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Gender Wise Difference in Presenting Signs and Symptoms of Stroke: Observational Study

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Abstract

Objective: The objective of this study was to find the various presenting signs and symptoms of stroke, in association of presenting signs and symptoms with age, sex and to establish the correlation in gender.

Method: All patients with first ever stroke and of both ischaemic and haemorrhagic stroke with age group of 40 to 60 years, subjects were of Karad. Signs and symptoms were collected from the medical records, patient themselves and their relatives. Differences were calculated using standard deviation**.**

Results: The total of 260 cases were taken for the study, 130 were male and 130 were female. The presenting signs and symptoms of stroke were differed in gender. Women were most commonly seen with generalised weakness (p=0.0076) and headache (p=0.0152). Men were most commonly seen with pain (p=0.0001), nausea (p=0.0060), fever (p=0.0081).

Conclusion: This study concluded that, there were gender differences in signs and symptoms of stroke and due to lack of awareness many people ignored the signs and symptoms of stroke by making it less important.

Key words: *Stroke, Signs, symptoms, age, gender difference.*

Introduction

Stroke is defined by the 'World Health Organisation' as the clinical syndrome consisting of rapidly developing clinical signs of focal (or global) disturbance of cerebral functions with symptoms lasting for 24 hours or longer or leading to death, with no apparent cause other than vascular origin.[8]

There are two major categories of stroke:

A. ISCHEMIC STROKE:-

This is the most common type of stroke, 80% of individuals are affected by these. It is caused by a clot or other blockage within an artery leading to the brain. It is further divided into two types: -

1. Thrombotic Stroke :

If blood clots from inside of the arteries of the brain, then it leads to thrombotic stroke.

2. Embolic Stroke :

If blood clotted in other parts of the body's arteries subsequently entering the brain, it leads to embolic stroke.

B.HEMORRHAGIC STROKE**:-**

It is caused by the blood vessel in the brain interrupting in result of blood leaking into the brain.[9]

Early Warning Signs of Stroke:

1. Sudden numbness or weakness of face, arm, or leg; especially on one side of the body.

2. Sudden confusion, trouble speaking or understanding.

3. Sudden trouble seeing in one or both eyes.

4. Sudden trouble walking, dizziness, loss of balance or co-ordination

5. Sudden severe headache with no known cause.[9]

Risk factors:

Risk factors for stroke can be categorized as modifiable and nonmodifiable Age, sex, and race/ ethnicity and genetics (family history)are nonmodifiable risk factors for both ischemic and haemorrhagic stroke, while hypertension, smoking, diet, hypercholesterolemia, diabetes mellitus, obesity and physical inactivity are some of the more commonly reported modifiable risk factors.[10]

A number of stroke risk factors are specific to women such as early menopause (before 42years of age), pregnancy, birth, first 6 weeks of postpartum especial

in older women, preeclampsia, and etc.[9]

The correlation between the age and the stroke is that the risk for stroke increases with age, which means women have a increase risk of stroke. Although women have a lower age-adjusted stroke incidence than men. However, this reversed in the older ages, women live longer and at the oldest age have an elevated risk compared to men and making them more prone to die from stroke. Mostly many women's are unaware of their atypical signs and have increased delay to treatment. More women than men die from stroke each year because older women outnumber older men.[1]

As the stroke is the leading cause of death and disability. The estimated adjusted prevalence rate of stroke range, 84-262/100,000 in rural and 334-424/100,000 in urban areas (approximately). [2]

Aims and Objectives

Aim:

- To study the gender difference in presenting signs and symptoms of stroke.

Objective:

- To study the various presenting signs and symptoms in stroke.
- To study the association of presenting signs and symptoms with age, sex.
- To establish the correlation of presenting signs and symptoms and gender.

Materials and Method

- Assessment chart
- Writing Material
- Computer for online accessing

Methodology

TYPE OF STUDY – Observational study

STUDY DESIGN – Survey

SAMPLE SIZE – Supposed to be 260 Subjects.

STUDY DURATION – 6 months.

PLACE OF STUDY – Karad.

Estimation of Sample size- Formula: $n=4(SD)^2/(M \times Ɛ)$

By assuming SD=14.5, M=73, Ɛ= 0.025

N=260

Inclusion Criteria

- Patients with both haemorrhagic and ischaemic stroke.
- Patients with first ever stroke.
- Both male and female data.
- Age: 40-60 years

Exclusion Criteria

- Neurological ill patients other than stroke
- Patients with Transient Ischaemic Attack.

