Awareness of Stroke and Thrombolytic therapy in attendants of Neurology Patients

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INTRODUCTION

Worldwide, stroke is a leading cause of mortality and disability and there are substantial economic costs for post-stroke care. Results from the 2015 iteration of the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) reported that although the age-standardized death rates and prevalence of stroke have decreased over time, the overall burden of stroke has remained high. As populations age, and low-income and middle-income countries go through the epidemiological transition from infectious to non-communicable diseases as the predominant cause of morbidity, together with concomitant increases in modifiable risk factors, it is expected that the burden of stroke will increase further until effective stroke prevention strategies are more widely implemented.[1]

In India, age-standardized prevalence of cerebrovascular diseases has increased by 12.2% and the number of disability-adjusted life years (DALYS) has increased by 53% from the period raging between 1990 to 2016. It has been seen as the fifth leading cause for years of life lost and DALYs in 2016. Increasing life expectancy and risk exposure is linked with the increasing prevalence of stroke and disability among the survivors, with significant socioeconomic consequences for patients, care givers, and health services.[2]

Attitude or outlook towards the stroke is affected by the knowledge along with the practices undertaken by people to prevent and treat stroke. Appropriate knowledge of stroke risk factors and warning signs, practices of stroke prevention or the immediate action that is necessary in dealing with a stroke patient can arrest both mortality and morbidity among the public.[3]

Further, in-spite of availability of thrombolytic therapy, patients do not arrive in time for the treatment this may be due to lack of awareness of stroke & its risk factors. Hence, we chose to carry out the survey with the objective to determine the level of knowledge about stroke and its treatment.

MATERIALS AND METHODS

Study conducted in General Medicine OPD in Acharya Shri Chander College of Medical Sciences and Hospital (ASCOMS) Jammu & Department of Neurology OPD Maharishi Markandeshwar Institute of Medical sciences and research Mullana Hospital, Ambala the study period was 5 months, from January 2016 to May 2016.

There were 1000 attendants who were given questionnaire, amongst which 437 were those who attended General Medicine OPD in Acharya Shri Chander College of Medical Sciences and Hospital (ASCOMS) Jammu and 219 were those who attended Department of Neurology OPD Maharishi Markandeshwar Institute of Medical sciences and research Mullana Hospital, Ambala.

The first section of the questionnaire gathered demographic information. Education was categorized into illiterates, primary (below 5th standard), secondary (6th standard to 12th standard) and graduates and above education. Income was classified into upper (Indian National Rupees > 5000 per month) and lower (Indian National Rupees < 5000 per month) income groups.

In second set of questionnaires, we gathered information regarding awareness of stroke i.e. risk factors of stroke, symptoms of stroke, source of this information. In this section, multiple answers were allowed.

In third section, questions regarding treatment of stroke were asked i.e., drugs taken by patient suffering from cerebral infarction like ayurvedic/homeopathic treatment, antibiotics, corticosteroids, thrombolytic agent, witchcraft.

Whoever chose thrombolytic agent were asked regarding time after a stroke the given drug needs to be given in order to be effective.

RESULTS

In total, 1000 consecutive who participated in the survey, out of which 656 (259 male and 397 female) completed it. Of the total 656 (396 males and 260 females) patients/ attendants who completed the questionnaire, it was seen that 132 (20.1%) reported stroke in family. 529 (80.6%) identified the brain as the affected organ in stroke. The most common risk factor recognized for stroke was hypertension (74.7%). 36 (5.5%) subjects were unaware of any risk factor for stroke.

Table 1: Baseline Characteristics of Subjects

Characteristics	n = 656 (% of patients)
AGE	
15-35	414 (63.11%)
36-51	182 (28.05%)
52-67	50 (7.62%)
>67	8 (1.22%)
MARITAL STATUS	
Married	360 (54%)
Unmarried	296 (46%)
GENDER	
Male	396 (60.37%)
Female	260 (39.63%)
RELIGION	
Hindu	460 (70%)
Muslim	96 (15%)
Sikh	96 (15%)
Others	4 (2%)

As mentioned in Table 1, the subjects taken had age group starting from 15 years of age to more than 67 years. They were classified as married (54%) and unmarried (46%) and gender wise as 54% and 46% as male and female, respectively. 70% subjected were Hindu. Overall, the education was as 21% were from primary school followed by 20% from middle school, 30% from high school and 29% from graduate and above education. Income wise 47% had less 5000 rupees, 41% had 6000 to 15000 rupees income whereas only 3% had more than 25000 rupees income.

