ANALYSIS OF WARNING SIGNS IN PATIENTS WITH STROKE AT IT'S ONSET- A RETROSPECTIVE STUDY

Miss. Srushti Rajendra Patare[1], Dr. Suvarna Ganvir[2], Dr.Maheshwari Harishchandre[3]

(B.P.Th.) Final year[1], HOD and Professor[2], Department of Neurosciences at DVVPF'S college of Physiotherapy, Ahmednagar, INDIA.

Abstract: Stroke is a major cause of morbidity and mortality worldwide, especially in developing countries because of adoption of western lifestyle. Knowledge of warning signs may prompt early recognition of stroke and awareness of stroke warning signs permits immediate activation of prehospital emergency team. The aim of the study is to determine knowledge of medical outpatients about stroke warning signs as well as the attitude towards a suspected stroke. This study concludes that the sudden difficulty in walking or dizziness; sudden loss of consciousness; sudden numbness in face, arms or legs; were most common warning signs followed by sudden confusion or trouble in speaking or understanding speech; sudden dimness or loss of vision, particularly in one or both eyes; sudden severe headache with unknown cause; sudden nausea, fever and vomiting.
As well as majority of patients are not aware about common warning signs of stroke.

Index terms: Stroke, Warning signs, Awareness, Disease prevention, Prevalence.

I. Introduction

Stroke is a major cause of morbidity and mortality worldwide especially in developing countries where cardiovascular risk factors are on the increase largely because of adoption of western lifestyle. The WHO estimates that by year 2030, 80% of all strokes will occur on low and middle income countries which are still battling with the scourge of communicable diseases like HIV/AIDS, Malaria, Tuberculosis[1].The cumulative incidence of stroke ranged from 105 to 152/100,000 persons per year and the crude prevalence of stroke ranged from 44.29 to 559/100,000 persons in different parts of the country during the past decade. These values were higher than those of high income countries [2]. Stroke was found to be the leading cause of mortality in a rural tribal area called Gadchiroli in Maharashtra, India. A death audit conducted in this rural region of India during 2011-2013 using verbal autopsy method estimated nearly 14.3 per cent (229) deaths due to stroke out of 1599 total deaths. Stroke was the most frequent cause of death with an age adjusted stroke mortality rate of 192/100,000 persons in this cross- sectional study. Nearly 87 per cent of stroke deaths occurred at home and 45 per cent of the stroke deaths occurred within the first 30 days of the onset of stroke symptoms [2]

In addition to information about risk factors, public health education should include information about signs that a stroke is imminent. Knowledge about warning signs may prompt early recognition of strokes and, hence, increase the speed and aggressiveness with which people seek medical attention. The main five stroke warning signs identified by the National Institute of Neurological Disorders and Stroke include: (a)sudden weakness of the face, arm, or leg on one side of the body; (b)sudden dimness or loss of vision, particularly in one eye; (c) sudden difficulty speaking or trouble understanding speech ; (d) sudden severe headache with no known cause; (e) unexplained dizziness, unsteadiness, or sudden falls, especially in conjunction with other warning signs[3] (f) sudden nausea, fever and vomiting distinguished by the time of onset. (g) Brief loss of consciousness or a period of decreased consciousness (fainting, confusion, convulsions or coma).

Previous studies have found that the public lack of knowledge of stroke warning signs and risk factors as well as misunderstanding the concept 'Time is brain' might contribute to delay in responding to stroke as an emergency. Awareness of stroke warning signs might permit a faster recognition of stroke and immediate activation to prehospital emergency team.

The aim of our study is to determine the knowledge of medical outpatients about stroke risk factors and warning signs as well as the attitude toward a suspected stroke [4]

II. NEED FOR STUDY

Stroke is one of the leading preventable causes of death and disability. Delay in recognition of stroke warning signs and in seeking medical attention contribute to treatment delay due to lack of awareness about warning signs of stroke. Hence to check which warning signs are more common, the analysis of warning signs in patients with stroke at its onset is necessary.

III. METHODOLOGY:

3.1 STUDY DESIGN: A cross-sectional study.

3.2 STUDY SET UP: The study will be conducted in Vikhe Patil Memorial Hospital, Physiotherapy OPD, Dept. of Neurosciences, Puntamba stroke centre and Rahuri stroke centre, Ahmednagar, Maharashtra.

