LEVEL OF KNOWLEDGE ABOUT THE COMMON RISK FACTORS AMONG PATIENTS WITH ACUTE STROKE

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ABSTRACT

Introduction: Currently, stroke represents a serious problem in public health. Stroke is a common, long-term condition that has a considerable impact on individuals, families and health and social care services. Stroke is one of the leading cause of death and disability in the world and the problem is more pronounced in the developing countries like Pakistan, but very limited epidemiological data is available. The most important component of stroke awareness is to know the true risk factors. Increased knowledge of stroke risk factors in the general population may lead to improved prevention of stroke. Diabetes, hypertension, smoking, hyperlipidemia, obesity are important risk factors of stroke the identification of these risk factors by patients and their control can lead to prevention of stroke related mortality and morbidity.

Objective: To determine level of knowledge about the common risk factors among patients with acute stroke.

Methodology: This study was conducted at the department of Emergency Medicine, Study design was descriptive cross sectional study and the duration was one year (12/12/2016 to 11/12/2017) in which a total of 174 patients were studied. All patients presenting with acute stroke and having a GCS of ≥ 13, Males and females above 35 years of age were included. All patients were first councelled for interview first. All the patients were subjected to interview on the basis of questionnaire prepared and on the basis of number of answers given correctly, they were categorized as having good, average or poor knowledge. The interviews were conducted in presence of an expert physician fellow of CPSP. All the above mentioned information including name, age, gender and address were recorded in a pre designed proforma. Data was analyzed in SPSS version 18. Mean ± SD was calculated for numerical variables like age. Frequencies and percentages were calculated for categorical variables like gender and level of knowledge (good, average and poor). Level of knowledge was stratified among age and gender to see the effect modifications. All results were presented in the form of tables and graphs.

Results: The mean age of total patients was 59.06±11.27 years with 110 (63.2%) males and 64 (36.8%) were females. Most of our patients were in older age group i.e. 71.49% above the age of 55 years. After assessing the knowledge through questionnaire 13 (7.5%) patient had good knowledge 39 (22.4%) average knowledge122 (70.1%) poor knowledge.

Conclusion: The level of knowledge of patients about stroke risk factors was poor.

Key Words: Stroke, level of knowledge, risk factors.

INTRODUCTION

Currently, stroke represents a serious problem in public health.[1,2] Stroke is a common, long-term condition that has a considerable impact on individuals, families and health and social care services.[3] Stroke is one of the leading cause of death and disability in the world and the problem is more pronounced in the developing countries like Pakistan, but very limited epidemiological data is available. According to recently released statistics for the United States, in 2007 the overall death rate from CVD was 251.2 per 100 000. From 1997 to 2007, the death rate from cerebrovascular disease (CVD) declined to 27.8%. Mortality data for 2007 shows that CVD accounted for 33.6% (813 804) of all 2 243 712 deaths in 2007, or 1 of every 2.9 deaths in the United States.[4]

There is only one published stroke prevalence study from Pakistan, conducted on adult Pushtoon community residing in Karachi. This study reports a prevalence of 4.8% which was alike in men and women.[5] Hypertension was the most common modifiable risk factor in 54 (60%), followed by smoking in 40 (44.4%), Diabetes in 23 (25.5%), dyslipidemia in 17 (18.8%), obesity in (18%), heart diseases in 7.7% and alcoholism in 3.3%. More than one risk factor was present in 61.1% of patients. Mortality from stroke was 20% and most of the patients at discharge were dependent on others for their daily activities.[6]

The most important component of stroke awareness is to know the true risk factors. A study carried out at Gustavsberg Primary Health Care Centre (GPHCC), Varmdo, Sweden, Hypertension, hyperlipidemia and smoking were identified as risk factors by nearly 90% of patients. Knowledge about hypertension, hyperlip-

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idemia and smoking as risk factors was good.[7] In a Pakistani population based study, 86.9% of the participants correctly stated at least one of these risk factors, 70.2% knew at least two and 53% knew at least 3 the various stroke risk factors identified are hypertension 69%, stress 55.9%, increasing age 33.7%, family history 29.2%, physical inactivity 24.9%, IHD/AF 23.6% and TIA15.8%[8] These values varied between 68% and 80% in the literature.[9]

