ABSTRACT

Background: Hypertensive patients are at the risk of developing stroke. Awareness regarding stroke is essential for the prevention and initiation of immediate effective treatment of stroke. This study aimed to find out the awareness regarding stroke among hypertensive patients attending a teaching hospital.

Methods: A cross-sectional survey was carried out among hypertensive patients attending Medicine Out-patient Department of Chitwan Medical College Teaching Hospital, Bharatpur, Chitwan. A total 95 patients were selected using convenience sampling technique. Data were collected using structured interview schedule. Obtained data were analyzed in SPSS version 20 for window using descriptive and inferential statistics.

Results: Result of this study revealed that out of 95 hypertensive patients, 91.6% were above age group 40 years. More than half (51.6%) of the patients had good knowledge, 32.6% had fair knowledge and 15.8% had poor knowledge regarding stroke. Overall Level of knowledge on stroke was significantly associated with sex (p=0.012) and educational status (p=0.001) of the patients.

Conclusions: The awareness of stroke among hypertensive patients attending at teaching hospital of Chitwan seems to be insufficient at present. Hence, there is need for the awareness program for the hypertensive patients on stroke to prevent potential complication associated with it.

INTRODUCTION

Stroke is a common cause of mortality and disability. One in four adult over the age of 25 will have a stroke in their lifetime. Over 110 million people in the world have experienced stroke. Stroke contributed 7.6% of total deaths and 3.5% of total DALYs in Nepal. The risk of recurrent stroke remains substantial: 7.7% at 3 months, 9.5% at 6 months, increasing to 39.7% at 12 years post-initial stroke. Hypertensive people are four times more likely to have stroke risk than individuals with normal blood pressure.

Seeking immediate emergency medical care can save lives and improve the outcome for survivor. Research evidence showed that those eligible patients with acute ischemic stroke who received evidence-based processes of care had better outcomes, but the overall uptake of the suite of therapeutics was low across a multinational population. Likewise, study illustrated a large gap in public awareness on managing stroke risk factors, recognizing symptoms and on how to activate emergency services if they believe they are having a stroke.

Stroke is a preventable and curable illness through the control of modifiable risk factors and early diagnosis of its warning signs. General knowledge improves the awareness and enhances the practice for the prevention and treatment of stroke. Many studies are conducted on developed and developing countries but limited studies are in Nepal. Hence, this study aimed to find out the awareness regarding stroke among hypertensive patients attending a teaching hospital.

METHODS

Cross-sectional survey was carried out among hypertensive patients who were diagnosed as hypertensive patients, taking antihypertensive medicine and attending at medicine OPD of Chitwan Medical College Teaching Hospital (CMC-TH), Bharatpur, Chitwan, Nepal. Desired sample size was 95 which was calculated using Cochrane formula taking 54.6% prevalence (p=0.546) of knowledge on stroke among hypertensive patients from previous study in Nepal, 95% confidence interval (z=1.96), 7% allowable errors (0.007), N was
the estimated population for the study in one month (N=192). Non-probability, convenience sampling technique was used for the selection of desired 95 samples. Structured interview schedule was developed in order to find out the awareness on stroke among hypertensive patients. It consisted of two parts. Part I is related to socio-demographic information and clinical related information and Part II related to knowledge regarding stroke of hypertensive patients with 37 items which consisted of true, false and don’t know response that was rated 0 to 1 score where 0 for false, don’t know and 1 for true response. Content validity of the instrument was established by developing research instrument on the basis of literature review and consultation with subject experts. Pre-testing was done among 10 hypertensive patients at medicine OPD, of CMC-TH and they were excluded from the final study.

