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SOCIODEMOGRAPHIC STATUS OF HEMORRHAGIC STROKE PATIENTS: A STUDY IN A TERTIARY CARE HOSPITAL OF BANGLADESH

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ABSTRACT

Background: Worldwide, stroke is the second cause of death and third cause of disability. For the prevention of hemorrhagic stroke as well as for reducing stroke related mortality and disability knowledge of sociodemographic status of hemorrhagic stroke patient is very important.
Aim of the study: The aim of this current study was to assess the sociodemographic status of patients with hemorrhagic stroke.
Materials and Methods: This observational cross-sectional study was carried out at Neurology and Medicine ward Mymensingh Medical College Hospital (MMCH) from July 2017 to December 2018. In total 60 subjects of more than 18 years were considered for the study as the study subjects. The study population had been selected according to the pre-defined exclusion and inclusion criteria. Only patients with hemorrhagic stroke attended the mentioned hospital ware included. All data were processed, analyzed and disseminated by MS Office and SPSS programs as per need.
Results: In this study, among total 60 participants, 68% (n=41) were male whereas the rest 32% (n=19) were female. The majority of the patients were from 50 years and above age groups which was 63.33% of the total respondent. One third (33%) of the total study population were service holder which was the highest number from a single profession. Majority of the patients were from lower middle classed families which was 63.33%. The highest number of participants were from peri-urban

CASE REPORT

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areas which was 43%. As the risk factors, smoking, DM as well as HTN were found among 65%, 12% and 77% patients respectively.
Conclusion: The ratio of male hemorrhagic stroke patient is higher. Although living area, economic status and residence area may not be correlated with hemorrhagic stroke, age, habit of smoking and HTN may be arise as some potential risk factors for hemorrhagic stroke.

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1. INTRODUCTION

Stroke is the second cause of death and third cause of disability. It is defined as rapidly developing symptoms and sign of focal and global loss of cerebral function lasting at least 24 hours with no apparent cause other than of vascular origin. Stroke is the sudden death of some brain cell due to lack of oxygen when the blood flow to the brain is lost by blockage of artery or rupture of an artery to the brain [1]. Stroke is one of the leading causes of death in the world. Moreover, it is the leading cause of acquired disability in adult in most regions[2]. Countries with low and middle-income population have the largest burden of stroke, accounting for more than 85% of stroke mortality worldwide. However, few reliable data are available to identify risk factors for stroke in most of these regions. Stroke is the third most common cause of death after coronary heart disease and all cancer death[3]. According to World Health Organization (WHO), 15 million people suffer from stroke worldwide each year. Among them 85% is ischemic and 15% is hemorrhagic stroke. Of these, five million die and another five million are disabled permanently (WHO, 2007). The immediate outcome of hemorrhagic stroke is poor, about 50% died immediately. On contrary, ischemic stroke has less than 20% of immediate death rate (Neurology illustrated 5th edition). The prevalence rate of stroke in India is 250-350 per 100000 in last decade[4]. Estimated annual incidence in Pakistan is 250/100000 translating to 350000 new cases every year[5]. In Asia, the problem of stroke has a particular strong impact, not only because more than half of the world's population lives in Asia, In Asian population, where plasma cholesterol level is low, hemorrhagic stroke may form up to 30 % of all stroke[6]. Incidence of stroke in Bangladesh is 2.55 per 1000 population per year in both sexes (Bangladesh Bureau of Statistics, 2009). Another study showed prevalence of stroke is 46.2% in rural area, 27.4% in semi-urban area and 26.4% in urban population[7]. The high number of disability adjusted life-years lost due to stroke (485 per 10000 people) show that stroke severely impacts Bangladesh's economy[8].

OBJECTIVE

The major objective of this current study was to assess the sociodemographic status of patients with hemorrhagic stroke.

2. METHODOLOGY

This observational cross-sectional study was carried out at Neurology and Medicine ward Mymensingh Medical College Hospital (MMCH) from July 2017 to December 2018. In total 60 subjects of more than 18 years were considered for the study as the study subjects. The study population had been selected according to the pre-defined exclusion and inclusion criteria. Only patients with hemorrhagic stroke attended the mentioned hospital ware included. According to the inclusion criteria of this study, 18 years and above aged patients with WHO defined stroke confirmed by CT scan that the stroke was hemorrhagic were included as the study subject. On the other hand, according to the exclusion criteria of this study, ischemic stroke patients, patients receiving drugs that effect on cholesterol levels, patients with malabsorption syndrome and patients with known hypo or hyperthyroid patient were excluded. Data were

collected from hemorrhagic stroke patients admitted in neurology and medicine wards of Mymensingh Medical College Hospital in a data collection sheet of formed questionnaire. Hemorrhagic stroke patient was diagnosed both clinically as well as by CT scan of head. After obtaining the informed consent from all of the participant, fasting blood was drawn under all aseptic precautions. Measures were taken to prevent hemolysis. Samples were sent to the Biochemistry Department, MMC. All data were processed, analyzed and disseminated by MS Office and SPSS program as per need.