A study done on stroke risk factors showed that only 26.0% patients with dyslipidemia and 64.5% patients with hypertension were on appropriate medications.[10] A study conducted in India 66% of subjects had poor knowledge, 21% of had average knowledge and 13% had good knowledge about stroke risk factors. In the univariable analysis, higher education (OR 2.0, CI 0.98 - 4.1, P = 0.03) correlated with better knowledge of at least one risk factor.[11]

To the best of our knowledge there is no study conducted in our local population to assess knowledge of risk factors in stroke patients. Increased knowledge of stroke risk factors in the general population may lead to improved prevention of stroke. Results from this study will guide us to suggest changes that can be made in response to the public education campaign. This study will provide us with the local statistics and position of our population regarding level of knowledge regarding stroke risk factors and on the basis of results of this study we can put forward suggestions and recommendations to higher authorities to focus on health education, health promotions and other campaigns to create awareness among general population regarding such risk factors and hopefully it can play a role in the prevention of stroke related morbidity and mortality.

OBJECTIVE

To determine level of knowledge about the common risk factors among patients with acute stroke.

METHODOLOGY

This study was conducted at the department of Emergency Medicine, MTI, LRH Peshawar. Study design descriptive, cross-sectional study and the duration was one year(12/12/2016 to 11/12/2017) in which a total of 174 patients were studied by keeping 13%[11] proportion of good knowledge regarding stroke risk factors, 95% confidence interval and 6% margin of error under WHO sample size calculations. All patients presenting with acute stroke and having a GCS of ≥ 13, Males and females above 35 years of age were included. Patients who were unable to answer the questions in the questionnaire, Terminally ill patients, Patients with history of dementia or other cognitive disabilities, Patients diagnosed with other neurological diseases like brain tumors, multiple sclerosis were excluded. All patients were subjected to detailed history and clinical examination. All patients were first counseled for interview first. All the patients were subjected to interview on the basis of questionnaire prepared (Annexure III) and on the basis of number of answers given correctly, they were categorized as having good, average or poor knowledge. The interviews were conducted in presence of an expert physician fellow of CPSP. All the above mentioned information including name, age, gender and address were recorded in a pre designed proforma. Data was analyzed in SPSS version 18. Mean ± SD was calculated for numerical variables like age. Frequencies and percentages were calculated for categorical variables like gender and level of knowledge (good, average and poor). Level of knowledge was stratified among age and gender to see the effect modifications. All results were presented in the form of tables and graphs.

RESULTS

The study was conducted on 174 patients presenting with acute stroke with a GCS≥13. Among these, 132 (75%) patients had ischemic stroke while 42 (24%) had hemorrhagic stroke Table 1. The mean age of the total sample was 59.06+11.27 years. On stratification of the total sample into age groups, there were 24 (13.8%) of patients in the age group 35-45 years, in the age group of 46-55 years we had 43 (24.7%) patients, in the age group of 56-65 years we had 56 (32%) of patients and in the age group of more than 65 years we had 51 (29.31%) of patients. (Table 2)

A total number of 174 patients who presented with acute stroke, there were 110 (63.2%) males and 64

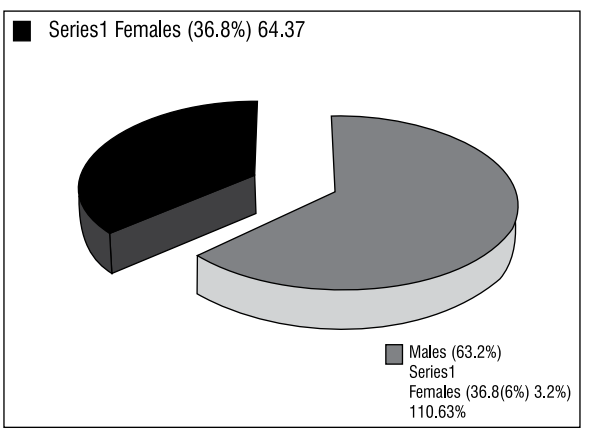

Figure 1: Gender wise distribution of sample (n=174)

