



Hypertensive Patients Knowledge, Attitude and Practice for Stroke Prevention in Uttarakhand, India

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ABSTRACT

Introduction: Worldwide, Stroke becomes a public health problem. In India, reports indicating towards its emerging epidemic in near future. Hypertensive disease is considered as predisposing factor for Stroke. The present study aimed to assess knowledge, attitude and practice of hypertensive patients for stroke prevention in Uttarakhand, India.

Methodology: The present study was a cross sectional study conducted on 243 hypertensive patients who were visiting outpatient department of All India Institute of Medical sciences (AIIMS), Rishikesh by using purposively sampling technique. Structured questionnaire of knowledge, attitude and practice were used to collect data from participants of the study. Data analysis was done by using SPSS version 23.0 statistical package.

Results: Majority participants were of more than 60 years age, male, illiterate and no family history of hypertension. Most of participants were taking their regular treatment for hypertension. 185 (76%) hypertensive patients were having poor knowledge for stroke prevention. 215 (88%) participants had neutral attitude towards stroke prevention strategies whereas majority (64%) were following good practices.

Conclusion: Findings suggested that policy makers should focus on health education of high risk group for stroke and also empower them with knowledge to control rising curve of stroke globally.

Keywords: Hypertensive Patient's, Stroke prevention, Knowledge, Attitude, Practice.

INTRODUCTION

Globally stroke is a major health problem and causes mortality and disability in person. Stroke is prevalent in both developing and developed countries.¹ According to World Health Organization (WHO), Stroke are world's second biggest killer which cause 15.2 million deaths in year 2016 and will remain leading cause of death globally and lower middle income countries like India also for next 15 years.² Centre of disease Control and Prevention (CDC) reported stroke is main causes for serious disability for adults worldwide which is preventable.³ Serious disability after stroke could be inability to do activity of daily living, emotional

burden and socioeconomic burden for patients and their family members.⁴ Serious disability always has long term consequence on wellbeing and quality of life of stroke survivors and their family members also.⁵ A systematic review reported 30 days Case fatality rate (CFR) in north India was 41.08% which is bit higher than high-income countries^{1, 6} and most of Indian studies mainly done on hospital based data for stroke. Stroke changes individual physical, cognitive and emotional health and create pressure on stroke survivors and family as well.⁷ Stroke survivor and their family always faced enormous challenges including stroke crisis, recovery expectation and discharge crisis and long term life changing demands.⁸

Stroke never happens randomly to anyone. There are risk factors i.e. increased cholesterol, high blood pressure and stress etc. which proceed for many years lead to Stroke. So every person should be have knowledge about these risk factors for its prevention. ⁹ Centers for Disease Control and Prevention (CDC) reported that about 80% stroke and premature heart attack are preventable if necessary actions and precautions are followed. ¹⁰ One of modifiable risk factor for stroke is hypertension and risk increases as blood pressure increases. ¹¹ In South East Asian countries including India, hypertension is very prevalent health problem and one of major risk factor for stroke. ¹² High mortality from stroke is mainly due to poor knowledge for risk factors and lack of participation in management of diseases from patients. ¹³ Patients participation can be emphasized by motivation and adequate knowledge of risk factors and its related complication that they should follow during normal life pattern. Poor knowledge regarding risk factors of strokes indicates that patients are least bother for various stroke prevention practices i.e. controlling blood pressure, low- salt diet, smoking cessation.¹⁴

India is low-middle income countries and limited health facilities. It is impossible to cater this huge population of country with limited advanced medical technologies, so our main focus should be on prevention strategies. The main aim of this study to check knowledge, attitude and practices of hypertensive patients for stroke prevention.

MATERIAL & METHODS

The present study was cross sectional study which was conducted on hypertensive patients who were attending hypertensive clinic of tertiary level unit, North India in March 2019 to Dec 2019. Estimated sample size was 243 using raosoft sample size calculator for sample size calculation of descriptive study ¹⁵ by using prevalence of risk factors knowledge about stroke of 63.4% from a previous study ¹⁶, precision level of 5% and response rate of 80%. Purposive sampling technique were used to select study participants. Participants who fulfill eligibility criteria of study were diagnosis of hypertension and taking treatment for this, willing to participate in study, able to read and write Hindi language. Patients who were coming to hypertension out patient department (OPD) were selected purposively for this study.

