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Assessment of the Awareness of Warning Signs and Risk Factors of Stroke in a Tertiary Care Hospital of Rawalpindi: A Descriptive Cross-Sectional Study

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Abstract

Purpose: Stroke incidence is high all over in the world. It has a list of specific warning signs and risk factors. Awareness of people about those warning signs and risk factors is low especially in third world countries. This study aimed to identify the awareness of people about the warning signs and risk factors of stroke.

Methodology: This descriptive cross-sectional study was performed in a tertiary care hospital, Rawalpindi, among one hundred for one year from June 2021 to June 2022. Ethical approval and informed consent were waived before the start of study. Patients' selection was made via a well-defined inclusion and exclusion criteria. Convenient sampling technique was also used for enrollment of participants. Data was collected by using a self-designed questionnaire. Descriptive statistics were put into action for the data analysis. Data analysis was carried out by SPSS version 25.0 (IBM Corp., Armonk, NY).

Findings: The warning sign of the stroke about which most of the people were aware was sudden body weakness or numbness (74%) while warning sign about which people were least aware was sudden difficulty in seeing objects by one or both eyes (29%). The most common identified risk factor in people was hypertension (70%) for stroke while least common identified risk factor was family history of stroke (36%). In short, this study indicates people awareness about the warning signs and risk factors of stroke was not up to the mark in study population.

Recommendation: There is need to increase the awareness level of people about the warning signs and risk factors of the stroke. This could lead to timely and effective management of stroke and its prevention as well.

Keywords: *Awareness, people, warning, signs, risk, factors, stroke, tertiary, care, hospital, Rawalpindi*

INTRODUCTION

Stoke is one of the leading causes of mortality and long-term disability around the globe. Stroke incidence is high throughout the world because of the increasing cardiovascular risk factors among the people especially in the third world countries [1]. Mainly there are two types of stroke such as ischemic stroke and hemorrhagic stroke. Stroke is a preventable medical emergency, and it is associated with different warnings signs and risk factors. Warning signs could be sudden body weakness or numbness, sudden difficulty in speaking, seeing objects or walking, sudden loss of balance, or sudden headache without any obvious cause [2]. Established risk factors for stroke included hypertension, heart diseases, diabetes mellitus, family history of stroke, previous stroke history, dyslipidemia, inactive lifestyles, and smoking [3,4].

The time duration between the onset of stroke and patient arrival in hospital is very crucial. For the effective treatment and prevention of the stroke deteriorating disabilities early treatment of the stroke is vital. Early and timely treatment of stroke is only possible when people are aware of stroke warning signs while the prevention of the stroke is also only possible when people have adequate knowledge of the risk factor of the stroke [5]. It is very unfortunate that knowledge of people about the warning signs and risk factors of the stroke is low among general population especially in third world countries and it leads to delay in the treatment consequently the bring the permanent disabilities among the patients [6,7].

Prevention of stoke is only possible by the assessment of the awareness of the warning signs and risk factors of stoke then by developing the methods that could increase the awareness of warning signs and the risk factors of stroke. So, that people could avoid those risk factors, and this would bring the reduction in the incidence of the stroke. Therefore, this study is aimed to identify the awareness of warning signs and risk factors for stoke among old age population in a tertiary care hospital, Rawalpindi.

MATERIAL AND METHODS

This descriptive cross-sectional study was carried out in the medicine of a Tertiary Care Hospital of Rawalpindi, among one hundred patients with pilonidal sinus for one year from June 2021 to Jun 2022. Patients' enrollment in the study was carried out by applying the non-probability convenient sampling and an established inclusion and exclusion criteria. Only those people who had, an age above 50 years, no psychiatric diseases, and had will to participate, were selected for the study, while those who had, age below 50 years, any psychiatric diseases, and had no interest to participate, were excluded from the study. Before the start of the study ethical approval was obtained from the Ethical Review Board of the relevant hospital. Informed consent was also waived from all participants before the data collection.

Data was collected via a self-structured questionnaire. This questionnaire had two components. First was regarding socio-demographic features of the study population such as gender (male or female), age group (50 to 65 years or above 65 years), education status (illiterate or literate), and residence (urban or rural), whereas the second part was about the warning signs of stroke and its possible risk factors. Warning signs included sudden numbness or weakness in any part of the body, sudden confusion, speaking difficulty or understanding, sudden difficulty in seeing in one or two eyes, sudden loss of balance, sudden difficulty in walking, or severe headache without any obvious cause. Risk factors for stroke included hypertension, heart disease, hyperlipidemia,

diabetes mellitus, inactive lifestyles, family history of stroke, previous history of stroke, and smoking. This questionnaire was given to each participant, and they were asked to fill in it by themselves and by identifying the warning signs and risk factors of the stroke.

After data collection, data analysis was done via descriptive statistics in statistical Package for the Social Sciences (SPSS) version 25 (Armonk, NY: IBM Corp.). The frequency and percentage of qualitative data were measured, whereas means of quantitative data were calculated.