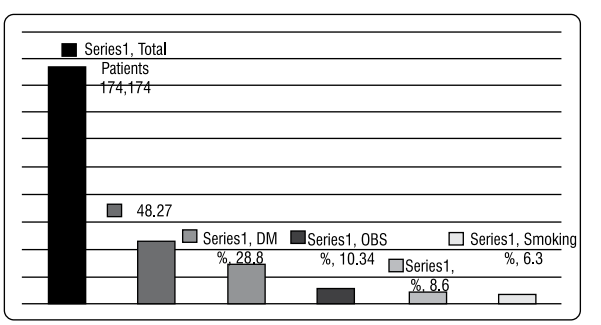

Figure 2: Individual risk factors identification (n = 174)

Table 1: Type of stroke (n = 174)

Type of stroke	No. of patients	Percentage
Ischemic	132	(75.86%)
Heamorrhagic	42	(24.13%)

Table 2: Age-wise distribution of sample (n=174)

Age ranges [in years]	No. of cases	Percentage
35-45	24	13.8%
46-55	43	24.7%
56-65	56	32.18%
>65	51	29.31%
Total	174	100%
Mean ± SD Age	59.06 ± 11.27	

Table 3: Proportion (%) of patients considering diseases/conditions to be or not to be stroke/ risk factors (n = 174)

Condition/disease	Stroke risk factors			
	Increases the risk	Reduces the risk	No influence on risk	Do not know
Hypertension	48.27%	7%	18%	26.73%
Daibetis mellitus	32.75%	6.2%	20%	41.05%
Obesity	13.21%	4.61%	25%	57.18%
Hypercholestrolemia	9.77%	4.4%	24%	61.83%
Smoking	8.0%	1.7%	20%	70.3%

Table 4: Level of knowledge about common risk factors n=174

Level of knowledge	No. of patients	Percentage
Good knowledge	13	(7.5%)
Average knowledge	39	(22.4%)
Poor knowledge	122	(70.1%)

Table 5: Age-wise level of knowledge (n = 174)

Age Group	Good knowledge	Average knowledge	Poor knowledge
35-45	4(16.6%)	8(33.3%)	12(50%)
46-55	5(20.93%)	14(33.3%)	24(55.81%)
56-65	4(7.14%)	13(23.2%)	39(69.64%)
>65	0	4(7.84%)	47(92.15%)

Table 6: Gender wise distribution of knowledge about stroke risk factors

Gender	Good	Average knowledge	Poor knowledge
Male (110)	10(9%)	31(28.18%)	69(62.72%)
Female (64)	3(4.68%)	8(12.5%)	53(82.81%)

(36.8%) females (Figure 1) When these patients were asked about the common risk factors, HTN was identified by 84 (48.27%) as a risk factor, DM by 57 (32.75%), obesity by 23 (13.21%), hypercholesterolemia by 17 (9.77%) and smoking by 14 (8.0%) patients. (Table 3 & Figure 2) In our study 122 (70.1%) patients had poor knowledge, 39 (22.4%) had average knowledge and 13 (7.5%) had good knowledge. (Table 4)

Assessments of the knowledge of the patients in the age groups revealed that in the age group of 34-45 years, 4(16.6%) patients had good knowledge, 8(33.33%) had average and 12(50%) had poor knowledge. In the age group of 46-55 years 5(20.93%) patients had good knowledge, 14(32.55%) had average and 24(55.81%) had poor knowledge. In the age group of 56-65 years 4(7.14%) patients had good knowledge, 13(23.21%) had average and 39(69.64%) had poor knowledge. Those patients who were above the age of 65 years, none of them had good knowledge, 4(7.84%) had average knowledge and 47(92.15%) had poor knowledge. (Table 5)

We also assessed knowledge gender wise. Out of the total 110 male patients, only 10(9%) had good knowledge, 28(25.45%) had average knowledge and 66(60%) had poor knowledge. While among total 64 female patients 3(4.68%) had good knowledge, 11(17.18%) had average knowledge and 56(87.5%) had poor knowledge. (Table 6)

DISCUSSION

Stroke is a common and serious problem in our community. In our study which showed that the knowledge of patients was different about the common risk factors, elderly patients, people from rural area had poor knowledge about the stroke risk factors as compared to people from urban area and those patients with higher education level.

