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Assessment Of Stroke Awareness Among Adult Population.

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ABSTRACT

Cerebrovascular accident is the major cause of mortality and morbidity throughout the world. According to the World Health Organization, stroke is the second leading cause of mortality accounting for approximately 4.6 million deaths annually. Stroke incidence and mortality are higher in Asian countries than in western countries. In India, The estimated adjusted prevalence rates of stroke are between 84 and 262 strokes per 100,000 persons in rural areas and between 334 and 424 strokes per 100,000 persons in urban areas. This study aims to assess the awareness level of stroke signs, symptoms, risk factors and response to stroke symptoms with a special emphasis on knowledge regarding seeking early treatment among adult population. It is a cross sectional study conducted among adult population aged more than 18 years who accompanied patients attending medical & surgical OPD services in Chengalpattu medical college hospital. After obtaining written informed consent from the participant's pre-validated questionnaire was used to collect data. Out of 206 Study population, people aged less than 40 years were 62% with male (44%) and female (56%). 52% could identify all symptom of stroke, while 29% were of opinion that weakness of limb was the only symptom. 26% of the population had complete awareness regarding stroke Causes and Risk factors. 84% of the population responded that they would be going to the hospital immediately after stroke symptom, while only 50% of them knew that they had to go to a hospital with scan facility.35% of the population had knowledge on thrombolysis. Only 21% had awareness that stroke needs lifelong follow-up . Although the basic awareness regarding stroke risk factors symptoms and anticipatory response to stroke was satisfactory there was lack of adequate awareness on stroke thrombolysis and need for lifelong follow-up. With increasing incidence of stroke in community and advancement in options available for patients seeking early treatment the only bottle neck connecting the two is general public awareness about stroke.

Keywords: Stroke, Cerebrovascular accident, WHO.

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INTRODUCTION

Cerebrovascular accident is the major cause of mortality and morbidity throughout the world. According to the World Health Organization, stroke is the second leading cause of mortality accounting for approximately 4.6 million deaths annually [1]. Stroke incidence and mortality are higher in Asian countries than in western countries [2]. In India, the estimated adjusted prevalence rates of stroke are between 84 and 262 strokes per 100,000 persons in rural areas and between 334 and 424 strokes per 100,000 persons in urban areas [3]. There has been significant progress in stroke management, and the availability and accessibility of such therapies has increased significantly in recent years across all medical facilities, both public and private sector. Given the rising prevalence of stroke in the community and advancements in treatment choices for individuals seeking early therapy, early diagnosis of stroke signs and symptoms, risk factors, and treatment can minimise stroke mortality and disability, as well as the financial burden on the community. The public's knowledge and awareness of stroke and its risk factors impacts the effectiveness of primary prevention strategies and seeking prompt medical intervention immediately following a stroke. The purpose of this study was to assess the knowledge of stroke warning signs and symptoms, risk factors, and the likely response to anticipatory stroke symptoms and awareness regarding thrombolysis among patient attenders visiting a hospital out-patient department (OPD) in southern India.

SUBJECT AND METHODS

This was a cross-sectional study carried out between June 2022 to Sept 2022 in the department of Neurology, Chengalpattu medical college hospital, Chengalpattu, Tamil Nadu, India. The study participants were of both gender, age >18 years who were accompaniments of patients visiting the various outpatient departments in Chengalpattu medical college hospital. After obtaining written informed consent from the participants. Data was collected through self-administered or face to face interviews with a pre-set and a pre-validated questionnaire either in the local language or English as per the convenience of the participant. No attempt was made to suggest any answer. However, clarification about a question was made if asked for. The questionnaire documented the demographic data of the participants such as age, sex, educational level, locality and whether they had any known stroke patients in their family or surroundings. Education was categorized into lower (lesser than primary schooling) higher (above primary schooling). The questionnaire was pretested in a pilot study of 50 participants. A knowledge score was devised assessing knowledge about organ affection, risk factors, and warning signs of stroke anticipatory response to stroke and awareness regarding thrombolysis. Internal consistency of the scale was assessed using Cronbach´s alpha which was found to be 0.7. The score was computed from 15 questions. Pre-set questions on stroke were as follows: Questions assessing organ affection and general information were 3 questions; and those assessing risk factors were 3, assessing symptoms and warning signs were 3 anticipatory response to stroke 3 and management of stroke and thrombolysis 3.Data was analysed by using statistical package of social sciences (SPSS) version 10.

