar developing countries regarding the knowledge of major risk factors for stroke

that can be controlled. In pre-test, 15(25%) samples replied obesity and gender, 18(30%) samples replied diabetes

and family history, 19(31.6%) samples

replied high blood pressure and diabetes

and 8(13.4%) samples replied gender and age. In the post-test, 12(20%) samples replied obesity and gender are the major risk factors for stroke, 18(30%) samples replied diabetes and family history, 24(40%) samples replied high blood pressure and diabetes and 6 (10%) samples replied gender and age. The study conducted by Hu G et al. (2005) concluded that Hypertension and type 2 diabetes

increase stroke risk independently, and their combination increases the risk drastically.

A significant proportion of the risk of stroke assumed to be related to hypertension may be attributable to concomitant diabetes.

In the data pertaining to the period of time stroke within which the victim should reach the hospital for effective treatment in the pre-test, 20(33.4%) samples replied within three hours of showing signs of stroke, 22 (36.6%) samples replied 6- 12 hours, 16 (26.6%) samples replied 12 -18 hours and 2 (3.4%) samples replied 18-20 hours. In the post-test, 26(43.4%) samples replied

three hours of showing signs of stroke a victim should reach the hospital for effective treatment, 19 (31.6%) samples replied 6- 12 hours, 14 (23.4%) samples replied 12 -18 hours and 1 (1.6%) samples replied 18-20 hours. A study done by Srivastava AK and Prasad K (2001) states that distance from the hospital, contact with a local doctor, and low threat perception of symptoms of stroke were independent factors associated with delay in arrival. Living in the city, the presence of family history and older age were associated with early arrival. Adequate measures need to be taken to improve public awareness of stroke and the role of local doctors. Regarding knowledge of which medication is given to prevent clot in the pre-test, 14(23.4%) samples replied blood thinners, 16 (26.6%) samples replied painkiller, 18(30%) samples replied antacids and 12(20%) samples replied glucose. In the post-test, 22(36.6%) samples replied blood thinners, 14(23.4%) samples replied painkiller, 11(18.4%) samples replied antacids and 13(21.6%) samples replied glucose is the medication given to prevent clots. The study done by Padma M.V, Singh MB et al. (2007) concluded that hyperacute thrombolysis was found useful and safe in selected patients with AIS even without the coagulation studies Thus, this study has been attempted by the investigator with a view to bringing awareness among high risk population about stroke with the help planned teaching. The objectives of the study were met and it was seen that there was an improvement in knowledge which indicates the effectiveness of planned teaching.

CONCLUSION: The result of the study clearly shows that planned teaching about stroke and its management had promoted a positive effect on the knowledge of the individuals. The planned teaching markedly improved the knowledge of individuals on stroke prevention and its management.

REFERENCE-

1. Joyce M. B. and Jane H. H (2009), Textbook of Medical Surgical Nursing: clinical management for positive outcomes, New Delhi: Elsevier publication
2. Regionel, P.A, (2015), Conceptual Framework: A Step by Step Guide on How to Make One. Retrieved from simply Educate. Me.
3. McGaghie, W.C & Bordage, G.& J.A. Shea (2001) Problem statement, conceptual framework, and research question, New York
4. Alice Petiprin (2016) Nursing theory, retrieved from http:/ www.nursing-theory.org/theories-and-models/king-theory-of-goal-attainment.php.
5. Shinde, M., & Anjum, S. (2007). Educational Methods and Media for Teaching In Practice Of Nursing. SNEHA PUBLICATIONS, INDIA.
6. Babu, R. L., Mali, N., & Shinde, M. (2014). Effectiveness of Planned Teaching Programme on Knowledge Regarding Non-Curative Care of Terminally ILL Cancer Patients among Care Takers. International Journal of Science and Research (IJSR), 3(4), 198-205.
7. Deshmukh, M., & Shinde, M. (2014). Impact of Structured Educa
8. tion on Knowledge and Practice Regarding Venous Access Device Care among Nurses. International Journal of Science and Research (IJSR),3(5), 895-901.

9. Bhudhagaonkar, J., & Shinde, M. (2014). Impact of Structured Education Regarding Menstrual Hygiene Practices among Adolescent Girls. International Journal of Science and Research (IJSR), 3(5), 244-252.
10. Diane. M. Fraser. Margaret. Myles. Text book of Midwives. 14th ed. Toronto. Churchill Livingstone: 2003, Pp:277-278
11. Cardiovascular doubles in India, The "Economic Times" 2006, Sep 22 Kolkata.
12. **Facts About Stroke**[on line].2010 Jan 3(cited 2011 Nov(12); Available from:URL:http://www.idph.state.il.us/about/womenshealth/factsheets/stroke.htm /
13. **Marjoire L Urton (2005)** "*The level of knowledge on stroke between stroke patients and Non – Stroke persons*". **Journal of Nursing Image.**
14. **The Stroke Association**. Life after Stroke[on line].2011 May 5(cited 2011 Nov(12);Availablefrom: URL:http://www.stroke.org.uk/information/stroke_rehabilitation/index.html/
15. O'Donnell, M. J., Xavier, D., Liu, L., Zhang, H., Chin, S. L., Rao-Mel acini, P., & Mondo,C. (2010). Risk factors for ischaemic and intracerebral
16. haemorrhagic stroke in 22 countries (the INTERSTROKE study): a case-control study. *The Lancet*, *376*(9735), 112-123.
17. TOAST Subtypes of Ischemic Stroke and Its Risk Factors: A Hospital-Based Study at Cipto Mangunkusumo Hospital, Indonesia, Salim Harris, Saleha Sungkar, Al Rasyid, Mohammad Kurniawan, Taufik Mesiano, and Rakhmad Hidayat