



## AWARENESS OF STROKE IN SOCIETY – A SURVEY

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### ABSTRACT:

Stroke is characterized by an acute loss of focal cerebral function with symptoms lasting more than 24 hours or leading to death, which is thought to be due to either spontaneous hemorrhage into the brain substance (hemorrhagic stroke) or inadequate cerebral blood supply to a part of brain (ischemic stroke) as a result of loss of blood flow, thrombosis or embolism associated with diseases of the blood vessels (arteries or veins) heart or blood. (warlow C, van Gijn et al 2008) There has been more than 100 percent increase in incidence of stroke in low- and middle-income countries including India from 1970-1979 to 2000-2008. In spite of the increased incidence in the recent times the awareness among the public regarding the condition is poor. This study highlights on determining the awareness of stroke among the public in Tamil Nadu and its importance to facilitate early intervention.

**Key words:** stroke, awareness, Risk factors, Episode, Reoccurrence

### INTRODUCTION:

Stroke or cerebrovascular accident (CVA) is when part of the brain loses its blood supply thereby causing oxygen deprivation leading to cell death in the particular region of the brain.<sup>[1]</sup> This loss of blood supply can be ischemic because of lack of blood flow, or hemorrhagic because of bleeding into brain tissue. The symptoms exhibited depend upon the area where the blood supply is cut off. Stroke is a medical emergency because it can lead to death or permanent disability. The risk factors for stroke includes hypertension, high cholesterol, obesity, stress, blood clot (thrombosis and embolism) and other life style changes (intake of alcohol, smoking, poor dietary intake, working at night shifts) that affects the overall wellbeing of the person.<sup>[2]</sup> Based on studies from Western Europe, stroke incidence was about 30% higher in men than in women.<sup>[3]</sup> Females who are under the prolonged intake of oral contraceptives are vulnerable for ischemic stroke due to the hormonal imbalance.<sup>[4]</sup> In the US people suffer a stroke every 40 seconds on average. Stroke kills about 140,000 Americans each year—that's 1 out of every 20 deaths. Studies reveal that in the United States people are becoming the victim of stroke once in every 40 seconds and in every 4 minutes, someone dies of stroke.<sup>[5]</sup> Rates of stroke mortality was found the highest in eastern Europe, north Asia, central Africa, and the south Pacific.<sup>[6]</sup> Stroke is one of the leading causes of death and disability in India and the estimated adjusted prevalence rate of stroke range, 84-262/100,000 in rural and 334-424/100,000 in urban areas. The incidence rate is 119-145/100,000 based on the recent population studies. There is also a wide variation in case fatality rates with the highest being 42% in Kolkata.<sup>[7]</sup> A study was done by Hickey A et al in the year 2009 on the

stroke awareness in general population and the awareness about the risk factors and warning signs in older adults which revealed knowledge deficit.<sup>[8]</sup> A questionnaire study on the awareness of stroke was done in Jordan by Saba S Madae'en, Nailya R Bultova in 2012 which revealed serious age gaps in the knowledge regarding stroke and an educational program might help in reducing the stroke burden in Jordan.<sup>[9]</sup> Awareness of stroke among stroke patients in a tertiary-care level hospital in northwest India Sulena Sulena, Banshi Lal Kumawat, Anjani Kumar Sharma in 2015 which revealed that knowledge about stroke was poor, the subjects in this study were largely unaware of risk factors for stroke and availability of thrombolysis.<sup>[10]</sup>

This study investigates on determining the awareness of stroke, warning signs, risk factors, professionals involved in the treatment of stroke in Tamil Nadu.

#### Aim:

- This study aims to determine the degree of awareness of stroke in the general population of Tamil Nadu.
- To facilitate awareness among the general public and to provide early identification.

#### OBJECTIVE:

- To quantify the degree of awareness of stroke in the public.
- To document the level of awareness of stroke between the literates and the illiterates.
- To document the level of awareness of stroke between males and females.
- To document the awareness of stroke among the adulthood, late adulthood and geriatric groups.

#### METHODOLOGY:

A questionnaire was prepared based upon a person's awareness about the condition, warning signs, risk factor and point of contact on an instance of stroke. Validation of the questionnaire was done by four Speech-Language Pathologist. The data was collected from 200 participants by circulating the Google forms and by direct interview method. The study will include both male and female participants above the age of 20 who has normal cognition, sensory-motor, and perceptual abilities. Literate people in the non-medical field were included as a part of the study. Illiterate people who were willing to participate were included as a part of the study. Professionals in the medical and paramedical field were excluded from the study. People with the history of neurodegenerative conditions were excluded from the study.