3. RESULT

This was carried out at Neurology and Medicine ward Mymensingh Medical College Hospital (MMCH) from July 2017 to December 2018. In total 60 subjects of more than 18 years were considered for the study as the study subjects. In this study, among total 60 participants, 68% (n=41) were male whereas the rest 32% (n=19) were female. So, male participants were dominating in number and the male-female ratio was 2.16:1. In analyzing the ages of the participant, we observed, the majority of the patients were from 50 years and above age groups which was 63.33% of the total respondent. Besides these 1.67%, 10.00% and 25.00% patients were from 20-29, 30-39- and 40-49-years' age groups respectively. In this current study, one third (33%) of the total study population were service holder which was the highest number from a single profession. Besides these, 23.33%, 21.67% and another 21.67% patients were businessman, farmer and housewife respectively. As per the economic status of the participants we observed, majority of the patients were from lower middle classed families which was 63.33%. Besides these 20%, 10% and the rest 6.67% patients were from lower, upper middle and upper classed families respectively. In this study the highest number of participants were from peri-urban areas which was 43%. On the other hand, 27% patients were from urban and the rest 30% were from rural areas. As the risk factors, smoking, DM as well as HTN were found among 65%, 12% and 77% patients respectively.

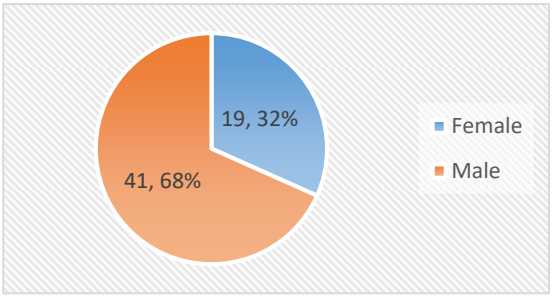

Figure 1: Gender distribution of the respondents (N=120)

Table 1: Age distribution of the respondents (N=120)

Age (Year)	N	%
20-29	1	1.67%
30-39	6	10.00%
40-49	15	25.00%
50-59	8	13.33%
60-69	16	26.67%
≥70	14	23.33%

Table 2: Distribution of the respondents by occupational (N=120)

Profession	N	%
Service holder	20	33.33%
Businessman	14	23.33%
Farmer	13	21.67%
Housewife	13	21.67%

Table 3: Distribution of the respondents as per economic status (N=120)

Class	N	%
Lower	12	20.00%
Lower middle	38	63.33%
Upper middle	6	10.00%
Upper	4	6.67%

Table 4: Risk factors distribution among the participants (N=120)

Risk factors		n	%
Smoking	Smoker	39	65.00%
	Non-smoker	21	35.00%
DM	Absent	53	88.33%
	Present	7	11.67%
HTN	Absent	14	23.33%
	Present	46	76.67%

4. DISCUSSION

The aim of this current study was to assess the sociodemographic status of patients with hemorrhagic stroke. In this study, among total 60 participants, 68% (n=41) were male whereas the rest 32% (n=19) were female. So, male participants were dominating in number and the male-female ratio was 2.16:1. In analyzing the ages of the participant, we observed, the majority of the patients were from 50 years and above age groups which was 63.33% of the total respondent. Besides these 1.67%, 10.00% and 25.00% patients were from 20-29, 30-39- and 40-49-years' age groups respectively. Anwarullah et al found 34 percent patients in the sixth decade and 27 percent in the seventh decade.[9] This observation was in conformity with that of Haque and Mannan and Liu and Chia.[10,11] In this current study, one third (33%) of the total study population were service holder which was the highest number from a single profession. Besides these, 23.33%, 21.67% and another 21.67% patients were businessman, farmer and housewife respectively. In this study, among the peri urban dweller hemorrhagic stroke was more than the urban and rural area. In peri urban it was 43.30% and urban 26.70% and rural 30%. Data were not available to compare this result. In this study the highest number of participants were from peri-urban areas which was 43%. On the other hand, 27% patients were from urban and the rest 30% were from rural areas. As the risk factors, smoking, DM as well as HTN were found among 65%, 12% and 77% patients respectively. Tan et al (2008) also found cigarette smoking as risk factor of stroke with an OR 2.3 and 95% CI=1.10 to 4.96.[12]. Jaffre et al (2014) showed that smoking as a risk factor of stroke in a multivariate analysis, this study had given more emphasis in ischemic stroke than hemorrhagic stroke[13]. All these studies are not consistent with the present study result. So, it

needed further studies with large sample size to establish this factor.

Limitation of the study:

This was a single centered study with a small sized sample. So, findings of this study may not reflect the exact scenario of the whole country.

5. CONCLUSION & RECOMMENDATION

The ratio of male hemorrhagic stroke patient is higher. Although living area, economic status and residence area may not be correlated with hemorrhagic stroke, age, habit of smoking and HTN may be arise as some potential risk factors for hemorrhagic stroke. For getting more specific information regarding this issue we would like to recommend for conducting more studies in several places with larger sized samples.

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