

Knowledge Regarding Risk Factors, Warning Signs and Immediate Management of Stroke Among Adults

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Abstract—Background: Stroke is a major cerebrovascular disorder and one of the leading causes of mortality and long-term disability worldwide. According to the World Health Organization, stroke accounts for a significant proportion of global deaths and poses a substantial public health burden. The increasing prevalence and incidence of stroke are largely attributed to population aging, sedentary lifestyles, unhealthy dietary habits, tobacco use, and physical inactivity. Despite advances in medical science, lack of awareness regarding stroke risk factors, warning signs, and immediate management continues to delay treatment and worsen outcomes. Studies have shown that public recognition of stroke symptoms and knowledge of emergency management remain inadequate, emphasizing the need for community-based awareness programs.

Objectives: The study's objectives were multifaceted, encompassing the assessment of knowledge regarding the risk factors, warning signs, and immediate management of stroke among adults in a selected community, the identification of associations between knowledge levels and selected demographic variables, and the preparation and distribution of an information booklet on the risk factors, warning signs, and immediate management of stroke.

Methodology: A descriptive study was conducted 60 adults of selected community to evaluate knowledge regarding risk factors, warning signs and immediate management of stroke in Pananchery Gramapanchayath Thrissur convenient sampling technique was used to select 60 adults who met inclusion criteria. A structured knowledge-based questionnaire was used to assess the knowledge level of samples. Data were analyzed using descriptive and inferential statistics with SPSS software version 19.

Result: The findings revealed a notable knowledge gap, where the majority 33 (55%) adults had moderate knowledge regarding risk factors, warning signs and

immediate management of stroke, while 17 (28.33%) had inadequate knowledge and only 10 (16.66%) had adequate knowledge.

Conclusion: The study concludes that most adult participants had moderate knowledge regarding stroke risk factors, warning signs, and immediate management, indicating a need for further health education. A significant association was found between knowledge level and type of family, while no significant association was found with age, gender, religion, area of residence, educational qualification, occupation, family history of stroke, and family history of mini-stroke. The information booklet provided to the participants may help enhance stroke awareness and promote appropriate preventive practices.

I. INTRODUCTION

A healthy lifestyle is a quiet harmony between body and mind, shaped by balanced nutrition, regular activity and mindful rest. Each small, conscious choice nurtures well-being and helps prevent disease, transforming health into a natural and vibrant way of living.¹Stroke has emerged as a major global health concern, contributing significantly to mortality and long-term disability worldwide. It remains one of the leading causes of death and a primary cause of serious disability, affecting millions of individuals each year.¹

The prevalence of stroke has been steadily increasing worldwide. According to the World Health Organization, stroke accounts for approximately 11% of total deaths globally. In India, the prevalence ranges between 84–262 per 100,000 population, with higher rates reported in urban areas compared to rural populations. The increasing prevalence is mainly attributed to aging population, sedentary lifestyle,

unhealthy diet, tobacco use and lack of physical activity. These factors contribute significantly to the rising burden of stroke in both developed and developing countries.²

In India, the burden of stroke is increasing rapidly due to demographic transition, urbanization, and lifestyle changes. The Indian Council of Medical Research reports that the incidence of stroke ranges from 100 to 150 per 100,000 population annually.³ Stroke also occurs at a younger age in India compared to Western countries, leading to greater socioeconomic impact.³

A cross-sectional study was conducted among 396 adult residents of an urban slum in Hyderabad, India, to assess community stroke awareness in terms of knowledge, attitude, and health-seeking behavior. Data were collected through cluster sampling using a pre-tested semi-structured questionnaire administered via personal interviews. The mean age of participants was 43.25 (± 9.85) years, with 181 (45.71%) females and 215 (54.29%) males. Overall, 278 (70.20%) participants were aware of the term stroke, but only 35 (12.59%) correctly identified the brain as the affected organ. Knowledge of at least one symptom was present in 237 (85.25%) participants, while 260 (93.52%) knew at least one complication, 170 (61.15%) knew at least one risk factor, and only 36 (12.94%) were aware of at least one preventive measure. Regarding health-seeking behavior, 76 (21.34%) participants reported undergoing periodic health checkups, including screening for diabetes and hypertension. The study concluded that stroke awareness in this population was low, highlighting the need for community health education programs focusing on early identification and preventive strategies to reduce stroke-related morbidity and mortality.⁴

II. METHODS

A descriptive study was adopted to assess the knowledge regarding risk factors, warning signs and immediate management of stroke among adults at selected community, Thrissur. The study was conducted in Ward 24 of Pananchery Grama Panchayath, Mudikode, Thrissur District. The objectives of the study include (1) To assess the level of knowledge regarding risk factors, warning signs and immediate management of stroke among adults.