EDUCATION	
Primary school	138 (21%)
Middle school	134 (20%)
High school	198 (30%)
Graduate and above	186 (29%)
INCOME (Indian National Rupees)	
<5000	312 (48%)
6000-15000	272 (41%)
16000-25000	60 (9%)
>25000	12 (3%)

Table 2 : Awareness about Risk Factors, Source of Information, Stroke Warning Signs, Kind of Drug Used in Stroke

Characteristics	n = 656 (% of patients)
RISK FACTORS	
Old age	272 (41.46%)
Hypertension	490 (74.70%)
Smoking	358 (54.57%)
Diabetes mellitus	374 (57.01%)
Dyslipidemia	170 (25.91%)
Heart disease	192 (29.27%)
Don't know	36 (5.49%)
SOURCE OF INFORMATION	
Television/Radio	126 (19.21%)
Internet	132 (20.12%)
Newspaper	74 (11.28%)
Health magazine	82 (12.50%)
Medical staff	318 (48.48%)
Others	434 (66.16%)
STROKE WARNING SIGNS	
Difficulty in Speaking/Understanding	268 (40.85%)
Blurred vision (Unilateral/ Bilateral)	234 (35.67%)
Severe headache	284 (43.29%)
Sudden dizziness/difficulty walking/loss of balance	458 (69.82%)
Sudden weakness/numbness of face or limb of either side`	438 (66.77%)
KNOWLEDGE ABOUT KIND OF DRUG USED IN STROKE	
Ayurvedic/Homeopathic	346 (52.74%)
Antibiotics	136 (20.73%)
Corticosteroids	52 (7.93%)
Thrombolytic therapy	270 (41.16%)
Witchcraft	218 (33.23%)

As mentioned in Table 2, of the total 656 patients / attendants who completed the given the questionnaire, it was seen that said they had awareness regarding risk factors as old age (41%), hypertension (75%), smoking (55%), diabetes mellitus (57%), dyslipidemia (26%), heart disease (29%) & 5% did not know regarding risk factors as shown in Figure 1.
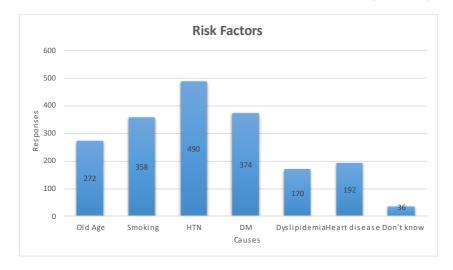
Figure 1: Percentage of patients / attendants had awareness regarding risk factors of stroke.

The source information from where the patients / attendants received the information are television/radio (19%), internet (20%), newspaper (11%), health magazine (13%), medical staff (48%) as shown in figure 2.
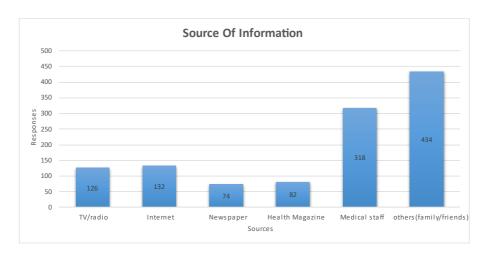

Figure 2: Source of information from where patients / attendants had awareness for stroke.

The attendants / patients had awareness regarding stroke warning signs were difficulty in speaking/understanding (41%), blurred vision - Unilateral/ Bilateral (36%), severe headache (43%), Sudden dizziness/difficulty walking/loss of balance (70%), sudden weakness/numbness of face or limb of either side (67%) as shown in figure 3.
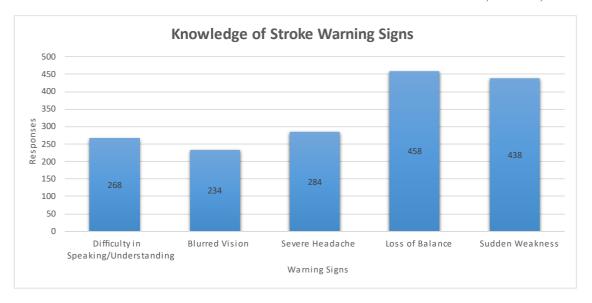
Figure 3: Information patients / attendants had awareness regarding stroke warning signs of stroke.