RESULTS

Table 1: Demographic characteristics of the participants

Age group	Frequency	Percentage
<40 years	128	62.1
>40 years	78	37.9
Sex		
Male	91	44.2
Female	115	55.8
Education		
Lower	116	55.8
Higher	90	44.2
Place		
Rural	148	71.8
Urban	58	28.2
Relative suffered from stroke		
Yes	104	50.5
No	102	49.5

Demographic data: the mean age was 44.66 ranging from 18 to 90 years, with the most frequently reported age range being 41-50 years (23.8%). 56% of the participants (150) were females. 44% had completed primary schooling. Majority of the participants were from rural background. Almost 50% of the participants had firsthand experience in stroke as they had some relative or friend had suffered stroke. Table 1 gives the Demographic characteristics of the participants.

Knowledge about stroke: About 74% of the participant felt that they have some basic knowledge regarding stroke and have had health information regarding stroke. About 72 % of the participants correctly identified the brain as the body organ affected by stroke, 28% did not know which body organ is affected by stroke.

Table 2: basic knowledge about stroke, symptoms and causes

Question	Frequency	Percentage
Have you heard of stroke		
Yes	152	73.8
No	54	26.2
Stroke affects which organ		
Aware	149	72.3
Not aware	57	27.7
What are the causes of stroke		
Aware	142	68.9
Not aware	64	31.1

Stroke risk factors: 45% of the participants could correctly identify all the risk factors for stroke that were listed while 20% thought only hypertension as a stroke risk factor while 15 % recognised only smoking and alcohol as a risk factor however only 6% considered diabetes as an risk factor for stroke .12 % did not know any risk factors of stroke. 77% of the participants could identify stroke as can affect both male and female. 62 % of the participants knew stroke can affect any age group while 25 % thought it's a disease of the elderly alone

Table 3: knowledge about stroke risk factors

Question	Frequency	Percentage
What are the risk factors for stroke		
Aware	92	44.7
Not aware	114	55.3
Stroke affects which sex		
Aware	158	76.7
Not aware	48	23.3
Stroke affects which age group		
Aware	127	61.7
Not aware	79	38.3

Stroke symptoms: only 4% of the study participants did not know any stroke symptoms. Of the 96% who knew atleast one of the listed stroke warning symptoms, 29% identified only paralysis of one side of the body as symptom of stroke, 50 % could identify all the listed stroke symptoms such as difficulty in speaking, dizziness.

Planned response to stroke: 84 % of the participants reported that they would go to hospital if stroke symptoms were experienced; 50 % responded that they would go to nearest hospital with scan facility .43% of the participants were aware that stroke is best managed as an inpatient treatment while 21% thought frequent OP visit and 19 % home medications would be sufficient. 61 % of the participants knew that they have to go to hospital immediately on experiencing symptoms of stroke but only 36% was aware of thrombolysis.

Table 4: Knowledge regarding symptoms of stroke and planned response to stroke

Question	Frequency	Percentage
What are the symptoms of stroke		
Aware	107	51.9
Not aware	99	48.1
What will you do if stroke happens		
Aware	173	84.0
Not aware	33	16.0
Where will you go if stroke occurs		
Aware	101	49.0
Not aware	105	51.0
Who can provide the best treatment for stroke		
Aware	135	65.5
Not aware	71	34.5
How can stroke be best managed		
Aware	90	43.7
Not aware	116	56.3
Stroke can be best managed when presented		
Aware	125	60.7
Not aware	81	39.3

Stroke treatment: 35% were aware regarding stroke thrombolysis. 79% of the participants were not aware that stroke needs lifelong follow up and treatment.39% of them were of the opinion that it is sufficient to be in follow up until symptoms subside .

