

Research Article

Unlocking Stroke Awareness: Exploring Risk Factors and Preventive Strategies among the General Public in Himachal Pradesh

Dr Shalini Devi¹, Dr Jyotsna Guleria², Dr shivek Mohan^{3*}

¹Dr Shalini Devi, MD Radiology, CH Theog, Shimla.

²Dr Jyotsna Guleria MD Anaesthesia, CH karsog, Mandi

³Dr shivek Mohan, SR surgery, DR RKGMC Hamirpur

*Corresponding Author

Dr Shivek Mohan

Article History

Received: 25.08.2023

Accepted: 30.08.2023

Published: 08.09.2023

Citations:

Dr Shalini Devi, *et al.*, (2023):
Unlocking Stroke Awareness: Exploring
Risk Factors and Preventive Strategies
among the General Public in Himachal
Pradesh. *Hmlyan Jr Nur Mid*, 2(5), 16-20.

DOI:

Abstract: **Background:** Stroke is a major global health challenge, causing disability and mortality worldwide. Many strokes are preventable through risk factor management and public awareness. This study aimed to assess awareness and knowledge of stroke risk factors and preventive strategies among the general public in Himachal Pradesh, India. **Methods:** A cross-sectional survey was conducted from April to July 2023 among 400 adults in Himachal Pradesh. A structured questionnaire assessed knowledge of stroke risk factors and preventive measures. Data were analyzed descriptively, categorizing knowledge levels as very good, good, fair, or poor. **Results:** Respondents displayed varying levels of awareness. While 72.5% could define stroke, only 63.5% identified common risk factors accurately. Although 65.25% recognized preventive measures, knowledge gaps persisted. Only 42.25% identified stroke symptoms, yet 66.75% acknowledged the importance of seeking immediate medical attention. **Conclusion:** While there is fair knowledge about stroke risk factors and preventive measures among Himachal Pradesh's general public, knowledge gaps exist, particularly in recognizing specific risk factors and stroke symptoms. Public health initiatives should target these gaps to enhance awareness and empower individuals to prevent strokes effectively.

Keywords: Stroke, awareness, knowledge, risk factors, preventive measures, Himachal Pradesh, public health.

INTRODUCTION

Stroke, a cerebrovascular event characterized by the sudden disruption of blood flow to the brain, represents a significant global health challenge. It is a leading cause of disability and mortality worldwide, posing substantial economic and healthcare burdens. While strokes can have devastating consequences, many are preventable through risk factor management and public awareness.¹⁻³

Stroke occurs when there is a disruption of blood flow to the brain, leading to the death of brain cells due to oxygen deprivation. There are two main types of stroke: ischemic stroke, caused by the blockage of a blood vessel in the brain, and hemorrhagic stroke, resulting from the rupture of a blood vessel. Both types can have severe consequences, including paralysis, speech difficulties, and cognitive impairments.⁴⁻⁶

Numerous risk factors contribute to the development of strokes, which can be broadly categorized into modifiable and non-modifiable factors. Non-modifiable factors include age, gender, and family history of stroke. Modifiable risk factors encompass lifestyle choices such as smoking, unhealthy diet, physical inactivity, hypertension, diabetes, obesity, and high cholesterol. Raising awareness about these risk factors and advocating for healthier lifestyles are fundamental aspects of stroke prevention.⁷⁻¹⁰

Preventive strategies for strokes include adopting a heart-healthy diet, engaging in regular physical activity, managing blood pressure and cholesterol levels, quitting smoking, controlling diabetes, and maintaining a healthy weight. Additionally, early recognition of stroke symptoms and seeking immediate medical attention is crucial to minimize brain damage and improve outcomes.⁹⁻¹¹

Public awareness campaigns play a vital role in reducing stroke-related morbidity and mortality by promoting early recognition of stroke symptoms and encouraging risk factor management.^{11,12} Understanding the current levels of awareness and knowledge among the general public in Himachal Pradesh is essential for designing effective awareness programs and interventions.

This study employs a systematic approach to assess public awareness and knowledge regarding stroke risk factors and preventive strategies in Himachal Pradesh. By identifying gaps in awareness and knowledge, this research aims to inform targeted health promotion strategies that can enhance stroke prevention, recognition, and timely intervention. Ultimately, improving public awareness in Himachal Pradesh can contribute to the reduction of stroke-related disability and mortality in this scenic state.