3.3 STUDY POPULATION: Patients with stroke at its onset.

3.4 SAMPLE SIZE: 70.

3.5 SAMPLING TECHNIQUES: Convenient sampling

3.6 STUDY MATERIAL:

1. Pen.
2. Pencil.
3. Assessment form.
4. Consent form.

3.7 INCLUSION CRITERIA:

- Patients with first time stroke, Both gender, Normal higher mental functions
- All age category.

3.8 EXCLUSION CRITERIA:

- Patients with speech and hearing deficits, With recurrent stroke, Non-cooperative.
- Subjects suffering from any psychiatric disorder affecting their psychomotor abilities.

3.9 PROCEDURE: First the synopsis was presented to the ethical committee. Once approval from ethical committee was received, then study was conduct. In the study we explained the procedure of study and then took the consent from patient. Demographic information was obtained, presence or absence of warning signs at the time of stroke was asked to the patients. Along with that their knowledge about the warning signs before the onset of stroke in terms of awareness was asked. This information was noted in the data collection sheet and detailed analysis was done using descriptive statistics. Data was analysed in terms of percentage and mean or mode**.**

3.10 OUTCOME MEASURES:

Warning signs	Presence or absence of the sign	Awareness before occurance
1.Sudden numbness in arms, face or leg		
2.Sudden confusion or trouble in speaking or understanding speech		
3.Sudden vision problems in one or both eyes		
4.Sudden difficulty in walking or dizziness		
5.Severe headache with unknown cause		
6.Sudden nausea, fever and vomiting distinguished from viral illness by the time of onset (minutes or hours Vs. several days		
7.Brief loss of consciousness or a period of decreased consciousness (fainting, confusion, convulsions or coma)		

IV. RESULTS

A total of 70 patients entered the study. Out of 70 patients 41 were males and 29 were females. Although out of 70 patients, 37 were with right side affected and 33 were with left side affected. The mean for age was 56.25 years.

Table 1 Shows demographic Profile.

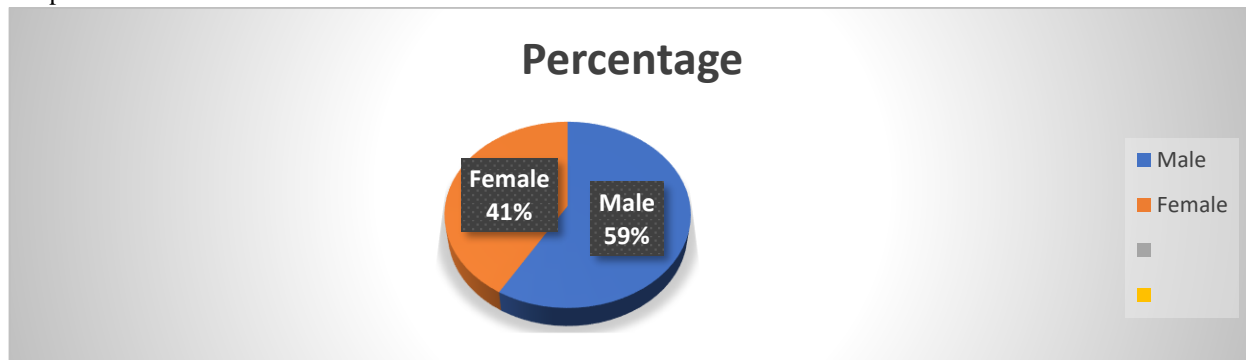| Demograpic Details		Mean
Age		56.25
Gender	Male	41(58.57%)
	Female	29(41.42%)
Affected side of Stroke (Rt/Lt)		(37/33)
Hand Dominance (Rt/Lt)		(64/6)

Graph no.1 shows Gender wise distribution.

Table 2 shows % warning signs present in patients at the onset of stroke.