(2) To find out the association between knowledge score of adults with their selected socio-demographic variables. (3) To develop an information booklet on risk factors, warning signs and immediate management of stroke. Random sampling technique was used to enroll the 60 adults to evaluate the knowledge level regarding risk factors, warning signs and immediate management of stroke.

The data collection proforma consists of 2 sections, first section included data regarding demographic data elicited are age, gender, religion, area of residence, educational qualification, occupation, type of family, history of family members having stroke, history of family members having mini stroke, and any previous knowledge regarding risk factors, warning signs and immediate management of stroke. The second section includes structured questionnaire having 30 questions regarding knowledge on risk factors, warning signs and immediate management of stroke. The correct response carried 1 mark and wrong response carried none.

THE INTERPRETATION OF KNOWLEDGE LEVEL

Scoring	Level of knowledge
0-10	Inadequate knowledge
11-20	Moderate knowledge
21-30	Adequate knowledge

The study was approved by the ethical committee of college and permission taken from the administrative department and from the President of Pananchery Grama Panchayath. The tool was developed by the researcher, after a review of recent relevant literature. After obtaining content validity from experts, the study was conducted among adults by following the inclusion and exclusion criteria. Both descriptive and inferential statistics (Frequency, percentage, chi square) was used for analysis of data.

III. RESULT

SECTION A

DATA ON DEMOGRAPHIC VARIABLES INCLUDES:

- Regarding the age, it implies that majority of samples 24 (40%) belongs to the age group of above 50 years, 16 (26.6%) of samples were in the age group of 20-30 years, 13 (21.66%) of samples were in the age group of 41 -50 years, 7 (11.66%) of samples were in the age group of 31-40 years.

- With reference to the gender among adults 36 (60%) were female and 24 (40%) were male.
- Out of 60 samples, 31.66% of adults belongs to Hindu category, 10.66% of adults belongs to Christian category, 56.66% of adults belongs to Muslim category.
- In accordance with area of residence 46 (76.66%) of adults resides in urban area and 14 (23.33%) of adults resides in semi urban area.
- Out of 60 samples, 36 (60%) of adults have secondary education, 23(38.33%)of adults have primary education and 1(1.66%) of adults have higher secondary education.
- With reference to type of family 30 (50%) of adults belongs to joint family,29 (48.33%) of adults belong to nuclear family and 1(1.66%) of adults belongs to extended family.
- Regarding the occupation 30 (50%) of adults belongs to daily wage category19 (31.66%) of adults are government/semi government employees and 10 (16.66%) of adults are public employees.
- With reference to family history of stroke, 37(61.66%) of adults not having the family history of stroke, 19(31.66%) of adults has the family history of stroke, and 3 (5%) of adults do not remember about family history of stroke.
- Out of 60 samples, 18(30%) of adults family members experience mini stroke and 42(30%) of adults family members do not experience mini stroke.
- Out of 60 samples, 21(35%) of adults has the previous knowledge about stroke and 38(63.33%) of adults do not have the previous knowledge of stroke.

SECTION B

Data on level of knowledge among adults regarding risk factors warning signs and immediate management of stroke.

TABLE 1: FREQUENCY AND PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE AMONG ADULTS.