Data was collected from 2079/09/03-2079/09/16 using Nepali version structured interview schedule. Prior to data collection, ethical approval letter was obtained from Institutional Review Committee of Chitwan Medical College (CMC-IRC/079/08-123) and data collection permission was obtained from CMC-administration. Researchers visited to medical and cardiac OPDs and respondents were identified through OPD ticket. Written informed consent was obtained from each respondent by clarifying the purpose of the study. They were also assured for their confidentiality of the information. Data were collected through face to face interview method and average 7-8 patients were interviewed each day for 25 to 30 minutes. Interview was performed by keeping the patients in the corner of OPD room settings or separate room. All the collected data were checked, reviewed and organized daily for the completeness, consistency and accuracy. Then, coding, editing and categorization of collected data were done. Data were entered in using Statistical Package for Social Science (SPSS) version 20 and analyzed by using descriptive statistics such as frequency, percentage, median and interquartile range. Inferential statistics (i.e chi-square test) was used to find out the association between level of awareness regarding stroke and selected variables.

### RESULTS

**Table 1: Respondents’ socio-demographic information**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group in years</td>
<td></td>
</tr>
<tr>
<td>Young (20-40 year)</td>
<td>8 (8.4)</td>
</tr>
<tr>
<td>Middle (40-60)</td>
<td>44 (46.3)</td>
</tr>
<tr>
<td>Elderly (60 and above)</td>
<td>43 (45.3)</td>
</tr>
<tr>
<td>Median Age =59 year, IQR=(66, 51), Min=22 year, Max=78 years</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>49 (51.6)</td>
</tr>
<tr>
<td>Female</td>
<td>46 (48.4)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>Bhramin</td>
<td>33 (34.7)</td>
</tr>
<tr>
<td>Chhetri</td>
<td>17 (17.9)</td>
</tr>
<tr>
<td>Dalit</td>
<td>4 (4.2)</td>
</tr>
</tbody>
</table>

Table 1 shows that out of 95 respondents, almost all (91.6%) were 40 years and above age group with median age 59 years having interquartile range of 15. Most of respondents followed Hindu religion (88.4%), almost all (96.8%) were married, most of them (88.4%) resided in Nagarpalika and majority (73.7%) were literate.

**Table 2: Respondents’ disease related information**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of hypertension</td>
<td></td>
</tr>
<tr>
<td>&lt;7 years</td>
<td>9 (9.5)</td>
</tr>
<tr>
<td>≥ 7 years</td>
<td>86 (90.5)</td>
</tr>
<tr>
<td>Median Duration=7 years, IQR=Q3-Q1=(12-2) years, Max=30 years, Min=3 month</td>
<td></td>
</tr>
<tr>
<td>Duration of medicine intake</td>
<td></td>
</tr>
<tr>
<td>&lt;7 years</td>
<td>9 (9.5)</td>
</tr>
<tr>
<td>≥ 7 years</td>
<td>86 (90.5)</td>
</tr>
<tr>
<td>Median=7 years, IQR=Q3-Q1 = (12-2) years, Max=30 Years, Min=3 Month</td>
<td></td>
</tr>
<tr>
<td>Regularity of medicine intake</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>94 (98.9)</td>
</tr>
<tr>
<td>No</td>
<td>1 (1.1)</td>
</tr>
<tr>
<td>Regular follow up visit</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>85 (89.5)</td>
</tr>
<tr>
<td>No</td>
<td>10 (10.5)</td>
</tr>
</tbody>
</table>
Table 3: Respondents’ history of chronic diseases  

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of chronic disease</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>51 (53.7)</td>
</tr>
<tr>
<td>No</td>
<td>44 (46.3)</td>
</tr>
<tr>
<td>History of diabetes (n=51)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>28 (54.9)</td>
</tr>
<tr>
<td>No</td>
<td>23 (45.1)</td>
</tr>
<tr>
<td>History of heart disease</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>18 (35.3)</td>
</tr>
<tr>
<td>No</td>
<td>33 (64.7)</td>
</tr>
<tr>
<td>History of kidney disease</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2 (3.9)</td>
</tr>
<tr>
<td>No</td>
<td>49 (96.1)</td>
</tr>
<tr>
<td>History of asthma</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3 (5.9)</td>
</tr>
<tr>
<td>No</td>
<td>48 (94.1)</td>
</tr>
<tr>
<td>History of High cholesterol</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>8 (15.7)</td>
</tr>
<tr>
<td>No</td>
<td>43 (84.3)</td>
</tr>
<tr>
<td>History of thyroid disorder</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5 (9.8)</td>
</tr>
<tr>
<td>No</td>
<td>46 (90.2)</td>
</tr>
<tr>
<td>Previous history of stroke</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3 (3.2)</td>
</tr>
<tr>
<td>No</td>
<td>92 (96.8)</td>
</tr>
<tr>
<td>History of HTN in family</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>58 (61.1)</td>
</tr>
<tr>
<td>No</td>
<td>37 (38.9)</td>
</tr>
<tr>
<td>History of stroke in family</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>11 (11.6)</td>
</tr>
<tr>
<td>No</td>
<td>84 (88.4)</td>
</tr>
</tbody>
</table>