Objectives of the Study

To evaluate the awareness and knowledge regarding Risk and Preventive factors for Stroke among general public of Himachal Pradesh

MATERIALS AND METHODS:

Study Design and Setting:

This research employed a cross-sectional survey design to evaluate the knowledge about Risk and Preventive factors for Stroke among the general population of Himachal Pradesh, known for its diverse population and urban lifestyle. Data collection and analysis took place over a duration of three months, from April 2023 to July 2023.

Study Population and Sample Size:

The study's target population consisted of all adults above 18 years of age who had been residing in Himachal Pradesh for at least 12 months. A sample size of 400 adults was determined using a confidence level of 95%, an estimated knowledge level of 50% about Stroke risk and preventive factors, a 5% absolute error, and a 5% non-response rate. This sample size ensured that the findings could be generalized to the larger population and provided sufficient representation.

Data Collection Tool:

A well-structured and validated Google Form questionnaire was developed to collect data on the knowledge of Stroke risk and preventive factors. The questionnaire comprised two sections: the first section gathered socio-demographic data, including age, gender, marital status, religion, employment, and education. The second section included 20 carefully crafted questions to assess participants' knowledge about Stroke risk and preventive factors. Each correct response was given one mark, while incorrect answers received zero marks. Participants' knowledge levels were categorized into four groups based on their scores: very good (>80%), good (60-79%), fair (41-59%), and poor (<40%).

Data Collection:

Data collection was supervised by experienced personnel to ensure accuracy and reliability. The Google Form questionnaire was distributed through various online platforms, including email, WhatsApp groups, Facebook, Instagram, and LinkedIn, to reach both rural and urban areas of Himachal Pradesh. Participants were provided with informed consent before their inclusion in the study, and their personal information was treated confidentially. Ethical guidelines were strictly adhered to throughout the study, ensuring the privacy and anonymity of all respondents.

Data Analysis:

Collected data was meticulously entered into a Microsoft Excel spreadsheet, where it was thoroughly checked for accuracy and completeness. Epi Info V7 software was utilized for data analysis. Descriptive statistics, such as frequencies and percentages, were employed to present the findings in a clear and concise manner. The data analysis aimed to identify the level of knowledge about Stroke risk and preventive factors among the general public of Himachal Pradesh and highlight any knowledge gaps that required attention.

Ethical Considerations:

Ethical considerations were of utmost importance throughout the study. Informed consent was obtained from all participants before their participation, ensuring their voluntary involvement in the research. To protect the privacy and confidentiality of respondents, all data was anonymized and kept secure. Ethical guidelines for research involving human participants were strictly adhered to, fostering trust and respect between the researchers and the study population.

RESULTS

The goal of the current study was to assess the knowledge regarding Risk and Preventive factors for Stroke among general public of Himachal Pradesh.

A total of 400 respondents took part in the study, with 278 (69.5%) coming from urban areas and 122 (30.5%) from rural areas.

S.No.	Statements	Frequency of Correct Responses	Percent
-------	------------	--------------------------------	---------

•	What is a stroke, and how would you define it in your own words?	290	72.5
•	Can you identify some common risk factors associated with stroke?	254	63.5
•	How does high blood pressure (hypertension) contribute to the risk of stroke?	268	67
•	Are you aware of the role of smoking in increasing the risk of stroke?	206	51.5
•	Can you name some lifestyle factors that can influence the likelihood of having a stroke?	234	58.5
•	How does physical inactivity impact the risk of stroke?	239	59.75
•	Are you familiar with the connection between diabetes and stroke risk?	230	57.5
•	Can you identify the role of family history in determining the risk of stroke?	191	47.75
•	Do you know if there are any specific age groups more vulnerable to stroke, and why?	160	40
•	What role does obesity or being overweight play in stroke risk?	216	54
•	Do you know how excessive alcohol consumption can affect stroke risk?	171	42.75
•	Can you name some preventive measures that can be taken to reduce the risk of stroke?	261	65.25
•	How does a balanced diet contribute to preventing stroke?	250	62.5
•	Are you aware of the importance of managing cholesterol levels to prevent stroke?	210	52.5
•	Can you identify the warning signs or symptoms of a stroke?	169	42.25
•	What is the recommended action to take when someone is experiencing stroke symptoms?	119	29.75
•	Do you know the importance of seeking immediate medical attention in case of a suspected stroke?	267	66.75
•	How does regular exercise help in preventing stroke?	254	63.5
•	How can stress and anxiety impact the risk of stroke?	258	64.5
•	Are you aware of any community resources or programs that provide information about stroke prevention?	109	27.25

Table-1: Knowledge regarding Risk and Preventive factors for Stroke among study participants

In the present study 24.25% (97) participants had very good knowledge (16-20 marks) towards Risk and Preventive factors for Stroke, 36.5% (146) had good knowledge (12-15 marks), 21.25% (85) had fair knowledge (8-11 marks) and 18% (72) having poor knowledge (<8 marks).