Warning signs	Affected (out of 70)	%
Sudden numbness in arms, face or leg	54	77.14%
Sudden confusion or trouble in speaking or understanding speech	44	42.85%
Sudden vision problems in one or both eyes	25	35.71%
Sudden difficulty in walking or dizziness	50	71.42%
Severe headache with unknown cause	14	20%
Sudden nausea, fever and vomiting distinguished from viral illness by the time of onset	11	15.71%
Brief loss of consciousness or a period of decreased consciousness (fainting, confusion, convulsions or coma)	47	67.14%

Table no. 2 shows that the major patients with stroke have sudden numbness in arms, face or leg, sudden difficulty in walking or dizziness ,brief loss of consciousness, sudden vision problems& severe headache

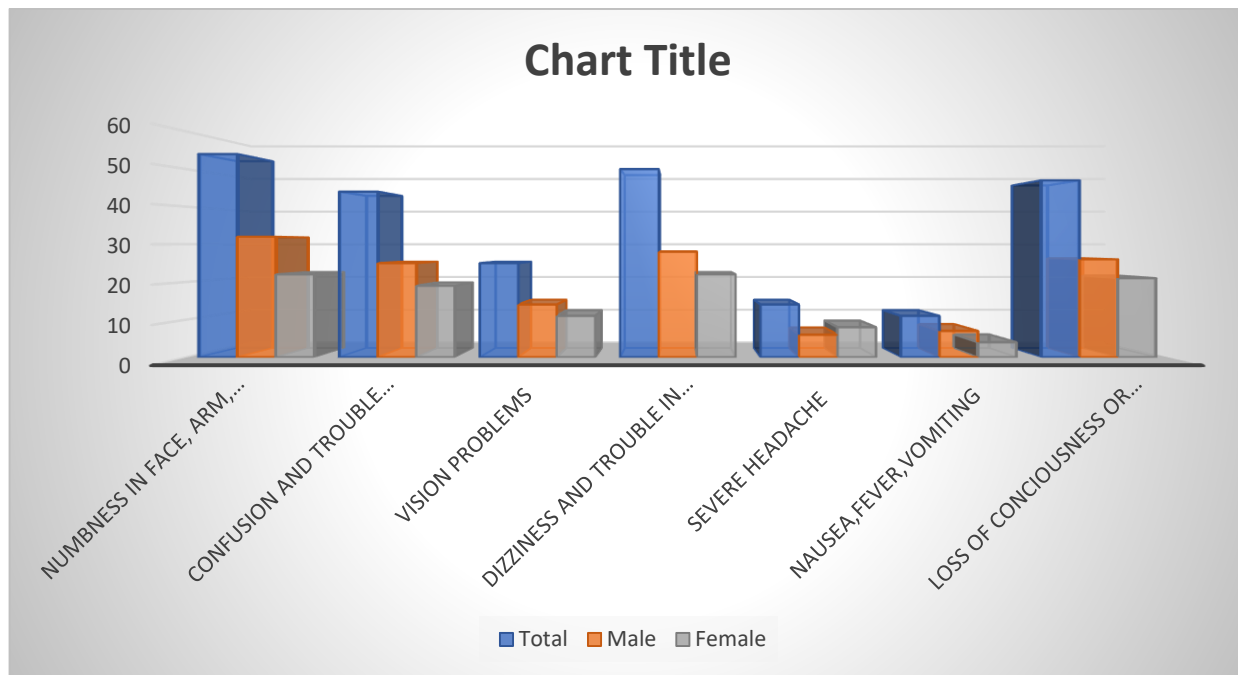Graph no. 2 shows gender wise percentage of common warning signs.

Table 3 shows awareness among the people before occurrence of the stroke.

Awareness of warning signs of stroke	No. of aware patients	%
Sudden numbness in arms, face or leg	4	5.71%
Sudden confusion or trouble in speaking or understanding speech	0	0%
Sudden vision problems in one or both eyes	0	0%
Sudden difficulty in walking or dizziness	1	1.42%
Severe headache with unknown cause	0	0%
Sudden nausea, fever and vomiting distinguished from viral illness by the time of onset	1	1.42%
Brief loss of consciousness or a period of decreased consciousness (fainting, confusion, convulsions or coma)	0	0%

Table 3 shows that the major patients with stroke were aware about sudden numbness in face, arm or leg, sudden difficulty in walking and sudden nausea, fever before occurence of the stroke.