Table 4: Respondents’ awareness on general information and risk factors of stroke  

<table>
<thead>
<tr>
<th>Statements</th>
<th>Correct Response Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke is a disease of brain.</td>
<td>50 (52.6)</td>
</tr>
<tr>
<td>Stroke affects both male and female.</td>
<td>92 (96.8)</td>
</tr>
<tr>
<td>Stroke is contagious.</td>
<td>76 (80.0)</td>
</tr>
<tr>
<td>Stroke is a hereditary disease.</td>
<td>57 (60.0)</td>
</tr>
<tr>
<td>Stroke is caused by ancestor’s sin.</td>
<td>85 (89.5)</td>
</tr>
<tr>
<td>Stroke is a serious illness.</td>
<td>87 (91.6)</td>
</tr>
<tr>
<td>High blood pressure increases the chance of stroke.</td>
<td>88 (92.6)</td>
</tr>
<tr>
<td>Diabetes Mellitus increases the chance of stroke.</td>
<td>59 (62.1)</td>
</tr>
<tr>
<td>Smoking increases the chance of stroke.</td>
<td>59 (62.1)</td>
</tr>
<tr>
<td>Obesity contributes to stroke.</td>
<td>75 (78.9)</td>
</tr>
<tr>
<td>Hyperlipidemia /High Cholesterol level increases the risk of stroke.</td>
<td>68 (71.6)</td>
</tr>
<tr>
<td>Previous history of heart disease increases the chance of stroke.</td>
<td>59 (62.1)</td>
</tr>
<tr>
<td>Previous history of stroke increases the chance of stroke.</td>
<td>60 (63.2)</td>
</tr>
<tr>
<td>Family history of stroke has higher chance of stroke.</td>
<td>36 (37.9)</td>
</tr>
<tr>
<td>Stress contributes to stroke.</td>
<td>66 (69.5)</td>
</tr>
<tr>
<td>Ageing is a risk factor of stroke.</td>
<td>49 (51.6)</td>
</tr>
</tbody>
</table>
Table 2 indicates that almost all of the respondents suffered from hypertension (90.5%) and duration of medicine intake since 7 years and above years (90.5%). Almost all (98.9%) had taken medicine regularly and 89.5% did regular follow up visit.

More than half (53.7%) of the respondents suffered from chronic illness. Among them, diabetes (54.9%) and heart disease (35.3%) were the most common illness. Nearly two third (61.1%) respondents had family history of hypertension and few (11.6%) of the respondents had family history of stroke (Table 3). More than half (53.7%) had received information regarding stroke from friends followed by health personnel (31.6%) and family (12.6%) whereas 2.1% had received information regarding stroke from books (not shown in Table).

Almost all (96.8%) respondents answered that stroke affect both male and female. Among the risk factor, almost all (92.6%) of the respondents knew that high blood pressure increase the chance of stroke (Table 4).

Majority (71.6%) of the respondents knew that difficulty in speaking and walking as a warning sign of stroke. Almost all (90.5%) of the respondents answered that regular blood pressure monitoring and regular medicine intake decrease the chance of stroke as well as rehabilitation is important for most of the stroke patient (Table 5).