A structured knowledge, attitude and practice questionnaire were prepared by researches. Its content validity and reliability scores done by nine experts whose value were 0.85 and 0.90 which found tools was valid and reliable. Research tool

mainly consist of four section. Section I consists of socio-demographic variables sheet, section II consists of knowledge questions, section III includes attitude questions and section IV includes practices questions. Two residents were trained to conduct interview of study participants.

Ethical permission for study were obtained from Institute Ethical Committee (AIIMS/IEC/19/644 on dated 26/02/2019). After explaining about study and its objective, a written informed consent was obtained from each study participant. This study was conducted by following guidelines of ethical including International Committee on Harmonization Good Clinical Practice and Declaration of Helsinki. Each participant's anonymity and confidentiality were maintained during study.

Data analysis was done by using version 23.0 SPSS statistical package. Study participant's response to knowledge, attitude and practice questionnaire were scored and graded. Knowledge score were graded good knowledge if score more than 50 percent, if score less than 50 percent graded as poor knowledge. Attitude were checked by using five-point likert scale i.e. strongly agree (5), agree (4), neutral (3), disagree (2), strongly disagree (1). Total attitude score was divided in three category i.e. negative attitude (0-17), neutral attitude (18-34) and positive attitude (35-70). Practice were checked by using ten yes or no questions. Practice score were graded good practice if score more than 50 percent, if score less than 50 percent graded as poor practice.

RESULTS

Participants were more than 60 years (47%), male (52%) and illiterate (42%). Mostly participant's income were less than 10,000 per month (43%) and no family history of hypertension (70%). Majority were taking regular treatment for hypertension (92%). Most of them were Hindu (80%), married (94%), no history of smoking (70%) and alcohol (77%). 70% participants were also suffering from other disease i.e. diabetes mellitus (29%), congestive heart failure (28%), stroke (3%) and myocardial infraction (1%). Majority belongs to nuclear family (52%), taking sleep for 6-7 hours per day (52%), following sedentary lifestyle (62%) and unemployed (60%). (Table 1)

27% participants were accidentally diagnosed for high blood pressure when they came to hospital for other diseases treatment. Only few participants were aware about warning symptoms (6%) of raised blood pressure.

Less than half of subject had knowledge for normal range (44%) of blood pressure, complications of blood pressure (41%) and their treatment (23%).

Table 1: Bio-demographic variables sheet (N=243)

Variables	Cases (%)
Age	
Less than 40 years	8 (4)
41-50 years	28 (11)
51-60 years	93 (38)
More than 60 years	114 (47)
Gender	
Male	127 (52)
Female	116 (48)
Education	
Illiterate	100 (42)
High School	66 (27)
Intermediate School	29 (11)
Graduate	24 (10)
Postgraduate	24 (10)
Income	
Less than 10,000/month	104 (43)
10,001-20,000/month	66 (27)
20,001-40,000/month	45 (19)
More than 40,000/month	28 (11)
Family history of Hypertension	
Taking medicine of Hypertension	
223 (92)	
Religion	
Hindu	195 (80)
Muslim	28 (11)
Sikh	20 (09)
Marital status	
Married	227 (94)
Unmarried	8 (03)
Divorced/Widow/Widower	8 (03)
History of smoking	
Sometime	20 (08)
Never	188 (77)
Daily	35 (15)
If daily, Specify how many bidi per days?	
1 bidi per day	25 (45)
1-5 bidi per day	13 (24)
More than 5 bidi per day	17 (31)
History of alcohol	
Sometimes	40 (16)
Never	168 (69)
Daily	35 (15)
Diet	
Vegetarian	103 (43)
Non-vegetarian	124 (51)
Eggitarian	16 (06)
Any other disease apart from Hypertension	
Diabetes mellitus	69 (29)
Congestive Heart Failure	68 (28)
Stroke	08 (03)
Myocardial Infarction	24 (10)
No disease	74 (30)
Family type	
Joint	117 (48)
Nuclear	126 (52)
Sleep pattern within 24 hours	
5-6 hours	81 (33)
6-7 hours	126 (52)
7-8 hours	36 (15)
Lifestyle	
Sedentary	151 (62)
Moderate	88 (36)
Heavy	04 (02)
Occupation	
Farmer	20 (08)
Serviceman	36 (15)
Businessman	36 (15)
Unemployed	147 (60)
Student	04 (02)

More than half were having knowledge about risk factors (63%) for high blood pressure and prophylaxis measure taken during high blood pressure (61%). Overall, 76% of high blood pressure participants were have poor knowledge for stroke prevention. (Table 2)

Participants were strongly agreed with statement: hypertension is a cause factor for stroke (26%), daily walking reduces blood pressure (34%) and salt reduction can control blood pressure (37%).