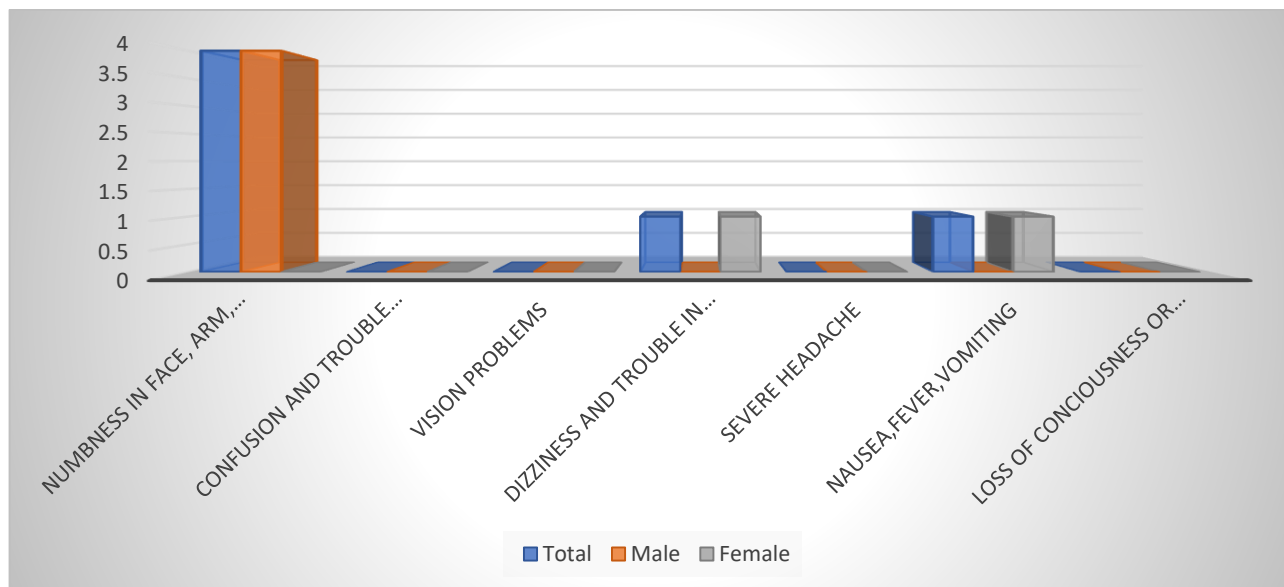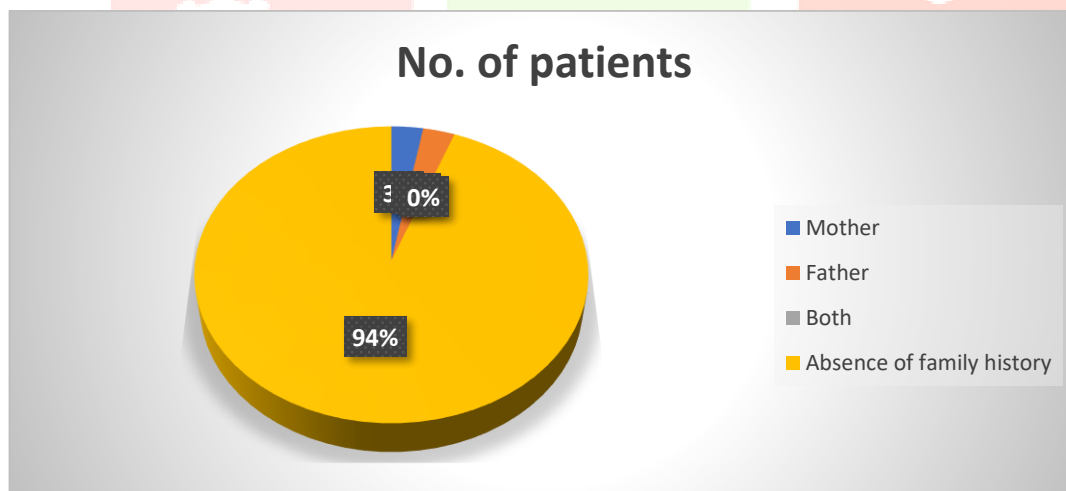Graph no. 3 shows gender wise awareness of common warning signs.