Table 5: Respondents’ awareness on warning signs, management and treatment of stroke  

<table>
<thead>
<tr>
<th>Statements</th>
<th>Correct Response Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weakness /Numbness of face, arms or limbs are one of the warning sign of Stroke.</td>
<td>55 (57.9)</td>
</tr>
<tr>
<td>Loss of vision is one of the warning sign of Stroke.</td>
<td>38 (40.0)</td>
</tr>
<tr>
<td>Sudden onset of Fainting is one of the warning sign of Stroke.</td>
<td>39 (41.1)</td>
</tr>
<tr>
<td>Memory loss is one of the warning sign of Stroke.</td>
<td>57 (60.0)</td>
</tr>
<tr>
<td>Problem in swallowing is one of the warning sign of Stroke.</td>
<td>54 (56.8)</td>
</tr>
<tr>
<td>Severe headache is one of the warning sign of Stroke.</td>
<td>61 (64.2)</td>
</tr>
<tr>
<td>Difficulty in speaking is one of the warning sign of Stroke.</td>
<td>68 (71.6)</td>
</tr>
<tr>
<td>Difficulty in walking is one of the warning sign of Stroke.</td>
<td>68 (71.6)</td>
</tr>
<tr>
<td>Regular physical exercise can be beneficial for the prevention of Stroke.</td>
<td>85 (89.5)</td>
</tr>
<tr>
<td>Regular blood pressure monitoring and medicine intake helps to reduce chance of Stroke.</td>
<td>86 (90.5)</td>
</tr>
<tr>
<td>Frequent use of fruits and vegetables help to reduce the risk of stroke.</td>
<td>76 (80.0)</td>
</tr>
<tr>
<td>Reduction in the consumption of fatty food helps to reduce the risk of Stroke.</td>
<td>85 (89.5)</td>
</tr>
<tr>
<td>Smoking cessation is essential for the prevention of Stroke.</td>
<td>75 (78.9)</td>
</tr>
<tr>
<td>Maintaining healthy weight / weight reduction helps to reduce the chance of Stroke.</td>
<td>78 (82.1)</td>
</tr>
<tr>
<td>Control of high blood sugar helps to reduce the chance of Stroke.</td>
<td>73 (76.8)</td>
</tr>
<tr>
<td>Regular monitoring of Cholesterol level helps to prevent the risk of Stroke.</td>
<td>73 (76.8)</td>
</tr>
<tr>
<td>Routinely check-up and follow up visit for heart disease helps to reduce the chance of Stroke.</td>
<td>76 (80.0)</td>
</tr>
<tr>
<td>Reduction in the consumption of excessive alcohol intake helps to reduce the chance of Stroke.</td>
<td>80 (84.2)</td>
</tr>
<tr>
<td>Treatment Modalities are available for the Stroke patients.</td>
<td>64 (67.4)</td>
</tr>
<tr>
<td>Stroke patient usually recovers to normal.</td>
<td>54 (56.8)</td>
</tr>
<tr>
<td>Rehabilitation is important for most of the stroke patients.</td>
<td>86 (90.5)</td>
</tr>
</tbody>
</table>

Table 6: Respondents’ level of awareness on stroke  

<table>
<thead>
<tr>
<th>Level of Awareness</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good (≥75%)</td>
<td>49 (51.6)</td>
</tr>
<tr>
<td>Fair (50-74%)</td>
<td>31 (32.6)</td>
</tr>
<tr>
<td>Poor (0-49%)</td>
<td>15 (15.8)</td>
</tr>
<tr>
<td>Total</td>
<td>95 (100)</td>
</tr>
</tbody>
</table>

Possible score: 0 to 37

More than half (51.6%) of the respondents had good knowledge, 32.6% had fair knowledge and 15.8% had poor knowledge regarding stroke (Table 6).

There was statistically significant association between the level of awareness regarding stroke with the sex (p=0.012) and educational status (p=0.001) where male and literate respondents had high level of knowledge as compared to female and illiterate respondents. However, level of awareness regarding stroke was not significantly associated with duration of hypertension (p=0.113),regular follow up visit(p=0.314),history of stroke in patient(p=0.407), family history of stroke (p=0.614), family history of hypertension(p=0.190) and presence of co-morbidities(p=0.501) (Table 7)

DISCUSSION

The findings of the study revealed that, just more than half (51.6%) of the hypertensive patients had good knowledge, whereas nearly half had poor to fair knowledge (32.6% had fair and 15.8% had poor) regarding stroke. This indicates that there is a gap in knowledge on stroke among hypertensive patients.