Participants were agreed with statement: hypertension affect only those who have lot of tension (56%) in their life, hypertension affect obese patient only (38%), that hypertension is a cause factor for stroke (35%), hypertension can be treated with medication only (42%), doing exercise can control blood pressure (72%), hypertension can be controlled by lifestyle modification (66%), daily walking reduces blood pressure (61%) and doing exercise can control blood pressure (54%).

Participants were disagreed with statement: hypertension affect only the rich people (53%). Overall, 88% participants showed neutral attitude with stroke prevention checklist. (Table 3)

More than half of participants were agree for regular medical checkup (60%), regular antihypertensive medicine intake (75%), reducing ghee/oil in routine diet (77%), avoiding extra salt in diet (85%), regularly taking fiber in diet (79%) and taking 6-8 hours of sleep per day (57%).

Less than half of participants were agree for regular physical exercise (28%), going for morning walk daily (32%), drinking 2-3 liters of water daily (47%) and afraid about their diseases of hypertension (49%). Overall, 64% participants were following good practice for stroke prevention. (Table 4)

DISCUSSION

The present study was conducted on hypertension patients who were visiting to outpatient department of hospital so there is no bias towards accuracy of data for knowledge, attitude and practices followed for stroke prevention. Majority of participants (92%) were regularly taking treatment for hypertension which indicated good compliance of participants towards treatment.

In present study result showed poor knowledge (76%) of participants for stroke prevention, reason for poor knowledge could be because of illiteracy (42%) of majority of participants. Another study from Punjab also showed poor knowledge level (56%) of caregivers of hypertensive patients for stroke prevention.¹⁶

Table 2: Knowledge for stroke prevention (N=243)

Questions	Correct Response (%)
How do you know about your diagnosis?	
Accidental diagnosis in hospital	65 (27)
Symptomatic	178 (73)
Knowledge about warning symptoms of high BP	16 (06)
Knowledge about normal range of BP	107 (44)
Knowledge about risk factors	463 (63)
Knowledge about complication of high BP	99 (41)
Knowledge about prophylaxis measure taken during high BP	296 (61)
Knowledge about their treatment of high BP	56 (23)
Total Knowledge Level: Poor Knowledge (0-6)= 185 (76); Good Knowledge (7-12)= 58 (24)	

Table 3: Attitude for Stroke Prevention (N=243)

Variables	SA (5)	A (4)	N (3)	D (2)	SD (1)
I believe hypertension affect only the rich people	28 (11)	32 (14)	49 (20)	130 (53)	04 (02)
I believe hypertension affect only those who has lot of tension	92 (37)	135 (56)	16 (7)	-	-
I believe hypertension affect obese patient only	32 (13)	94 (38)	92 (37)	25 (11)	-
I think that hypertension is a cause factor for stroke	64 (26)	86 (35)	57 (24)	24 (10)	12 (05)
I believe hypertension can be treated with medication only	28 (12)	103 (42)	68 (27)	40 (17)	04 (02)
I believe doing exercise can control Blood pressure	20 (08)	175 (72)	44 (18)	04 (02)	-
I believe that hypertension can be controlled by lifestyle modification	44 (18)	162 (66)	28 (11)	09 (05)	-
I believe daily walking reduces blood pressure	84 (34)	147 (61)	12 (05)	-	-
I believe doing exercise can control blood pressure	44 (18)	130 (54)	53 (20)	08 (04)	08 (04)
I believe salt reduction can control blood pressure	89 (37)	54 (23)	76 (30)	20 (09)	04 (01)
Overall Attitude: Negative attitude (0-17)=Nil; Neutral attitude (18-34)=215 (88); Positive attitude (35-50)=28 (12)					
SA=Strongly Agree; A=Agree; N=Neutral, D=Disagree; SD=Strongly Disagree					

Table 4: Practice for Stroke Prevention (N=243)

Variables	Correct Response (%)
Do you go for regular medical checkup?	146 (60)
Do you take antihypertensive medicine daily?	183 (75)
Do you perform physical exercise routinely?	68 (28)
Are you going for morning walk daily?	77 (32)
Are you reducing your amount of ghee or oil in your routine diet?	187 (77)
Do you avoid extra salt in your diet regularly?	207 (85)
Are you taking fiber in your diet daily?	191 (79)
Are you drinking 2-3 liters of water daily?	114 (47)
Are you able to take 6-8 hours of sleep daily?	138 (57)
Are you afraid of your disease?	119 (49)
Overall Practice Level: Poor Practice (0-5)= 88 (36); Good Practice (6-10)= 155 (64)	

Present study findings also showed hypertensive patients showed neutral attitude towards stroke prevention which again pointing out towards our health education point which we are explaining to hypertensive patients. Policy makers should again rethink on these points and prepare comprehensive, concise and holistic education plan for risk group.

