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## **A Study to assess the knowledge regarding early identification of stroke and its management among general population who is seeking health care services in a selected hospital Bangalore with a view to develop an information pamphlet**

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### **Abstract**

Stroke is a clinical syndrome of rapidly developing signs of focal disturbance of cerebral function, which lasts more than 24 hours or may even lead to death. According to world census in 2019, there were 12.2 million incident cases of stroke, 101 million prevalent cases of stroke, 143 million due to stroke, and 6.55 million deaths from stroke <sup>[1]</sup>. Majority of stroke survivors continue to live with disabilities and the cost of ongoing rehabilitation and long term care are largely undertaken by family members which impoverish their families. So the study was conducted with the objectives as follows.

1. To assess the knowledge regarding early identification of stroke and its management.
2. To determine the association between the knowledge on early identification of stroke and its management with selected variables.

A descriptive cross-sectional approach was adopted and study was conducted among the general population between the age group of 18-50 years visiting OPD of SJMCH Bangalore. Self-structured questionnaire was administered to assess the knowledge about stroke. The result showed that 12.4% of population had excellent knowledge, 31.7% had good knowledge, 46.9% had average knowledge, 9.0% had poor knowledge.

**Keywords:** Stroke, knowledge, information pamphlet

### **Introduction**

According to World health organisation, stroke is a clinical syndrome of rapidly developing signs of focal disturbance of cerebral function, which lasts more than 24 hours or may even lead to death <sup>[2]</sup>. Stroke is the important and leading cause of disability among adults who constitutes major part of the population. Stroke accounts for about 10% of all deaths in most industrialized countries and the great majority of deaths among persons over the age of 65 <sup>[3]</sup>. Globally, stroke remained the second-leading cause of death and the third-leading cause of death and disability combined in 2019. From 1990 to 2019, the absolute number of incident strokes increased by 70.0%, prevalent strokes increased by 85.0%, deaths from stroke increased by 43.0%, and DALYs due to stroke increased by 32.0% <sup>[4]</sup>.

Awareness of warning signs and symptoms of stroke is essential in the general population for rapid access to acute medical service. In India, however, awareness of the warning symptoms of stroke among general public is far from satisfactory. This study aims to assess the knowledge regarding early identification and management of stroke <sup>[5]</sup>.

### **Need For Study**

Education regarding the early warning signs of stroke is necessary for early identification and early management measures as the crucial period of the first 3-4. 5 hours after initial symptoms of stroke is termed as the golden hour. During this time, there is a high chance of complete recovery <sup>[6]</sup>. A study conducted in National Institute of mental health and Neuroscience, Bangalore estimated that stroke is leading cause of morbidity and mortality.

A better understanding of early warning signs and its management may play a key role in the prevention of stroke and its complications [7]. Hence, the investigator felt a strong need to study the knowledge regarding early identification of warning signs and management of stroke.

### Problem statement

To assess the knowledge regarding early identification of stroke and its management among general population who is seeking health care services in a selected hospital, Bangalore with a view to develop an information pamphlet.

### Objectives

- To assess the knowledge regarding early identification of stroke and its management.
- To determine the association between the knowledge on early identification of stroke and its management with selected base line variables.

### Inclusion criteria

Age: 18-50 years.

People who can read and write English, Hindi and Kannada.

### Exclusion criteria

Who are known case of stroke?

### Hypothesis

**H1:** There will be a significant association of the knowledge on early identification of stroke and its management with selected base line variables at 0.05 level of significance.

### Review of literature related to knowledge on stroke

- A survey was conducted to assess the knowledge of stroke risk factors and its signs in an urban population of northern Benin in West Africa. The methods used in this study was in person interview with data collection on structured questionnaires and Multivariable logistic 26 regression was used to assess the predictors of good knowledge. The study was done among 4,675 participants (mean age 27.7 +/- 12.9 years) and found that only 230 were able to cite at least one stroke symptom and this knowledge was great with increasing age, family, personal history of stroke and high level of education [8].
- A cross-sectional study was conducted to assess public knowledge and awareness of stroke among adult population in Taif city, Saudi Arabia. The data was collected using an online questionnaire. Among 3,456 participants and results showed that only 61.7% of participants were aware of stroke. Participants who were 15- 39 years old had good knowledge. Male participants had better knowledge than female. The most identified risk factor was 'unhealthy lifestyle' and the least identified one was 'epilepsy' and 86.6% of the participants agreed that stroke is a medical emergency [9].
- A cross sectional study was conducted to assess the community stroke awareness on knowledge attitude and health seeking behaviour among adults in urban slums of Hyderabad. The data was collected through pre-test

semi structured questionnaires. The study included 396 participants and found that 278 were aware of the term stroke and organ affected was brain. 237 participants have knowledge of at least one symptom of stroke, 260 had knowledge of at least one complication of stroke, 170 had knowledge of at least one risk factor of stroke and 36 had knowledge at least one mode of prevention of stroke [10].

- A cross sectional study was conducted to assess the knowledge of stroke warning signs and risk factors among patients with stroke or transient ischemic attacks in China. The methods used in this study were questionnaires. The sample involved was 1600 and patient had very poor knowledge about warning signs that is, only 3.3% identified all warning signs and 28.3% identified three. Patients' knowledge about important risk factors were also very poor that is, less than 30%. Patients action in emergency was extremely poor that is, only 9.2% reported to call Emergency services [11].