#### RESULT:

Table 1A shows the awareness of stroke among the public

COMPONENTS	N=200
AWARENESS	51%
EPISODE	26.50%
HEREDITARY	27.50%
LIFESTYLE	67%
SLEEP	38.50%
CURABLE	54.50%
FAMILY	24.50%
PREVENT	4.50%
RELAPSE	63.50%
EFFECT	83.50%
DEATH	57.50%
NORMAL	40%
QUALITY OF LIFE (QOL)	69%
SEIZURES	41%
CAUSE	34.50%
SUFFICIENCY OF AWARENESS	10%

Among 200(From table 1A) people only 51% is aware about the condition of stroke. Only 26.50% of the population is aware that the person having stroke will know about such an episode of occurrence and 27.50% of the population is aware that stroke is hereditary and 67% of the population attributes it to lifestyle changes. 38.50% of the population is aware that stroke can occur during deep sleep. 54.50% of the population is aware that stroke is a curable condition, 58.52% of the population believes that stroke is a curable condition and 63.50% of the population are aware of the relapsing nature of stroke. 24.50% of the family members and neighbors of the population included in the study have experienced a stroke. Most of the population is aware that a person with stroke should consult a general physician, few are aware of the need to consult a neurologist and cardiologist and lesser number of people is not aware of whom to consult when encountered with stroke. 83.50% of the population is aware that stroke has side effects and 57.50% of the population is aware about the mortality that the stroke can lead to and 69 % of the population is aware that the stroke has a huge impact on the quality of life. 34.50% of the population is aware of the cause of stroke and 40% of the population are also aware that it could be seen in normal healthy individuals. Still 41% of the population considers that stroke and seizure to be the same. Most of the population attributes the cause of stroke to blood pressure, stress, lifestyle habits like smoking and alcohol consumption and few attributes it to vitamin deficiency and weakness. Only 10% of the population believes that society has sufficient awareness of stroke. The population under study are aware about stroke with the help of mass media (tv, internet, serials, newspapers), books and personal and or situational experience. The average age at which an individual can get stroke is 40 years of which 66.50% are males and 33.5% females are prone to get a stroke.

Table 2A shows the Mean, Standard Deviation and p-value on the comparison of awareness of stroke between Literates and Illiterates

	N	Mean	Standard Deviation (SD)
<b>Literates</b>	100	9.6000	2.256
<b>Illiterates</b>	100	6.6300	3.81294
<b>p-value 0.000</b>			

Table 2A shows the Mean, Standard Deviation and p-value on the comparison of awareness of stroke between Literates and Illiterates (Significant at  $p<0.001$ ).

Figure 2B shows the comparison of awareness of stroke between the Literates and the Illiterates

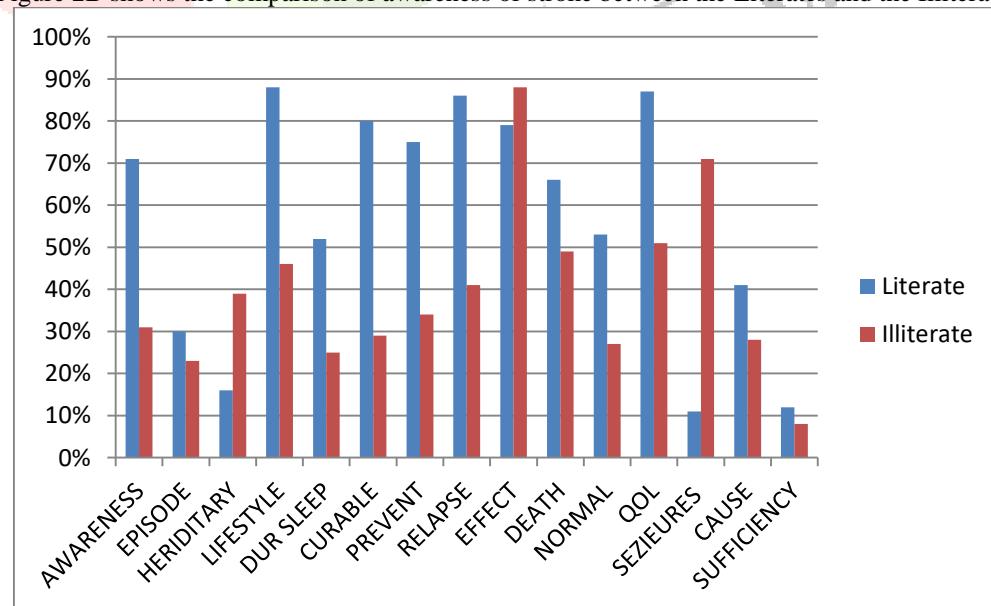


Figure 2B is shows a comparison between the literates (N=100) and the Illiterates (N=100). The literate population has a higher degree of awareness regarding the condition of stroke, awareness about the episode of occurrence, lifestyle changes that can cause stroke and about its occurrence during sleep. Literate population is also aware that stroke is a curable condition, its preventable nature and its relapse which has a substantial effect on the quality of life and the fatal nature when compared to Illiterates. Illiterate population has increased awareness on the effect of stroke due to the influence of mass media and circumstances and they also believe that stroke and seizures are the same and its primary origin is hereditary in nature. Literate population has increased awareness on the causes of stroke, its incidence in normal healthy individual and also believes that society has sufficient awareness of stroke when compared to the Illiterates.

