Original Article

Levels of Awareness of Close Relatives Regarding Management of Stroke Patients

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ABSTRACT

One of the most frequent neurological emergencies in Bangladesh is stroke. Poor outcome and long-term disability may result from close relatives of stroke patients not being aware of the risk factors, symptoms, and recommended for the aftermath. A hospital-based cross-sectional, descriptive study was conducted to assess the levels of awareness among the close relatives of stroke patients regarding management of stroke. We conveniently selected 110 close relatives of stroke patients who were admitted into Dhaka Medical College Hospital, Dhaka, Bangladesh. The study was carried out between January and December of 2019. The mean age of the close relatives was 38.1±11.6 years. One-third of the participants were illiterate (24.5%) and half of the participants were homemakers (50.9%). Regarding awareness about immediate reactions in stroke patients, most of them said that they started treatment with a family physician (59.1%) and waited and observed (54.5%). Regarding awareness about the prevention of stroke, most of them reported regular checkups with their doctor and lifestyle modification (37.3%). Regarding awareness about suitable treatment options for stroke, most of them said spiritual belief (51.8%) and physiotherapy (40.0%). Nearly two-thirds of the participants (72.7%) had a poor level of awareness, and only a few had a good level of awareness (2.7%). The levels of awareness of the participants were statistically significant with their education and occupation ($p<0.05$). Our study revealed that there was a poor level of awareness about stroke among the participants. In both urban and rural communities, continual health education programs and interventions for the control of stroke risk factors can be implemented to raise the levels of awareness about stroke among relatives.

Keywords: *Awareness, close relatives, stroke management, Bangladesh*

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INTRODUCTION

Stroke is a prevalent neurological emergency in tertiary care institutions and the leading cause of death in Bangladesh.[1] Stroke is defined by the World Health Organization (WHO) as a rapidly progressing cerebral focal condition with clinical indications that either continue longer than 24 hours or result in death with no evident cause other than vascular origin.[2] It can show up as a range of signs and symptoms, including vertigo, nausea, vomiting, cranial nerve deficits, exhaustion, or numbness on one or both sides of the body, as well as visual impairments.[3,4]

The rising prevalence of stroke in developing nations can be attributed to inadequate risk management and a lack of knowledge. Therefore, by identifying and

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reducing these modifiable risk factors early on and keeping the general public educated about stroke and its risk factors, it is possible to lower the incidence of stroke. With the help of their close relatives, the majority of stroke survivors return to their own homes following a period of hospitalization and rehabilitation. Their inability to carry out everyday tasks independently is impacted by their dependence on family members, who are considered close relatives, as a result of the severe and long-lasting harm caused by stroke.[5]

Family members who take on a caregiving role have additional responsibilities on top of their already substantial plate of family duties. This is especially true for those who are close to the stroke survivor. For this reason, they often feel burdened by these new duties. In the US, strokes are a leading cause of long-term impairment.[6] Hospitalizations for stroke have surged over the last decade, with an increasing number of patients requiring long-term care.[7]

Across the world, stroke rates among the most prevalent causes of illness and disability.[8] Stroke constituted the third most common cause of mortality in Bangladesh and 2.55% of all disability.[1] Bangladesh has the 84th-highest stroke-related death rate worldwide, according to the World Health Organization (WHO). The high rate of life-years lost to stroke suggests that stroke affects Bangladesh's economy significantly.[1] Therefore, we proposed this study to assess the levels of awareness among the close relatives of stroke patients regarding management of stroke.

METHODS

This cross-sectional, descriptive study was conducted among the close relatives of stroke patients admitted into the medicine ward of Dhaka Medical College Hospital, Dhaka, Bangladesh, from January to December of 2019. A total of 110 participants were selected conveniently for this study. Close relatives younger than 18 years were excluded from this study. The studied participants were interviewed using a pretested semi-structured questionnaire through the face-to-face interview. The questionnaire consists of questions on socio-demographic characteristics, knowledge of stroke, and awareness of stroke.

The participant's awareness of stroke was scored based on 18 questions. Here, the score for an incorrect answer was '0' and the score for a correct answer was '1'. The total range of scores was '0-18'. Scores '0-8' were considered poor (d"40%), '9-13' were considered average (40-75%), and '14-18' were considered good (≥75%).

After the completion of data collection, the data were checked and verified for any omission, error, or irrelevance. Data were coded, entered, and analyzed in SPSS version 23.0. Descriptive statistics such as mean, standard deviation, and percent were computed for the continuous variables of the participants. Chi-square and Fisher exact test was used to assess the significance of associations between two nominal variables, and a p-value of <0.05 at a 95% confidence interval was taken as significant. The results were presented in tables and charts.