The attendants / patients had awareness about kind of drug used in stroke are ayurvedic/homeopathic (53%), antibiotics (21%), corticosteroids (8%), thrombolytic therapy (41%), witchcraft (33%) as shown in stroke.
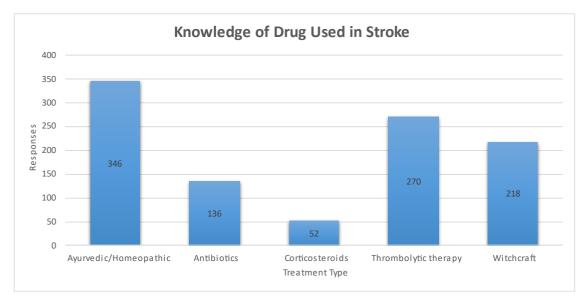

Figure 4: Information patients / attendants had awareness about kind of drug used in stroke.

DISCUSSION

Stroke is ranked as the second leading cause of death globally with an annual mortality rate of about 5.5 million. Not only does the burden of stroke lie in the high mortality but the high morbidity also results in up to 50% of survivors being chronically disabled. Hence, stroke is a disease of immense public health importance with serious economic and social consequences.[4]

Further, the crude stroke prevalence in different parts of India is reported as ranging between 44.29 to 559/100,000 persons during the past two decades. The cumulative incidence of stroke in India ranged between 105 to 152/100,000 persons per year during the past two decades in different parts of the country.[5]

This survey was carried out among attendants or patients of outpatients presenting to the hospital. The survey revealed that there is lack of awareness among the general public about stroke warning symptoms and risk factors. A majority of subjects correctly identified the brain as the affected organ in stroke (80.6%), and ignorance of the warning symptoms and risk factors for stroke was common. There is lack of awareness about stroke among the public even in developed countries like the United States and Australia.[6]

Most studies on stroke knowledge have focused only on symptoms and risk factors, and not on knowledge of treatment options.[7]But the current study also took the survey of awareness about kind of drug used in stroke. Without specific knowledge on treatment options, and importantly, not knowing about the time sensitivity, it is unlikely that symptom recognition will automatically translate into action.[7]

There are two main ways in which we can decrease the burden of this disease. First, we can improve outcome after stroke by providing patients with proven therapies. These would include the use of intravenous tissue plasminogen activator (tPA) within 3 hours of ischemic stroke onset, aspirin within 48 hours, and treatment in a stroke care unit. For the first of these therapies, patients need to attend hospital within approximately 2 hours of stroke onset. Currently, only about 1%–2% of patients receive this treatment.[8]

The second way is to reduce the burden of stroke is to reduce the number of people experiencing a stroke. This could be done by implementing good primary and secondary prevention measures at an individual and population level.[8]

However, substantial discrepancies exist between stroke recognition and correct action and not all stroke patients know the appropriate responses.[9]

Accumulating studies in this area recommend community educational programs by employing different media to play an important role in enhancing awareness through public and professional means which reduces the time of presenting to the emergency department following stroke onset. [10]Educational efforts for public and health professionals may increase recognition of stroke symptoms and reduce the delay in presentation and referral of stroke patients.[11] Further, a survey in France reported that improvements can only result from using a broad range of sustained educational efforts through simple and understandable means of public media.[12]Participants from India also made the similar recommendation that multifaceted programs regarding stroke, including printed information, audio-visual programs and stroke service programs, are advocated by both patients and the general population to improve stoke treatment and prevention.[13]

Hence, health literacy is fundamental to patient engagement. A study carried out by Metial et al, demonstrated a slight improvement despite the large investment in public awareness campaigns. And recommended that development and evaluation of effective interventions should be a priority. [14]

Public education that promotes awareness of the seriousness of stroke, the urgency of stroke evaluation, warning signs of stroke and the narrow therapeutic time window may lead toward changes in behavior and attitude of the public in general. Improved knowledge and changed attitude will advance the practice of stroke management, thereby reducing the burden of stroke in India. Hence, continued, and intensified educational efforts to promote knowledge of stroke, particularly among high-risk groups, should be encouraged and should be promoted.

CONCLUSION

The present study concludes that there is poor knowledge of stroke, its risk factors, warning signs and knowledge of treatments available. Community based awareness programme might help in stroke risk reduction, early hospitalization as well as treatment. It has been noticed by way of this study is that though digital medium helps in spreading stroke awareness same was less visible in people above the age of 67. So necessary steps amalgamating physical and virtual stroke awareness programs could be the key to improve their knowledge and adherence thereby improving treatment cycle.

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