Sl. No	Variables	Frequency	Percentage
1	Inadequate knowledge	17	28.33%
2	Moderate knowledge	33	55%
3	Adequate knowledge	10	16.66%

This table reveals, among 60 samples of adults, 17 of them (28.33%) have inadequate knowledge 33 of them (55%) have moderate knowledge and 10 of them (16.66%) possess adequate knowledge

Knowledge Analysis

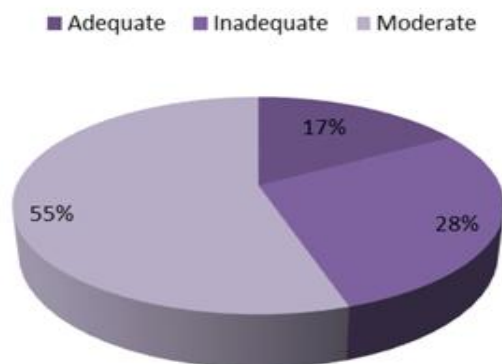


FIGURE 1: PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE AMONG ADULTS REGARDING RISK FACTORS, WARNING SIGNS AND IMMEDIATE MANAGEMENT OF STROKE

SECTION C

Data on association between level of knowledge regarding risk factors warning signs and immediate management of stroke among adults with their selected demographic variables. The association was calculated by χ^2 value. The calculated value is less than the p value (<0.05). There is significant association between level of knowledge of adults regarding risk factors, warning signs and immediate management of stroke with the demographic variable type of family hence the research hypothesis is accepted and null hypothesis is rejected. There is no association between demographic variable such as age, gender, religion, Area of residence, educational qualification, occupation, family history of stroke, family member experienced mini stroke and previous knowledge about stroke hence the null hypothesis is accepted and research hypothesis is rejected.

IV. DISCUSSION

The discussion is based on the objectives of the study. The first objective is to assess the level of knowledge regarding risk factors, warning signs and immediate management of stroke among adults in a selected community.

In-depth analysis of the study findings revealed that among 60 adults, 33 (55%) had moderate knowledge, 17 (28.33%) had inadequate knowledge and 10 (16.66%) had adequate knowledge regarding risk factors, warning signs and immediate management of stroke.

The present study findings were supported by a cross-sectional study conducted among 700 respondents, predominantly from low-income rural areas, to assess awareness regarding stroke. The findings showed low awareness regarding stroke risk factors, emergency services and the need for urgent hospital care, indicating the need for public education programmes to reduce knowledge gaps and improve stroke management.⁵

The second objective is to find the association between the level of knowledge regarding risk factors, warning signs and immediate management of stroke among adults with their selected demographic variables.

The findings of the study revealed that there was a significant association between knowledge level and type of family ($\chi^2 = 12.613$, $p = 0.013$). There was no significant association between knowledge and other selected demographic variables such as age, gender, religion, area of residence, educational qualification, occupation, family history of stroke, family member experienced mini-stroke and previous knowledge about stroke ($p > 0.05$).

The findings of the present study were supported by a cross-sectional study conducted among 350 community adults in North India to assess knowledge regarding stroke risk factors, warning signs and early treatment. The study reported gaps in awareness regarding risk factors and warning signs of stroke and emphasized the need for community-based awareness programmes to improve early recognition and timely management of stroke.⁶

As per the third objective, to prepare and distribute an information booklet regarding risk factors, warning signs and immediate management of stroke among adults in the selected community.

The information booklet was prepared in the regional language and included information regarding types of strokes, risk factors, warning signs, golden-hour management, immediate management, prevention and complications of stroke. The booklet was distributed systematically to all participants to

improve their knowledge and promote appropriate preventive and emergency practices.

The findings are supported by previous community-based studies emphasizing the importance of educational interventions in improving awareness regarding stroke prevention, recognition of warning signs and timely management. Thus, the information booklet may serve as a useful educational resource for enhancing stroke awareness among adults in the community.

V. CONCLUSION

Stroke is a significant health problem that affects individual well-being, family stability, and overall societal productivity. This study concludes that most adult participants possess moderate knowledge regarding stroke risk factors, warning signs, and immediate management, indicating the need for further improvement. Healthcare professionals can play a vital role by emphasizing health education and providing appropriate informational resources. In this study, there is an association between level of knowledge regarding the risk factors, warning signs and immediate management of stroke with their selected demographic variables such as type of family and there is no association between demographic variable age, gender, religion, area of residence, educational qualification, occupation, family history of stroke and family history of mini stroke. The use of an information booklet on stroke awareness and prevention was provided to the participants as a sample to enhance their knowledge and promote preventive practices.

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