RESULTS

Out of one hundred patients, sixty (60%) were males, while forty (40%) were females. The mean of age for the study population was 61± with standard deviation of ±11.19. Table 1 shows the socio-demographic features of the study population. Table 2 indicates that frequency and percentages of awareness of warning signs of the stroke among study population. It shows that the warning sign about which most the people were aware was sudden numbness of body or sudden weakness of the different parts of the body while the warning sign about which study population was least aware was difficulty seeing objects by one or both eyes.

Table 3 elaborates the awareness of the risk factors of the risk factors of the stroke among study population. The risk factor about which most of the people were aware was hypertension whereas, the risk factor about which people were least aware was family history of stroke.

Table 1: Socio-demographic features of study population

Variables	Frequency	Percentage
Age group in years		
50-65	74	74%
Above 65	26	26%
Gender		
Male	60	60%
Female	40	40%
Education		
Literate	43	43%
Illiterate	57	57%
Residence		
Rural	49	49%
Urban	51	51%

Table 2: Frequencies and percentages of awareness of warning signs of the stroke among study population

Variables	Frequency	Percentage
Sudden weakness/numbness of body part		
Yes	74	74%
No	26	26%
Sudden loss of body balance		
Yes	60	60%
No	40	40%
Sudden confusion/difficulty in speaking or understanding		
Literate	48	48%
Illiterate	52	52%
Sudden difficulty in seeing by one or both eyes		
Yes	29	29%
No	71	71%
Sudden difficulty in walking		
Yes	38	38%
No	62	62%
Sudden headache		
Yes	49	49%
No	51	51%

Table 3: Frequencies and percentages of Potential risk factors of the Stroke among study population

Variables	Frequency	Percentage
Hypertension		
Yes	70	70%
No	30	30%
Heart disease		
Yes	49	49%
No	51	51%

Hyperlipidemia		
Yes	47	47%
No	53	53%
Diabetes mellitus		
Yes	56	56%
No	44	44%
Inactive lifestyles		
Yes	57	57%
No	43	43%
Family history of stroke		
Yes	36	36%
No	74	74%
Previous Stroke		
Yes	56	56%
No	44	44%
Smoking		
Yes	66	66%
No	44	44%

DISCUSSION

This study has presented the awareness of people about the warning signs of stoke and its risk factors. This study showed that the awareness of the people about the warning signs and risk factors of the stroke was not up to the mark and even the educated did not have sufficient knowledge. In the first stage of the data analysis, it was noted the sudden body weakness and numbness was recognized by 74% of the study population and comparable percentage of knowledge was noted a study of Oman [8]. However, another study in the literature, showed headache (75%) was most common presentation of the stroke in their study population [9].

About 60% of the population were able to identify sudden loss of balance of body as a warning sign of stroke, another Iranian study presented similar picture in the result with 64.50% [10]. Sudden headache was recognized by 49%, while in a study of Lebanon showed headache as a major warning sign with 29.20% [11]. Slurring of speech was considered as a warning sign by 48% of this study population, while a study that was conducted in the Egypt suggested that 69.7% study population of this study, were aware that sudden difficulty in speech is a warning sign of stroke [4]. About 38% of participants acknowledged that sudden difficulty in walking as a warning sign of the stroke and this was also supported by another study in the literature [13]. Least identified by this study population as a warning sign of stroke was difficulty in seeing by one or

two eyes and it was only identified by 29% of participants, whereas another study also presented this sign as a warning sign of stroke [14].

In the second step of the data analysis, it was observed in current study that hypertension (70%) was most frequently identified risk factor for stroke followed by smoking (66%), inactive lifestyles (57%), diabetes mellitus and previous history of stroke with similar percentage (56%), heart disease (49%), hyperlipidemia (47%), and family history of stroke (36%). Several studies in that were conducted in the different parts of the world also reported that their study populations identified hypertension as a major risk factor for the stroke, while percentages of participants for other risk factors of the stroke were different in different regions of the globe [1,2,3,4,12]. This variation in the other risk factors could be due to differences in races, environmental changes, and different lifestyles.

The restrictions of current study included small sample size and cross-sectional design of the study. Some might have caused the change in the results and because of the cross-sectional design current study could not present how the noted risk factors causes stroke. Therefore, further research is required with a larger sample size and that could narrate that how these risk factors cause stroke.

CONCLUSION AND RECOMMENDATIONS

The study findings have suggested that the awareness of the people about all the warning signs and risk factors of the stroke is not up to the mark in study population. Furthermore, this study has also showed most frequently identified warning sign among study population was sudden weakness of the body followed by sudden loss of body balance, sudden headache, sudden slurring of speech, sudden difficulty in walk, and sudden loss of vision/ difficulty in seeing objects. Whereas, most frequently followed risk factor was hypertension followed by smoking, inactive lifestyles, diabetes mellitus and previous history with same percentage, heart disease, hyperlipidemia, and family history of stroke.

To prevent stroke and its permanent disabilities, health authorities should increase the awareness of general people. This study suggests that awareness of the people regarding the stroke risk factors and its warning signs should be increased. When people would be knowledgeable about stroke risk factors and warning signs, they would mobile timely for the proper and effective management of the stroke, consequently, stroke incidence and the long-lasting effects of the stroke could be reduced.

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