Table 3A shows the Mean, Standard Deviation and p-value comparison of the awareness on stroke between the male and female

	N	Mean	Standard Deviation (SD)
<b>MALE</b>	<b>111</b>	<b>8.0180</b>	<b>3.40583</b>
<b>FEMALE</b>	<b>89</b>	<b>8.2360</b>	<b>3.54524</b>
<b>P-value 0.656</b>			

Table 3A shows the Mean, Standard Deviation and p-value on the comparison of awareness of stroke between Male and Female (p-value > 0.05).

Figure 3B shows the comparison of the awareness on stroke between the male and female

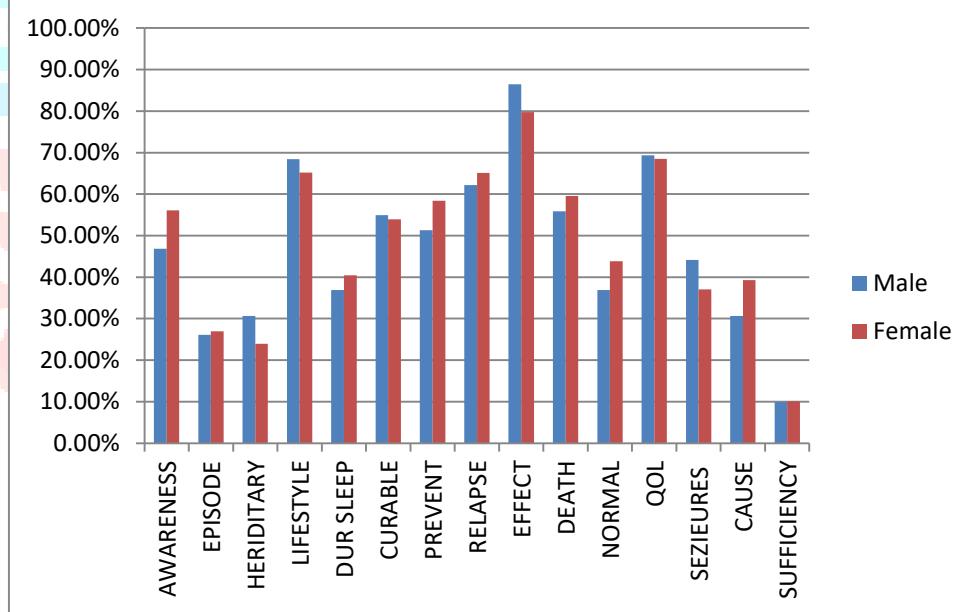


Figure 3B is shows a comparison of the awareness of stroke between the male (N=111) and female (N=89). It reveals that males have increased awareness of the hereditary onset, lifestyle changes that cause stroke and also aware that stroke can occur in deep sleep when compared to females. Males also exhibit increased awareness regarding the possibility of curing stroke, side effects caused by stroke and the impact of stroke in the quality of life and the incidence of stroke in normal healthy individuals when compared to females. Males have an increased notion that stroke and seizures are the same. Females have increased awareness regarding the term stroke, episodic nature, and occurrence of stroke during sleep, possibility of preventing stroke, relapsing nature and the mortality caused by the same. Females also exhibit increased awareness on the risk factors contributing for the occurrence of stroke when compared to males.

Table 4A shows the Mean, Standard Deviation and p-value on comparison of awareness on stroke between the adulthood, late adulthood and geriatric groups

	N	Mean	Standard Deviation (SD)
<b>Adulthood,</b>	100	8.4900	3.29522
<b>Late adulthood</b>	57	8.4035	3.25060
<b>Geriatric</b>	43	6.8605	3.87656
<b>p-value 0.026</b>			

Table 4A shows the Mean, Standard Deviation and p-value on the comparison of awareness on stroke between adulthood, late adulthood and geriatric (p-value < 0.05).