This study was approved by the Institutional Review Board of the National Institute of Preventive and Social Medicine (NIPSOM), Dhaka, Bangladesh (NIPSOM/IRB/2019/111).

RESULTS

The mean age was 38.1±11.6 years, and nearly two-thirds of them were in the age group 21-40 years. Most of them were female (59.0%) and married (82.7%). One-third of the participants were illiterate (24.5%). Half of the participants were homemakers (50.9%), followed by businessmen (16.4%) and service holders (10.9%) respectively. About half of the relatives (51.0%) came from nuclear families. The mean average monthly family income was 13,354.6±5,361.4 taka, and above two-thirds of the participants (77.3%) earned ≤15,000 taka in a month (Table-I). Most of them were spouses (40.0%) and children (33.6%) (Fig. 1). Regarding awareness about stroke among close relatives – immediate reactions were reported as they started treatment by family physician (59.1%), waited and observed (54.5%). Regarding awareness about the prevention of stroke, most of them reported that regular checkups with their doctor and lifestyle modification (37.3%). Regarding awareness about suitable treatment options for stroke, most of them said spiritual belief (51.8%) and physiotherapy (40.0%) (Table-II). Nearly two-thirds of the participants (72.7%) had a poor level of awareness, and only a few had a good level of awareness (2.7%) (Fig. 2). Regarding association of socio-demographic characteristics with the levels of awareness of the participants. The levels of awareness of the participants were statistically significant with their education (p=0.003) and occupation (p=0.016). The levels of awareness of the participants were poor among the illiterates (96.3%) and homemakers (83.9%) (Table-III).

Table-I: *Socio-demographic characteristics of the relatives (n=110)*

Characteristics		Frequency	Percentage
Age group (years)	21-40	71	64.5
	41-60	36	32.7
	>60	3	2.7
	Mean±SD	38.1±11.6	
Sex	Male	45	41.0
	Female	65	59.0
Marital status	Married	91	82.7
	Unmarried	17	15.5
	Others (widowed & divorced)	2	1.8
Education	Illiterate	27	24.5
	Literate	83	75.5
Occupation	Homemakers	56	50.9
	Businessmen	18	16.4
	Service holders	12	10.9
	Day labors	9	8.2
	Others	15	13.6
Family type	Nuclear	57	51.0
	Joint	53	49.0
Monthly average income (taka)	≤15,000	85	77.3
	>15,000	25	22.7
	Mean±SD	13,354.6±5,361.4	

Table-II: *Information regarding awareness about stroke among the close relatives*

Traits		n (%)
Awareness about immediate reaction with stroke patients	Immediate hospitalization	39(35.5)
	Wait & observation	60(54.5)
	Consultation with neurologist	19(17.3)
	Treatment by local doctors	48(43.6)
	Treatment by family physician	65(59.1)
	Went to a spiritual leader	24(21.8)
	*Multiple responses	
Awareness about the prevention of stroke	Control of blood pressure	39(35.5)
	Control of Diabetes	26(23.6)
	Lifestyle modification	41(37.3)
	Regular checkups with doctor	41(37.3)
	Cessation of smoking	56(50.9)
	*Multiple responses	
Awareness about suitable treatment option of stroke	Medicine	32(29.1)
	Physiotherapy	44(40.0)
	Both medicine & physiotherapy	23(20.9)
	Surgery	34(30.9)
	Herbal medicine	38(34.5)
	Spiritual belief	57(51.8)

**Multiple responses*

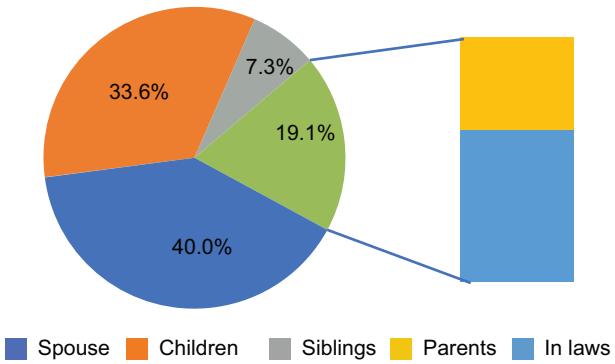

Fig.-1: *Relationship of the participants with the stoke patients (n=110)*

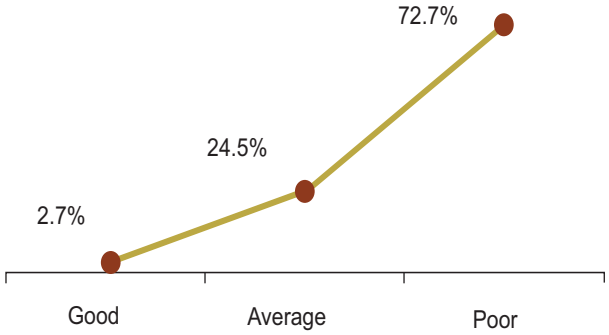

Fig.-2: *Levels of awareness (n=110)*

Table-III: *Association of socio-demographic characteristics with the levels of awareness (n=110)*