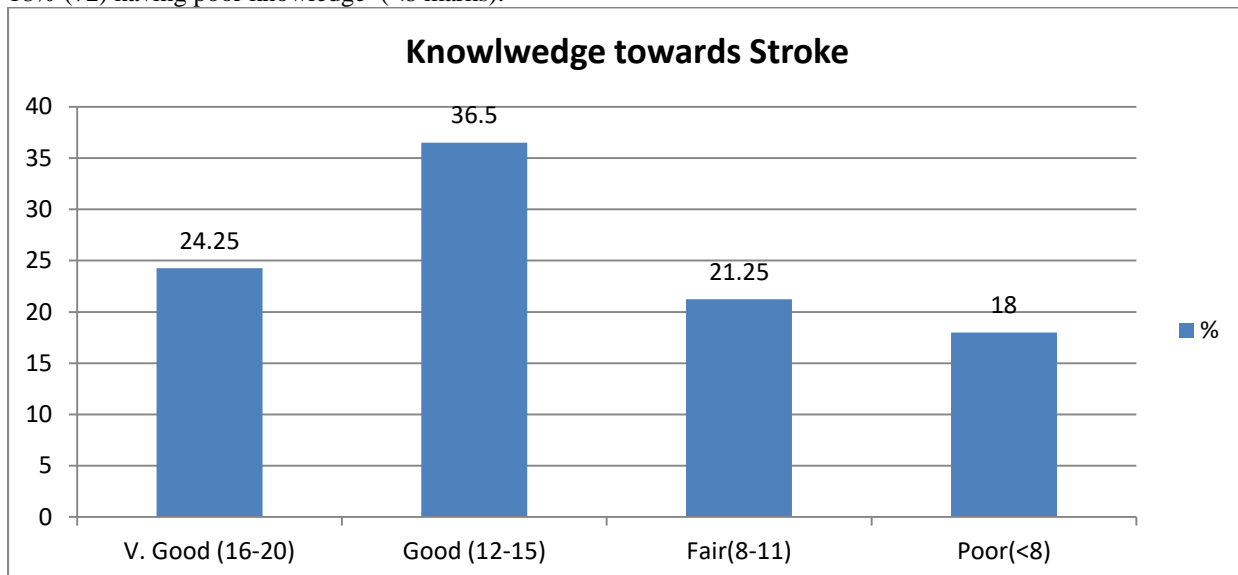


Figure-1: Knowledge scores towards Risk and Preventive factors for Stroke among study participants

DISCUSSION

Stroke represents a significant global health challenge, and understanding the awareness and knowledge of stroke risk factors and preventive strategies among the general public is crucial for designing effective interventions. This discussion analyzes the findings of the study, highlighting areas of strength and identifying knowledge gaps. Additionally, it

compares these findings with previous research to provide a comprehensive perspective on stroke awareness in Himachal Pradesh.

The study revealed varying levels of awareness and knowledge regarding stroke risk factors among the participants. While 72.5% of respondents could provide a basic definition of stroke, indicating a reasonable understanding of the condition, some participants struggled to define it. This suggests a need for educational efforts to improve the general public's ability to recognize and describe strokes accurately.

A significant proportion (63.5%) of respondents correctly identified common risk factors associated with stroke, including hypertension, smoking, physical inactivity, and diabetes. These findings indicate that the general public in Himachal Pradesh has a fair understanding of some stroke risk factors. However, there is room for improvement, particularly in recognizing the role of family history, age, obesity, and excessive alcohol consumption in stroke risk.

Participants demonstrated relatively good awareness of preventive measures for stroke. A notable 65.25% correctly named preventive measures, indicating a positive understanding of actions that can reduce stroke risk. This includes maintaining a balanced diet, regular exercise, managing cholesterol levels, and reducing stress and anxiety. These findings suggest that public health initiatives focusing on stroke prevention have had some success in Himachal Pradesh.

Knowledge regarding stroke symptoms and the importance of immediate action is crucial for reducing stroke-related morbidity and mortality. In this study, 66.75% of participants recognized the significance of seeking immediate medical attention in the event of a suspected stroke, highlighting an understanding of the time-sensitive nature of stroke management. However, there is room for improvement in identifying specific stroke symptoms, as only 42.25% of respondents could do so.