Table 4 shows presence and absence of previous family history of stroke.

| Family member	No. of patients
Mother	2
Father	2
Both	0
Absence of family history	66

Table 4 shows major patients don't have any family history.

Graph no. 4 shows presence and absence of family history.

Table 5 shows duration of stroke.

Duration of stroke	No. of patients
Less than 1 month	18
2-6 months	24
7-12 months	9
More than 1 year	19

Table no.5 shows that the major patients has 2-6 months duration followed by more than 1 year then less than 1 month and 7-12 months of duration of stroke.
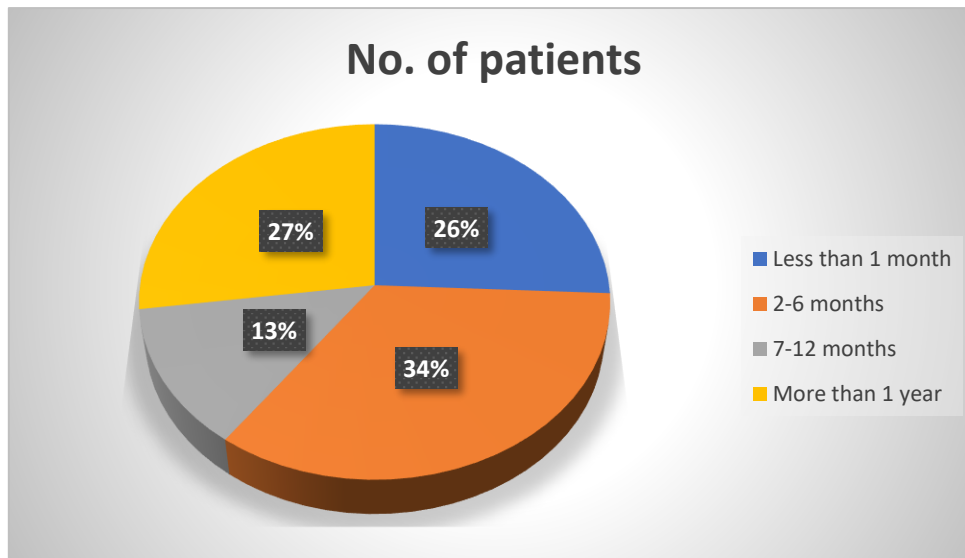
Graph no.5 shows duration wise percentage of patients with stroke.

V. DISCUSSION

The knowledge of the common warning signs of stroke survivors was very low. The knowledge varied among stroke patients according to their education level. Few of them identified some of the warning signs. Less educated or illiterate patients had very less knowledge of warning signs of stroke.

For this study, I had taken 70 stroke patients which included, 41 male and 29 female patients. Among 7 common warning signs of stroke i.e. (a)sudden weakness of the face, arm, or leg; (b)sudden dimness or loss of vision, particularly in one or both eyes; (c) sudden confusion or trouble in speaking or understanding speech ; (d) sudden severe headache with unknown cause; (e) sudden difficulty in walking or unexplained dizziness; (f) sudden nausea, fever and vomiting; (g)brief loss of consciousness or a period of decreased consciousness , most common warning signs present were sudden numbness in face, arms or legs(77.14%); sudden difficulty in walking or dizziness (71.42%); sudden loss of consciousness(67.14%); followed by sudden confusion or trouble in speaking or understanding speech(42.85%); sudden dimness or loss of vision, particularly in one or both eyes(35.71); sudden severe headache with unknown cause(20%); sudden nausea, fever and vomiting(15.71%).

From this study, observation was awareness of common warning signs of stroke can prevent large proportion of such incidences and this can be prevented through educating about common warning signs of stroke. There is direct relationship between stroke and awareness of warning signs in patients with stroke. According to gender 58.57% male and 41.42% female patients were affected due to stroke, in which 5.71% patients were aware about sudden weakness of the face, arm, or leg; 1.42% patients were aware about sudden difficulty in walking or dizziness; 1.42% sudden nausea, fever and vomiting whereas majority of patients were totally unaware. Kolawale W. Wahab, Peter O. Okokhere (2007)et all conducted a study on 'Awareness of warning signs among suburban Nigerians at high risk for stroke is poor: A cross-sectional study' They   concluded that awareness of stroke warning signs is poor among Nigerians at increased risk for the disease. Efforts should be made to improve on the level of awareness through aggressive health education. (1)