Table 5: Knowledge regarding stroke treatment

Question	Frequency	Percentage
What do you think is the first and most important diagnostic test for stroke		
Aware	114	55.3
Not aware	92	44.7
Awareness regarding available early intervention (thrombolysis)		
Aware	74	35.9
Not aware	132	64.1
How long does the patient needs treatment and regular follow up following stroke		
Aware	44	21.4
Not aware	162	78.6

RESULTS

Statistical tests applied to the analysis and Pearson chi square value of $p < 0.05$ taken significant the results were as so, 90 % of the time when people are aware of the risk factors($p<0.006$) , symptoms of stroke ($p<0.020$) they are likely to go to hospital immediately upon stroke suspected stroke occurrence . 40 % of the participants though aware of the risk factors did not know they have to go to hospital with scan facility ($p<0.01$). 70%of the times when the risk factors were not known they also did not know that stroke has to be treated in hospital by doctor ($p<0.02$). 67 % of the times when participants were aware that stroke is caused by problem in blood vessels of the brain, they knew they have to seek medical attention immediately ($p<0.002$) .70 % of the times when the participants were not aware that brain is the organ affected in stroke they did not that they have to go to nearby hospital with scan facility ($p<0.02$). In our study there was no overall statistically significant difference in awareness among male and female, urban and rural population, educational or age categories.

DISCUSSION

The knowledge regarding stroke risk factors, symptoms and anticipatory response to stroke among participants were satisfactory however the awareness regarding thrombolysis and need for lifelong follow up for stroke patients were poor. In our study no statistically significant difference was identified between male female, urban rural population.72% had correctly identified that brain is the organ affected by stroke which is almost similar to studies in Sokoto, Nigeria [4] and Taif, Saudi Arabia [5] (87.1% and 81.1%, respectively). However, it was significantly higher compared to rural Uganda [6] and Oman [7] (26.1% and 35%, respectively).

Although 45 % were able to identify all the listed risk factors for stroke in the remaining 55% of the participants only 7% could identify diabetes as potential risk factor. India being the diabetic capital and poorly controlled diabetes poses a significant risk for stroke very few could actually relate it to stroke. This is similar to the study from Sudan, Uganda, [8,9] showed that 8% were able to link diabetes to stroke, while a similar study from Nigeria [10] showed that only 2.9% of the participants associated stroke with diabetes. The common stroke symptoms of weakness, paralysis and speech difficulties were identified most commonly in our study as well as in other studies [4,6,11]. but other symptoms such as headache, dizziness, difficulty in speaking or understanding speech and altered sensorium were less familiar among the public [12,13]. Assessing the planned response to a stroke event is very important in any stroke awareness assessment study. We found that 84% of the participants responded that they would seek medical care and almost 50% would transfer the patient to the nearest health care with scan facility. This is similar to what was observed in a study conducted in Northwest India[12],Sudan[8] where 70% population and 89.9% in urban Australia[14], opted to call for an ambulance or visit a hospital emergency department in response to symptoms of stroke. In eastern Indian study [15] only 24.6% participants opted for attending nearby hospital / nursing home. 15% of the participants responded that they would seek medical assistance from general practitioners which may also results in delay to hospital emergency treatment.35% of the participants were aware regarding thrombolysis as an available option for stroke treatment. The knowledge about thrombolysis is a key factor which would influence the people to seek immediate medical attention. The knowledge regarding regular and lifelong follow up after stroke were surprisingly quite low, this would have a significant impact in the recurrence of stroke and increased morbidity, when not know. Many studies have addressed the importance of education in primary and secondary stroke prevention [16,17,18]. The role of health education in primary and secondary prevention of any disease has been well established. This role is far greater with noncommunicable diseases [19]. Becoming educated about the risks and ways to reduce risk factors can decrease the number of strokes which occur each year. This fact is well established in our study that statistically significant difference in the approach to stroke symptoms among masses who are aware of the risk factors, pathophysiology of stroke, wherein we could find that people aware of the risk factors, symptoms were more likely to go to nearest hospital and also they were more aware of the importance of need of imaging. Community education regarding recognition of stroke can be an excellent way to increase public awareness and decrease mortality due to stroke. In some instances, people may not be ignoring their health- they may simply be unaware that they are at risk [20].

CONCLUSION

Awareness level was relatively satisfactory regarding stroke risk factors, pathophysiology and anticipatory response to stroke however there was low awareness regarding stroke thrombolysis and need for lifelong follow up. Although being a small study, it covers a broad range of participants, both with and without risk factors; with diverse educational levels and age (ranging from 18 to 90 years) so it does give a good grasp of the state of knowledge about stroke. It is also the first study assessing knowledge about stroke in southern India. We recommend that efforts should be concentrated on developing an educational program for stroke awareness. We also plan to do a follow up study on reasons that has delayed an acute stroke patient seeking medical attention, when they present to hospital.

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