The findings of this study align with previous research conducted in various regions.¹⁰⁻¹⁴ Similar studies have shown that while there is a reasonable level of awareness regarding stroke risk factors and preventive measures, there are notable gaps in knowledge, particularly concerning specific risk factors like family history and age.

The study's results have several implications for public health initiatives in Himachal Pradesh. Firstly, efforts should focus on enhancing public awareness about the accurate definition of stroke, specific risk factors, and the recognition of stroke symptoms. Tailored educational programs can bridge these knowledge gaps and empower individuals to take preventive actions and seek immediate medical attention when necessary. Secondly, initiatives promoting healthier lifestyles, such as maintaining a balanced diet, engaging in regular physical activity, and reducing stress, should be continued and expanded. These lifestyle modifications can significantly contribute to stroke prevention. Thirdly, campaigns should target specific risk factors that participants had difficulty recognizing, such as family history, age, obesity, and excessive alcohol consumption. Raising awareness about these factors is essential for comprehensive stroke prevention. Lastly, community resources and programs that provide information about stroke prevention should be better advertised and made accessible to the general public. This can further enhance awareness and knowledge in the population.

CONCLUSION

The study provides valuable insights into the level of awareness and knowledge among the general public in Himachal Pradesh regarding stroke risk factors and preventive strategies. While there is a fair understanding of some aspects, there are notable gaps in knowledge that require targeted interventions. Public health initiatives should aim to improve awareness of specific risk factors, recognition of stroke symptoms, and the importance of immediate action. These efforts have the potential to reduce stroke-related disability and mortality in the region.

REFERENCES:

1. Johnson CO, Nguyen M, Roth GA, *et al.* Global, regional, and national burden of stroke, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016. *The Lancet Neurology*. 2019;18(5):439-458.
2. Krishnamurthi RV, Ikeda T, Feigin VL. Global, Regional and Country-Specific Burden of Ischaemic Stroke, Intracerebral Haemorrhage and Subarachnoid Haemorrhage: A Systematic Analysis of the Global Burden of Disease Study 2017. *Neuroepidemiology*. 2020;54(2):171-179.
3. Feigin VL, Forouzanfar MH, Krishnamurthi R, *et al.* Global and regional burden of stroke during 1990-2010: findings from the Global Burden of Disease Study 2010. *The Lancet*. 2014;383(9913):245-254.
4. Pandian JD, Sudhan P. Stroke epidemiology and stroke care services in India. *Journal of Stroke*. 2013;15(3):128-134.
5. Thakur J, Jeet G, Pal A, Singh S, Singh A. Lifestyle and risk of hypertension: A review. *Journal of Experimental Sciences*. 2011;2(7):38-45.

6. Rajshekar D, Jyotsna R, Hiremath MS, Baliga BS. Effect of Individualized Health Education on Lifestyle and Risk Factors of Cardiovascular Disease in Type 2 Diabetes Mellitus. *Journal of Clinical and Diagnostic Research*. 2014;8(5):CC01-CC05.
7. Warlow C, van Gijn J, Dennis M, Wardlaw J, Bamford J, Hankey G. *Stroke: Practical Management*. John Wiley & Sons; 2008.
8. Feigin VL, Lawes CM, Bennett DA, Barker-Collo SL, Parag V. Worldwide stroke incidence and early case fatality reported in 56 population-based studies: a systematic review. *The Lancet Neurology*. 2009;8(4):355-369.
9. Boehme AK, Esenwa C, Elkind MS. Stroke Risk Factors, Genetics, and Prevention. *Circulation research*. 2017;120(3):472-495.
10. Lackland DT, Roccella EJ, Deutsch AF, *et al.* Factors influencing the decline in stroke mortality: a statement from the American Heart Association/American Stroke Association. *Stroke*. 2014;45(1):315-353.
11. Kernan WN, Ovbiagele B, Black HR, *et al.* Guidelines for the prevention of stroke in patients with stroke and transient ischemic attack: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke*. 2014;45(7):2160-2236.
12. Lecouturier J, Murtagh MJ, Thomson RG, *et al.* Response to symptoms of stroke in the UK: a systematic review. *BMC Health Services Research*. 2010;10(1):157.
13. Smith MS, Wallston KA, Smith CA. The development and validation of the Perceived Health Competence Scale. *Health Education Research*. 1995;10(1):51-64.
14. Edwards PJ, Roberts I, Clarke MJ, *et al.* Methods to increase response to postal and electronic questionnaires. *Cochrane Database of Systematic Reviews*. 2009(3).