Outcome Measures

- Signs and symptoms of stroke.

PROCEDURE

- An approval for the study was obtained from the protocol committee and institutional ethical committee of Krishna Institute of Medical Science 'Deemed to be University'
- Department of medicine, neurosurgery has been explained about the topic make them aware for sample that are required to conduct the study.

• Subjects taken for my study was from indoor as well as outdoor.

• On the day of enrolment, subjects were undergone detailed assessment to fulfil inclusion and exclusion criteria.

• As the subject fulfilled the criteria they were explained about the study and detailed information was given to them.

• They were explained about:

1. Pattern of study

2. Need of study

3. Information generated out of the study

4. Importance about the information generated

5. Its effect on general population.

• Consent was taken detailed, information was gathered and statistical analysis was then done in order to derive conclusion.

Statistical Analysis and Result

Statistical Analysis: According to the standard deviation and the pearsons test we calculated the p value of each sign and symptom and every sign and symptom has a different p value with significance.

Result: The results shows that in 50%(130) of female subjects were having pain 33%, generalized weakness 64%, ataxia 37%, headache 60%, language disorder 42%, visual disturbance 35%, weakness 45%, drowsiness 43%, dizziness 44%, nausea 38%, seizure 38%, dyspnoea 45%, loss of consciousness 44%, and fever 43% and in 50%(130) of male subjects were having pain 67%, generalized weakness 36%, ataxia 63%, headache 40%, language disorder 58%, visual disturbance 65%, weakness 55%, drowsiness 57%, dizziness 56%, nausea 62%, seizure 62%, dyspnoea 55%, loss of consciousness 56%, and fever 57%. In 260 subjects the p value of each sign and symptom is <0.0001 and was considered extremely significant.

Therefore, result of this study is that there are differences by gender in presenting signs and symptoms at presentation of stroke and suggest that there should be focus of stroke prevention education and awareness of signs of symptoms of stroke should be given to decrease the rate of stroke.

Table No.1: Representation of signs and symptoms of stroke in males and females.

SIGNS AND SYMPTOMS	Female (%) n=130	Male (%) n= 130	P Value
Pain	33	67	0.0001
Generalized weakness	64	36	0.0076
Ataxia	37	63	0.0104
Headache	60	40	0.0152
Language disorder	42	58	0.0179
Visual disturbances	35	65	0.0001
Weakness	45	55	0.0049
Drowsiness	43	57	0.0169
Dizziness	44	56	0.0104
Nausea	38	62	0.0060
Seizure	38	62	0.0399
Dyspnoea	45	55	0.0490
Loss of Consciousness	44	56	0.0058
Fever	43	57	0.0081

Discussion

Stroke is the leading cause of mortality and impairment, because many people are unaware of presenting signs and symptoms of stroke that are different in male and female. This project was done in 6 months with sample size 260. This research was undertaken with the aim to study the gender difference in presenting signs and symptoms of stroke. This observational study of presenting signs and symptoms of stroke in gender difference was conducted on 260 subjects, amongst which 130 were female(50%) and 130 were male(50%). This shows that there is a difference in presenting signs and symptoms of stroke in male and female.

Prior consent was taken from the patients suffering from stroke in hospitals. The outcome measure for this study was: - signs and symptoms of stroke.

Headache and generalized weakness were most commonly seen in female as sign and symptom. Pain, nausea, and fever were most commonly seen in male as sign and symptom. Other signs and symptoms including ataxia, language disorder, visual disturbance, weakness, drowsiness, dizziness, seizure, dyspnoea, and loss of consciousness were also seen in stroke patients.

Conclusion

Following the hospital based study, it was concluded that there are various signs and symptoms of stroke such as pain or generalized weakness are the most common seen in the patients as an early sign or symptom of stroke. There are also different signs and symptoms like headache which is mostly seen in the females as a warning before the stroke and fever seen in the male as a warning before the stroke and due to lack of awareness many people ignore the signs and symptoms of stroke by making it less important.

Conflict of Intreset: There is no conflict of interest.

Ethical Clearance: An approval for the study was obtained from the institutional ethical committee of Krishna Institute of Medical Science 'Deemed to be University'

Sourse of Funding: Self.

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LIST OF ABRIVATIONS:

Sr No	Abrivation	Full Form.
1.	LOC	Loss of consciousness
2.	F	Female
3.	M	Male

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