According to the previous family history of stroke, 94% of the patients does not show any family history while very few of them i.e. 6% had family history of stroke. Based on the duration of stroke, 34% patients with majority were having 2-6 months of duration while 27% patients were with more than 1year duration, followed by 26% patients with less than 1 month and 13% patients with 7-12 months of duration of stroke. A. Sofia Duque, Liliana Fernandes (2015) et all conducted study on 'Awareness of stroke risk factors and warning signs and attitude to acute stroke.' The result show that despite reasonable stroke related knowledge, it is in sufficient particularly concerning awareness of three main warning signs and behaviour to acute stroke. (4) Alexander T. Schneider, Arthur M. Pancioli (2000)et all conducted study on 'Trends in Community Knowledge of the Warning Signs and Risk Factors for stroke' They concluded that public knowledge of   stroke warning signs within the greater Cincinati region has significantly improved from 1995 to 2000, although knowledge of stroke risk factors did not improve significantly during the same time period. Public education efforts must continue and should focus on group at the highest risk of stroke. (11)

In the present study, majority of the patients and relatives reported that they had not received information related to common warning signs previously as well as awareness by health professional of stroke warning signs. So, the education on common warning signs is provided for prevention purpose.

VI. CONCLUSION

The study reveals that sudden difficulty in walking or dizziness; sudden loss of consciousness; sudden numbness in face, arms or legs; are the most common warning signs followed by sudden confusion or trouble in speaking or understanding speech;

sudden dimness or loss of vision, particularly in one or both eyes; sudden severe headache with unknown cause; sudden nausea, fever and vomiting.

As well as majority of patients are not aware about common warning signs of stroke.

Therefore, awareness of common warning signs through Printed information, Street plays, Audio-visual program and Camp is necessary to prevent the occurrence of stroke.

VII.   ACKNOWLEDGEMENT

VIII.   REFERENCES

(1)   Kolawale W Wahab and Peter O Okokhere. Awareness of warning signs among suburban Nigerians at high risk for stroke is poor: A cross -sectional study.2007;1-2.

(2)   Sureshkumar Kamalakannan and Aashrai S. V. Gudlavalleti. Incidence and prevalence of stroke in India: Asystematic review: Indian Journal Of Medical Research. 2017:146..(2): 175-185.

(3)   Karen Hux and Trishia Rogers. Common Perceptions About Strokes: Journal of Community Health. 2000; 25..(1):48.

(4)   Ana Sofia Duque and Liliana Fernandes. Awareness of Stroke Risk Factors and Warning Signs and Attitude to Acute Stroke: International archives of medicine. 2015;8..:2.

(5)   Muhammad Rashid Amen. Assessment of hypertensive patients' knowledge about lifestyle risk factors and warning signs of stroke. 2016;2..(5):28-32.

(6)   Vladimira Vuletic and Marijana Bosnar-Puretic. Knowledge of stroke risk factors and warning signs among adults in Slavonski Brod region:2016;45..:25-29.

(7)   Afshin Borhani Haghighi and Ali Asghar Karimi. Knowledge and attitude towards stroke risk factors,warning symptoms and treatment in an Iranian Population:2010;19:468-472.

(8)   Sombat Muengtaweepongsa and Warunee Hunghok. Poor recognition of prompted treatment seeking even with good knowledge of stroke warning signs contribute to delayed arrival of acute ischemic stroke patients in Thailand: Journal of stroke and cerebrovascular diseases. 2013;1-5.

(9)   Arthur M. Pancioli and Joseph Broderick. Public perception of stroke warning signs and knowledge of potential risk factors: 1998;279..:1288-1292.

(10)   Edward Feldman and Norman Gordon. Factors associated with early presentation of acute stroke:1993;24..1805-1810.

(11)   Alexander T. Schneider and Arthur M. Pancioli. Trends in community knowledge of the warning signs and risk factors for stroke:2003;289..:343-346

(12)   Anne Hickey and Hannah McGee. Knowledge of stroke risk factors and warning signs in Ireland: development and application of the Stroke Awareness Questionnaire (SAQ): International Journal of Stroke. 2011;1-9.