Figure 4B shows the comparison of the awareness on stroke between the adulthood, late adulthood and geriatric groups

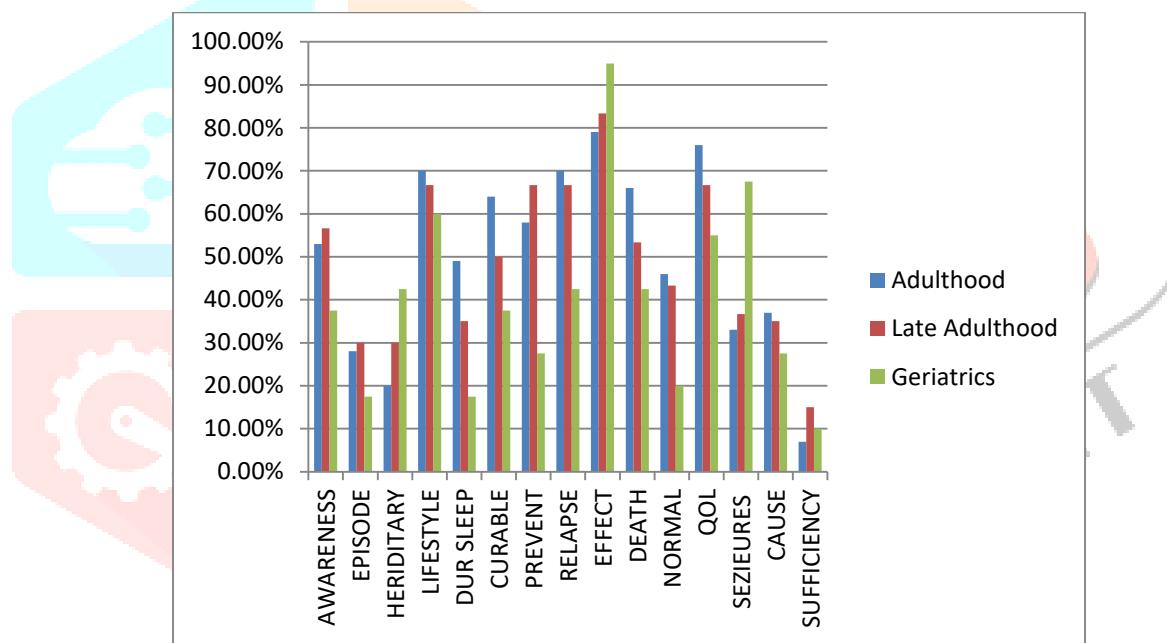


Figure 4B shows the comparison of the awareness of stroke between the adulthood (N=100), late adulthood (N=60) and geriatric groups (N=40). On the whole, the adulthood group has an increased awareness about the lifestyle changes as a contributing risk factor for stroke, the occurrence of stroke during sleep, possibility of curing, relapsing nature, impact in the quality of life, prevalence seen in normal healthy individuals and its fatal effects when compared to the other groups. Late adulthood group exhibit awareness on aspects like the awareness about the term stroke, the preventive nature and believes that our society has sufficient awareness about stroke. Geriatrics exhibit increased concept of the hereditary nature of stroke and believe that stroke and seizures are the same. Geriatrics also exhibit increased awareness regarding the side effects of stroke due to personal and situational circumstances.

## CONCLUSION:

The society comprises of people from varied economic sectors and culturally different backgrounds. It has a great influence on determining the knowledge about a highly influencing medical condition like stroke, its need to bring it to the notice of the professionals and to provide early identification for the same. Thus, awareness camps must be targeted towards the

educational settings and general public places to facilitate in improving the knowledge on early signs and symptoms, risk factors and people who are at risk for getting such a condition. The programs must also target in enlightening the public on the point of contact during the instance of stroke, the various rehabilitation and vocational programs that are available to improve the quality of life. Awareness programs could take place in various forums using the social media, pamphlets, advertisements and public talks given by professionals to target all the people in the society irrespective of their economic status, educational background and cultural different.

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## AWARENESS OF STROKE IN SOCIETY – A SURVEY

..... Of age..... Is aware about the purpose of the study and I am willing to be a part of this awareness study.

Sign

1. Are you aware of the condition of stroke? Yes/No
2. Do you think the person affected will be aware of an episode of stroke? Yes/No
3. What is the age range who is maximally prone to?
4. Who is more prone for getting a stroke? Male/Female
5. Is stroke hereditary? Yes/No
6. Do you think lifestyle changes and habits can cause a stroke? Yes/No
7. Do you think stroke occur during deep sleep? Yes /No
8. To whom should we consult immediately for a person with a stroke?
9. Do you think stroke a curable condition? Yes/No
10. What do you think is the common cause of a stroke?
11. Have any one of your family members/friends/colleagues had a stroke? Yes /No
12. Do you think stroke be prevented before the occurrence? Yes/No
13. Do you agree that once encountered with stroke, will he/she be prone to getting stroke again? Yes/No
14. Do you think stroke have any side effects? Yes/No
15. Do you think that stroke leads to death? Yes/No
16. Can a normal healthy individual get a stroke? Yes/No
17. Do you think stroke will affect the overall quality of life? Yes/No
18. Do you think stroke and seizures are the same? Yes/No
19. How did you know about stroke?
20. Do you think our society has sufficient awareness about stroke? Yes/No