In this study, more than half of hypertensive patients identified
Table 7: Association between respondents’ level of awareness on stroke and selected variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level of Awareness</th>
<th>x²</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Good No. (%)</td>
<td>Fair No. (%)</td>
<td>Poor No. (%)</td>
</tr>
<tr>
<td>Age in years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early adulthood</td>
<td>49(50.0)</td>
<td>3(37.5)</td>
<td>1(12.5)</td>
</tr>
<tr>
<td>Middle adulthood</td>
<td>24(54.5)</td>
<td>13(29.5)</td>
<td>7(15.9)</td>
</tr>
<tr>
<td>Late adulthood</td>
<td>21(48.8)</td>
<td>15(34.9)</td>
<td>7(16.3)</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>31(63.3)</td>
<td>15(30.6)</td>
<td>3(6.1)</td>
</tr>
<tr>
<td>Female</td>
<td>18(39.1)</td>
<td>16(34.8)</td>
<td>12(26.1)</td>
</tr>
<tr>
<td>Place of residence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nagarpalika</td>
<td>44(52.4)</td>
<td>28(33.3)</td>
<td>12(14.3)</td>
</tr>
<tr>
<td>Gaupalika</td>
<td>5(45.5)</td>
<td>3(27.3)</td>
<td>3(27.3)</td>
</tr>
<tr>
<td>Educational status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>9(36.0)</td>
<td>6(24.0)</td>
<td>10(40.0)</td>
</tr>
<tr>
<td>Literate</td>
<td>40(57.1)</td>
<td>25(35.7)</td>
<td>5(7.1)</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>10(62.5)</td>
<td>4(25.0)</td>
<td>2(12.5)</td>
</tr>
<tr>
<td>Business</td>
<td>6(54.5)</td>
<td>4(36.4)</td>
<td>1(9.1)</td>
</tr>
<tr>
<td>Agriculture</td>
<td>14(42.4)</td>
<td>14(42.4)</td>
<td>5(15.2)</td>
</tr>
<tr>
<td>Daily wages</td>
<td>2(50.0)</td>
<td>1(25.0)</td>
<td>1(25.0)</td>
</tr>
<tr>
<td>Household work</td>
<td>17(54.8)</td>
<td>8(25.8)</td>
<td>6(19.4)</td>
</tr>
<tr>
<td>Duration of HTN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;7years</td>
<td>2(22.2)</td>
<td>4(44.4)</td>
<td>3(33.3)</td>
</tr>
<tr>
<td>≥7years</td>
<td>47(54.7)</td>
<td>27(31.4)</td>
<td>12(14.0)</td>
</tr>
<tr>
<td>Regular follow up visit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>46(54.1)</td>
<td>26(30.6)</td>
<td>13(15.3)</td>
</tr>
<tr>
<td>No</td>
<td>3(30.0)</td>
<td>5(50.0)</td>
<td>2(20.0)</td>
</tr>
<tr>
<td>History of stroke</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3(100.0)</td>
<td>0(0.0)</td>
<td>0(0.0)</td>
</tr>
<tr>
<td>No</td>
<td>46(50.0)</td>
<td>31(33.7)</td>
<td>15(16.3)</td>
</tr>
<tr>
<td>Family history of stroke</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7(63.6)</td>
<td>2(18.2)</td>
<td>2(18.2)</td>
</tr>
<tr>
<td>No</td>
<td>42(50.0)</td>
<td>29(34.5)</td>
<td>13(15.5)</td>
</tr>
<tr>
<td>Family history of HTN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>32(55.2)</td>
<td>20(34.5)</td>
<td>6(10.3)</td>
</tr>
<tr>
<td>No</td>
<td>17(45.9)</td>
<td>11(29.7)</td>
<td>9(24.3)</td>
</tr>
<tr>
<td>Presence of comorbidities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>28(54.9)</td>
<td>17(33.3)</td>
<td>6(11.8)</td>
</tr>
<tr>
<td>No</td>
<td>21(47.7)</td>
<td>14(31.8)</td>
<td>9(20.5)</td>
</tr>
</tbody>
</table>