### Methodology

The methodology undertook is the framework for conducting the study.

### Research Approach

The research follows a quantitative approach

### Research Design

The research design used in this study is cross sectional descriptive study design

### Description of tool

**Section 1:** Proforma to elicit baseline variables.

**Section 2:** Self-Structured Questionnaire.

### Section 1: Baseline Variables

- A structured questionnaire was used for the collection of the baseline variables of the subject.
- In this study the baseline variables related to the general population includes the age, gender, marital status, and educational qualification occupation, income and socio economic status.

### Section 2: Self structured questionnaire to assess knowledge regarding early identification of stroke and its management among general population.

Scoring: Total questions-20.

Correct answer-1.

Incorrect answer-0.

### Interpretation of knowledge scores

Excellent: 16-20 score.

Good: 12-15 score.

Average: 8-11 score.

Poor: < 8 score.

### Results

#### Section 1: Findings related to association between knowledge and selected baseline variables

**Table 1:** Frequency, percentage, Fischer's exact value of association of knowledge with baseline variables. N=145

S. No.	Baseline	Excellent		Good		Average		Poor		Test Significant	P-Value
		F	%	F	%	F	%	F	%		
<b>Age</b>											
1	18-24	6	15.0	12	30	16	40	6	15.0	16.207	0.051#
	26-34	9	23.1	12	30.8	17	43.6	1	2.6		
	35-42	2	5.4	16	43.2	15	40.5	4	10.8		
	43-50	1	3.4	6	20.7	20	20	2	6.9		
<b>Gender</b>											
2	Male	8	14.5	15	27.3	20	50.9	4	7.3	4.530*	0.712\$
	Female	10	11.2	30	33.7	40	44.9	9	10.1		
	Transgender	0	0.0	1	10.00	0	0.0	0	0.0		
	others	0	0.0	0	0.0	0	0.0	0	0.0		
<b>Marital Status</b>											
3	Single	8	14.3	18	32.1	23	41.1	7	12.5	6.588*	0.696\$
	Married	9	10.6	27	31.8	43	50.6	6	7.1		
	Divorced	0	0.0	1	50.0	1	50.0	0	0.0		
	widowed	1	50.0	0	0.0	1	50.0	0	0.0		
<b>Education</b>											
4	High school	8	19.5	17	41.5	15	36.6	1	2.4	15.035*	0.076\$
	Diploma	5	15.6	13	40.6	12	37.5	2	6.3		
	Graduated	3	6.7	11	24.4	25	55.6	6	13.3		
	Professional degree	2	7.4	5	18.5	16	54.3	4	14.8		
<b>Occupation</b>											
5	Professional	6	13.0	10	21.7	26	56.5	4	8.7	19.634*	0.014#
	Self employed	2	7.1	12	42.9	14	50.0	0	0.0		
	Unemployed	0	0.0	8	30.8	12	46.2	6	23.1		
	semiskilled	10	22.2	16	35.6	16	35.6	3	6.7		
<b>Monthly Income</b>											
6	Above 50000	2	4.5	12	27.3	24	54.5	6	13.6	14.683*	0.083\$
	30000-49999	3	7.5	13	32.5	21	52.5	3	7.5		
	10000-29999	8	19.5	12	29.3	19	46.3	2	4.9		
	Below 10000	5	25.0	9	45.0	4	20.0	2	10.0		
<b>Socio Economic Status</b>											
7	Upper class	2	28.6	2	28.6	3	42.9	0	0.0	14.011*	0.077\$
	Upper middle class	7	8.4	24	28.9	44	53.0	8	9.6		
	Lower middle class	5	11.6	15	34.9	20	46.5	3	7.0		
	Lower class	4	33.3	5	41.7	1	8.3	2	16.7		

Table shows that there is association between knowledge and age, occupation.

**Discussion**

**Section 2: Association of Baseline Variables with Knowledge Related Study**

**Age with Knowledge:** The study revealed that there is a significant association between knowledge with the age at the p value of 0.05 level of significance. In the study highest knowledge was found to be between the scores 8-11 for 68 people (46.9%). The age group of 43-50 years had scored the maximum in the average with 69%.

A similar study conducted in the Jewish province of Israel showed that participants Younger than 45 years showed the lowest levels of stroke knowledge. The highest stroke knowledge was found in the 45 to 64 years age group.

**Section 2: Association of Baseline variables with knowledge related study and occupation**

The study revealed that there was a significant association between knowledge of stroke and occupation. The professionals had the highest knowledge of 56.5% whereas others had the lowest knowledge of 35.6%.

In similar study conducted in Lebanon in the year 2022 showed that a better knowledge was found in professionals was 55.4% and among agriculture fishery forestry was found 40.9%. Hence there was a significant association of knowledge with occupation.

**Conclusion**

The study findings helped to spread awareness to the public. It will help staff nurse to conduct regular health education programs in the clinical setting, distribute the pamphlet to visitors in the OPD as well as display the pamphlet information on screens in the OPD foyer to educate the general public about the early identification of stroke and its management.

**Conflict of interest**

Not available

**Financial support**

Not available

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