HTN was identified as a risk factor by 84(48.27%) of patients, Diabetes was identified by 57(32.75%) of patients followed by obesity 23(13.21%), dyslipidemia 17(9.77%) and smoking 14(8.0%). Patients' knowledge was very poor and most of them could not even recognize that smoking, obesity and hyperlipidemia may lead to stroke.

A study done at Shifa international hospital Islamabad, Pakistan showed that the most frequent risk factors for stroke are hypertension 86.8% followed by diabetes mellitus 59.8%, dyslipidemia 59.1%, and smok-

ing 18.1%.[12] An another study done in Jehlam Pakistan showed that the most common risk factors, which are almost similar to the above study, are Hypertension which was found in 63.75% patients, smoking in 35%, diabetes mellitus in 33.75%, hyperlipidemia in 31.25%, ischemic artery disease in 15%, obesity in 23.75%.[13]

Another study done in Karachi, 398 healthy people were selected between May and June 2007 and were asked questions about stroke risk factors, warning signs, symptoms and management. Overall, only 23.1% believed that they have sufficient knowledge about stroke. The belief of having sufficient knowledge about stroke was more common among intermediate-and-above level of education (72.8%) and professionals/skilled population (64%).When asked about the organ involved in stroke, almost half (50.8%) identified "brain", whereas 29.4% claimed "heart" to be the organ involved in stroke.[14]

Women and old age people specially have no idea about stroke and its risk factors so they should specifically be educated and separate education programs should be arranged for them because they are the most vulnerable in our community. Those patients who had diabetes and hypertension would seek medical advice frequently so they would become a little more aware as compared to the other patients. Moreover people in urban area have more opportunities of awareness about stroke and its risk factors through print and electronic media and other means than those living in rural areas who are devoid of these opportunities.

In our study we identified that many patients had two or more risk factors, but they were not seeking medical advice and treatment for these risk factors, thus were at high risk for stroke and other cardiovascular diseases due to lack of awareness and partly due to poverty.

A study done in India in which 173 subjects contacted, 147 subjects consented to participate in the study. One hundred and two (69%) patients and 45 (31%) relatives were interviewed. The stroke type was ischemic in 96 (65%), hemorrhagic in 39 (27%) and TIA in 12 (8%). There were 99 (67%) men and 48 (33%) women. The mean age was 59.7 $\pm$ 14.1 years (range 23-95 years). Hypertension 79 (54%) and diabetes 45 (31%) were the two most common risk factors identified by the study cohort. Only 55 (37%) of the subjects could identify one risk factor correctly, 31 (21%) subjects two risk factors and only 19 (13%) 3 or more risk factors people with better educational level had good knowledge at least about one risk factor correctly.[15]

Another study done in Sewden in which hypertension was identified by 87.4%, hyperlipidemia by 87.4%, smoking 87.4%, obesity 77.5% and diabetes was considered as a risk factor by 41.8% patients.[16]

Pakistan is a developing country. The education level of people is very low. Many of our patients could not even recognize their disease, and this study may not be applicable to the whole population of our province. It is highly desirable to improve the level of education about stroke and its common risk factors through educational programs and campaigns through community motivation and mass media, in order to reduce the morbidity and mortality associated with stroke. We also need to conduct more studies which should be community based in order to confirm our findings and to assess the level of knowledge and understanding of the healthy people at risk and of the affected patients.

CONCLUSION

In our study we observed that most patients were not aware of stroke and its risk factors due to lack of appropriate campaigns which should focus on common risk factors of stroke. There is an urgent need for awareness programs about stroke its risk factors and common signs and symptoms, in order to reduce the morbidity and mortality associated with stroke.

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