Significance level at <0.05  * = Fischers exact value

stroke as a brain disease (52.6%) and hereditary disease (60.0%). However, few percentage of patients still have misconception that stroke occurs as a result of an ancestor’s sin (10.5%) and believed stroke as a contagious disease (20%). Similarly study in Islamabad revealed that more than two third of hypertensive patients identified stroke as a brain disease (76.5%), 43.8% knew it as a hereditary disease. However 27.3% of the patients reported that stroke is the result of an ancestor’s sin.

This study showed that majorities of hypertensive patients knew hypertension (92.6%), diabetes (62.1%), smoking (78.9%), obesity (78.9%) and ageing (51.6%) as contributing factors of stroke whereas few knew family history (37.9%) as risk factor. Similarly commonest identified risk factors of stroke in other studies are hypertension and diabetes. However, low knowledge was reported on smoking, obesity, ageing and family history of stroke. The difference in study findings might be due to different in setting, educational status and measuring tool. Regarding sign and symptoms, majority (71.6%) of the hypertensive patients knew difficulty in speaking and walking as warning signs of stroke. Similar findings was reported by the study conducted in Sri Lanka in which 62.2% of the patients knew difficulty in speaking and walking as warning signs of stroke. However, almost all (92.1%) of the patients reported...
Difficulty in speaking and walking as warning sign in the study conducted in Malaysia\(^6\). The difference in finding might be due to difference in health care system, and measuring tools used in the studies.

In this study, almost all (90.5%) of the hypertensive patients knew regular blood pressure monitoring and medicine intake help to reduce chance of stroke. Similarly, a study conducted in Debre-Tabor General Hospital, Northwest Ethiopia\(^5\) showed consistent findings in which 95.4% of the respondents have knowledge that regular blood pressure monitoring and medicine intake helps to reduce chance of stroke. Regarding treatment, almost all (90.5%) of the patients knew that stroke patients need rehabilitation, majorities reported availability of treatment modalities (67.4%) and stroke patients can return to normal condition (56.8%). In contrast to this, one study conducted in Nepal\(^7\) reported that 64% of patients were unaware of the treatment options for stroke and only 5% reported control of blood pressure as a part of stroke management.

This study revealed that more than half (51.6%) of the hypertensive patients had good knowledge, 32.6% had fair knowledge and 15.8% had poor knowledge regarding stroke. Our findings is slightly higher than the study\(^7\) conducted in Nepal which showed 31.9%, 54.6% and 13.5% of respondents had good, fair and poor knowledge regarding stroke. Likewise, another study conducted in Nepal\(^6\) revealed 35.3%, 37.0%, and 27.8% good, fair and poor knowledge respectively.

In this study, level of awareness regarding stroke is significantly associated with sex (p=0.008) and educational status (0.0010). Similarly other study conducted at and Nepal\(^7\) revealed similar findings. However, level of the knowledge was not associated with other selected variables such as age, place of residence and occupation, duration of hypertension, regular follow up visit, history of stroke in patient, family history of stroke, family history of hypertension and comorbidities. This finding is also supported by the study conducted in Chitwan.\(^7\)

**CONCLUSION**

Based on finding it is concluded that more than half of the hypertensive patients have good level of awareness regarding stroke whereas, nearly one third have fair knowledge and considerable proportion have poor knowledge regarding stroke. Sex and educational status tend to influence level of awareness of the patients. Hence, it is recommended to conduct awareness program by respective authorities regarding stroke time to time to enhance the knowledge regarding stroke among hypertensive patients to prevent the stroke burden in Nepal.

**CONFLICT OF INTEREST:** None

**FINANCIAL DISCLOSURE:** None

**REFERENCES:**