



Risk factors of stroke among Urban adults -A Primary Prevention approach

Dr Usha M Thomas, Professor, Department of Medical Surgical Nursing, JSS College of Nursing,
Mysuru, Karnataka

According to the World Health Organization, stroke is the 'incoming epidemic of the 21st century', which is unsurprising considering that it accounted for 12.2 million incident cases, 101 million prevalent cases, 143 million disability-adjusted life-years lost, and 6.6 million deaths in 2019. Despite significant advancements in healthcare, the burden of stroke continues to rise in the developed world¹.

Stroke is the second-leading cause of death (11.6% of total deaths) and the third-leading cause of death and disability combined (5.7% of total disability adjusted life years). Despite significant medical advancements, morbidity and mortality from stroke remain high. The economic cost of stroke is staggering, not only does recovery require complex and lengthy medical interventions and rehabilitation, but it also causes a significant loss of productivity². Each year, about 795,000 people experience a new or recurrent stroke, leaving 26% of them with a disability in basic activities and 50% with reduced mobility due to hemiparesis^{3,4}.

Stroke is a multifactorial condition; the most significant risk drivers include modifiable and non-modifiable risk factors such as hypertension, high body mass index, dyslipidemia, diabetes, smoking, physical inactivity and a family history of stroke. Reducing the burden of stroke in the population requires identification of modifiable risk factors and demonstration of the efficacy of risk reduction efforts⁵.

With increasing age, the accumulation of these systemic risk factors may further increase the possibility of developing a stroke. Literature has documented that comorbidity was a strong prognostic factor for stroke mortality³. Lifestyle modification can reduce the risk of stroke up to 50%^{6,7,8}. Prevention strategies should be at the forefront of stroke management with primary and secondary prevention measures that target the risk factors. Identifying the risk factors of stroke in the general population is crucial for developing effective, targeted, and appropriate health promotion programs for stroke prevention.

AIM

Present study was aimed to assess the risk factors of stroke among adults and to determine the influence of personal variables on their risk status

HYPOTHESIS

H₁: There will be statistically significant association between the stroke risk status and the selected personal variables of adults

RESEARCH METHODOLOGY

Research design adopted for the study was an exploratory survey method. Non probability, purposive sampling technique was used to select 150 adults from the selected urban communities of Mysuru. Risk factors of stroke among adults was assessed by “Stroke risk assessment scale” developed by the researcher based on the “RISKO” Model of Michigan Heart Association and the ‘Coronary Risk Status Assessment Tool’ by Sr. Nancy. The tool was content validated by experts from the field of Medicine and Nursing. Concept of construct validity was used to assess the reliability of the tool. Construct validity was established by the contrast group technique. Study has commenced after obtaining the administrative approval from the Urban community Centres and informed consent from each subject was obtained prior to the study. Data was collected using a structured interview schedule.

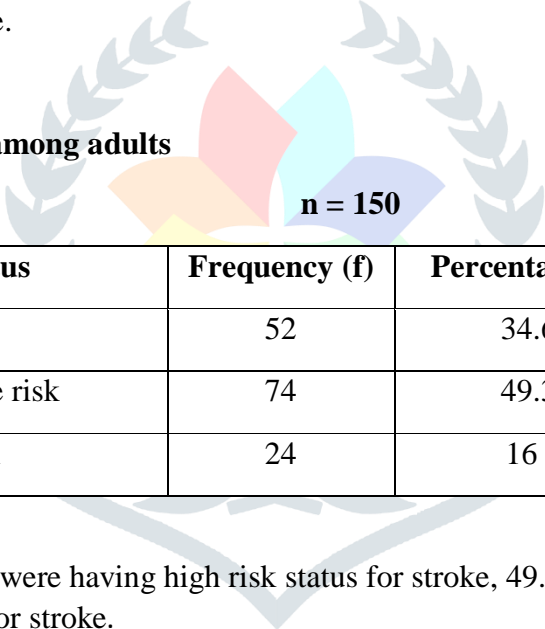
RESULTS

SECTION 1:

Description of selected personal variables of adults: The study sample comprised of 150 adults residing in a selected urban setting in Mysuru. 63% of adults were in the age group of 30-45years and 37% were in the age group of 46-60 years and majority (62.3%) have completed education up to SSLC. The majority (73.67%) of subjects were consuming a mixed diet. Data related to the family history of noncommunicable diseases revealed that 64 % of adults were not having family history of NCDs, whereas 36% of subjects reported a family history of cardiovascular/cerebrovascular diseases. 23.52% of adults were Pre hypertensives (121-139/81-90 mm Hg) and 10.34% were Hypertensives. Data related to Body Mass Index revealed that 34% of subjects were overweight and 9.67% were obese.

SECTION 2:

Table 1: Risk status of stroke among adults



Risk status	Frequency (f)	Percentage (%)
Low risk	52	34.66
Moderate risk	74	49.33
High risk	24	16

Table 1 shows that 16% of adults were having high risk status for stroke, 49.33% had moderate risk, and 34.66% of subjects had low risk for stroke.

SECTION 3: Association between the stroke risk status and the selected personal variables of adults:

Chi-square was computed to find out the association between the stroke risk status and the selected personal variables of adults. Statistically significant association was observed between the age, family history of noncommunicable diseases and BMI of adults with their risk status towards stroke ($p < 0.05$). Increasing age and family history of a cardiovascular/cerebrovascular disease had an influence on the stroke risk status of adults. Data also revealed that body mass index of 25 and above also increased their risk status towards stroke.

CONCLUSION

The present study was focused to assess the risk factors of stroke among adults. Study findings revealed that 65.33% of adults had moderate to high risk for stroke. The study findings stress the increasing responsibility of health professionals in planning and implementing various educational strategies to promote healthy lifestyle strategies among public which in turn help to reduce their risk for various various non communicable diseases in their later life.

Conflict of Interest: Nil

REFERENCES

1. Collaborators GBDS: Global, regional, and national burden of stroke and its risk factors, 1990-2019: a systematic analysis for the Global Burden of Disease Study 2019. *Lancet Neurol.* 2021;20(10):795–820.
2. Jaberinezhad M, Farhoudi M, Nejadghaderi SA, et al.: The burden of stroke and its attributable risk factors in the Middle East and North Africa region, 1990-2019. *Sci. Rep.* 2022;12(1):2700. 10.1038/s41598-022-06418-x
3. Zhang Y, Wang C, Liu D, et al.: Association of total pre-existing comorbidities with stroke risk: a large-scale community-based cohort study from China. *BMC Public Health.* 2021;21:1910. 10.1186/s12889-021-12002-
4. World Stroke Organization: *Int. J. Stroke.* 2022;17(4):478. [[PubMed](#)] [[Google Scholar](#)]
5. Boehme AK, Esenwa C, Elkind MS: Stroke Risk Factors, Genetics, and Prevention. *Circ. Res.* 2017;120(3):472–495. 10.1161/CIRCRESAHA.116.308398
6. Mubaraki AA, Alqahtani AS, Almalki AA, et al.: Public knowledge and awareness of stroke among adult population in Taif city, Saudi Arabia. *Neurosciences (Riyadh).* 2021;26(4):339–345. 10.17712/nsj.2021.4.20210057 [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)]
7. Al-Obaidi H, Khidhair Z, Jirjees F, et al.: Factors associated with knowledge and awareness of stroke in the Iraqi population: a cross-sectional study. *Front. Neurol.* 2023;14:1144481. Published 2023 Apr 18. 10.3389/fneur.2023.1144481 [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)]
8. Das S, Hazra A, Ray BK, et al.: Knowledge, attitude, and practice in relation to stroke: A community-based study from Kolkata, West Bengal, India. *Ann. Indian Acad. Neurol.* 2016;19(2):221–227. 10.4103/0972-2327.176857 [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)]