Variables	Levels of awareness				χ^2 value	p-value
	Poor n (%)	Average n (%)	Good n (%)	Total n (%)		
Age group (years)						
21-40	56(78.9)	12(16.9)	3(4.2)	71(100)	†7.959	0.073
41-60	22(61.1)	14(38.9)	0(0)	36(100)		
>60	2(66.7)	1(33.7)	0(0)	3(100)		
Sex						
Male	30(66.7)	13(28.9)	2(4.4)	45(100)	†1.901	0.420
Female	50(76.9)	14(21.5)	1(1.5)	65(100)		
Marital status						
Married	65(71.4)	24(26.4)	2(2.2)	91(100)	†4.912	0.281
Unmarried	14(82.4)	2(11.8)	1(5.9)	17(100)		
Others	1(50.0)	1(50.0)	0(0)	2(100)		
Education						
Illiterate	26(96.3)	1(3.7)	0(0)	27(100)	†10.591	*0.003
Literate	54(65.1)	26(31.3)	3(3.6)	83(100)		
Occupation						
Homemakers	47(83.9)	9(16.1)	0(0)	56(100)	†15.915	*0.016
Businessmen	11(61.1)	7(38.9)	0(0)	18(100)		
Service holders	5(41.7)	5(41.7)	2(16.7)	12(100)		
Day labors	7(77.8)	2(22.2)	0(0)	9(100)		
Others	10(66.7)	4(26.7)	1(6.7)	15(100)		
Family type						
Nuclear	40(70.2)	15(26.3)	2(3.5)	57(100)	†0.612	0.802
Joint	40(75.5)	12(22.6)	1(1.9)	53(100)		
Monthly average income (taka)						
≤15,000	64(75.3)	18(21.2)	3(3.5)	85(100)	†2.446	0.289
>15,000	16(64.0)	9(36.0)	0(0)	52(100)		

*Statistically significant value; †Fisher's exact test value

DISCUSSION

The mean age was 38.1±11.6 years, and nearly two-thirds of them were in the age group 21-40 years. Our findings were similar to another study done by Bhat et al., which was carried out in Bangladesh.[9] Most of them were female (59.0%) and married (82.7%), which was similar to the studies in Bangladesh and Germany.[1,9,10] One-third of the participants were illiterate (24.5%). These results were almost similar to the studies done in Bangladesh[9] and in India.[12] Half of the participants were homemakers (50.9%), followed by businessmen (16.4%) and service holders (10.9%), respectively. A study in Bangladesh showed almost similar findings, where 52.7% close relatives were housewives.[10] About half of the relatives (51.0%) came from nuclear families. The mean average monthly family income was 13,354.6±5,361.4 taka, and above two-thirds of the participants (77.3%) earned ≤15,000 taka in a month. These results were almost similar to the study done in Hyderabad, India.[11]

Regarding awareness about immediate reactions in stroke patients, most of them said that they started treatment by family physician (59.1%) and waited & observed (54.5%). Regarding awareness about the prevention of stroke, most of them said that regular checkups with their doctor and lifestyle modification (37.3%). Regarding awareness about suitable treatment options for stroke, most of them said spiritual belief (51.8%) and physiotherapy (40.0%). These findings were nearly similar to the studies.[9-11]

In this study the levels of awareness regarding stroke among nearly two-thirds of the close relatives (72.7%) had a poor level of awareness, and only a few had a good level of awareness (2.7%). The levels of awareness of the participants were statistically significant with their education and occupation ($p<0.05$). The levels of awareness of the participants were poor among the illiterates (96.3%) and homemakers (83.9%). The significant association indicates that people with lower education level, and low incoming occupation group had poor levels of awareness about management and prevention of stroke. These results were almost similar to the studies done in Malawi and India.[12,13]

CONCLUSION

The close relatives of stroke patients had a low level of awareness, according to this study. The identification of the primary risk factors for stroke and its clinical manifestations directly impacts the prevention of stroke and the prompt administration of therapeutic interventions to stroke patients. It is imperative that relatives of stroke patients possess appropriate knowledge and understanding regarding stroke. The results also indicate that in order to lessen long-term disability and the burden of a stroke on family members, the government of Bangladesh should implement a widespread education program to increase community members' awareness of strokes.

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