Present study also reported good practices were followed by hypertensive patients for stroke prevention i.e. regular medical checkup (60%), regular following their antihypertensive medicine (75%) and reducing ghee/oil in diet (77%). Another study from Nigeria also reported that good practice followed by hypertensive patients for stroke prevention i.e. smoking cessation (85.4%), decrease alcohol intake (75.7%) and regularly taking medi-

cine for high blood pressure (66.5%).¹⁷ All these findings suggested that hypertensive patients surprisingly had poor knowledge, neutral attitude and high stroke prevention practices were followed which could lower stroke incidence in country in near future.

Finding also enlighten on strong felt need among policymakers, stakeholders and human resource managers to make facilities for health education of patients for chronic illness i.e. Stroke. Health education program should be complemented through the mass media. Good adherence to treatment, empower patients to easily accessibility of health services, improve compliance for practices of stroke prevention and ultimately decrease burden of stroke globally.

CONCLUSION

This hospital-based survey among hypertensive patients reveals poor knowledge, neutral attitude and poor practices comparable with other developed countries studies. In India, because of diverse culture more efforts should be done by government on health education by explaining about more rationale and risk and benefits system on health care decisions. Health education program should be target specific i.e. high-risk group people must be taught about stroke prevention strategies.

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REFERENCES

1. Banerjee TK, Das SK. Fifty years of stroke researches in India. *Annals of Indian Academy of Neurology*. 2016; 19: 1-8.
2. Organization WH. The top 10 causes of death. World Health Organization: WHO: World Health Organization: WHO, 24 May 2018.
3. Stroke CDC. National Center for Chronic Disease Prevention and Health Promotion, Division for Heart Disease and Stroke Prevention, 7 April 2020.
4. Bhattacharjee M, Vairale J, Gawali K, et al. Factors affecting burden on caregivers of stroke survivors: Population-based study in Mumbai (India). *Annals of Indian Academy of Neurology*. 2012; 15: 113-9.
5. Opara JA, Jaracz K. Quality of life of post-stroke patients and their caregivers. *J Med Life*. 2010; 3: 216-20.
6. Pandian JD, Sudhan P. Stroke epidemiology and stroke care services in India. *Journal of stroke*. 2013; 15: 128-34.
7. Stroke NIOnda. *Stroke: Hope Through Research* 2020.
8. Lutz BJ, Young ME, Cox KJ, et al. The crisis of stroke: experiences of patients and their family caregivers. *Topics in stroke rehabilitation*. 2011; 18: 786-97.
9. Boehme AK, Esenwa C, Elkind MS. Stroke Risk Factors, Genetics, and Prevention. *Circulation research*. 2017; 120: 472-95.
10. Prevention CfDca. Transcript for VitalSigns Teleconference: Preventing 1 Million Heart Attacks and Strokes September 6, 2018.
11. Wajngarten M, Silva GS. Hypertension and Stroke: Update on Treatment. *European cardiology*. 2019; 14: 111-15.
12. Prenissl J, Manne-Goehler J, Jaacks LM, et al. Hypertension screening, awareness, treatment, and control in India: A nationally representative cross-sectional study among individuals aged 15 to 49 years. *PLOS Medicine*. 2019; 16: e1002801.
13. Das S, Das SK. Knowledge, attitude and practice of stroke in India versus other developed and developing countries. *Annals of Indian Academy of Neurology*. 2013; 16: 488-93.
14. Indira Kumari N VRB. Risk factor assessment of stroke and its awareness among stroke survivors: A retrospective study. *International Journal of Research in Health Sciences*. 2015; 3: 140-5.
15. Sample Size Calculator by Raosoft, Inc. 2020.
16. Pandian JD, Jaison A, Deepak SS, et al. Public awareness of warning symptoms, risk factors, and treatment of stroke in northwest India. *Stroke*. 2005; 36: 644-8.
17. Arisegi SA, Awosan KJ, Oche MO, et al. Knowledge and practices related to stroke prevention among hypertensive and diabetic patients attending Specialist Hospital, Sokoto, Nigeria. *The Pan African medical journal*. 2018; 29: 63.