AWARENESS ABOUT THE SIGNS, SYMPTOMS AND THE RISK FACTORS OF STROKE IN PATIENTS WITH STROKE: A MULTICENTRE STUDY

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ABSTRACT

The aim of this survey was to determine the levels of awareness regarding symptoms, warning signs and risk factors of stroke in patients with stroke. For the latter purpose, a total of 500 participants who had stroke were recruited from four different hospitals of Rawalpindi and Islamabad. Patients who were already diagnosed by physicians with either type of stroke (haemorrhagic and ischemic) were included in this trial. Data was collected through a questionnaire and was analysed in SPSS version 20. Both male and female population were included in this study. The minimum age for the patients to be included was 40-year. A total of 229 males and 271 females with a mean age 54.4± 13.4 year participated in this cross sectional survey. More than half of the population (58%) included in this survey were non-smokers. Majority (47%) of the participants were unaware of their Cholesterol level. A small proportion of population (19%) were involved in doing one or other kind of physical activity on daily basis. A major proportion of population (65%) were not aware about the sign, symptom and risk factors of stroke. A small number of the patients (20%) were aware of how to manage their daily activities independently. All participants were actively involved in the rehabilitation programme and were either receiving physiotherapy at the hospitals or continuing exercises at home. Based on the findings this survey it can be concluded that a big proportion of patients with stroke are not aware of the signs, symptoms and risk factors associated with stroke.

Keywords: Stroke, Warning Signs, Symptoms.

INTRODUCTION

Stroke or cerebrovascular accident (CVA) is a focal neurological deficit resulting due to reduced or diminished blood supply to the brain ([1]). A total of 30 million people across the globe experience an acute stroke and a huge number of the patients do not survive following stroke ([2]). Globally it is the third most common cause of death and has been reported to be one of the commonest cause of long term disability ([3]). The increasing number of patients with stroke in low and middle income countries is alarming and it accounts for significant number of the stroke mortality ([4-6]). The estimated cost of stroke in the USA has been reported 3.15 billion dollars while in the UK the total cost of the stroke has been reported nearly 9.0 billion pounds ([7, 8]). The consequences of stroke are obvious in the form of functions deficits in both upper and lower limbs with the latter limb mainly affected due to poor control of muscle passing through knee and ankle joints([9]). It has been reported that majority of the stroke survivors achieve walking with some assistance during the initial three months of rehabilitation ([10]). However, still a big number of the survivors do not achieve independent walking throughout their lives. Moreover, residual weakness usually involves an asymmetrical gait pattern in these patients for long time ([11]). The presence of some of the factors modifiable (hypertension, smoking, heavily alcohol consumption, dyslipidaemia and diabetes mellitus) and non-modifiable (age, gender, family history of stroke, and race) have been reported to significantly correlate with the incidence of stroke ([12, 13]). Many of the established risk factors for stroke can be managed properly either through adopting a healthy lifestyle or by taking regular medications that will ultimately lessen incidence of stroke ([14]). However, it has been reported that awareness regarding the stroke in general population is poor and with a poorest level in elderly patient ([15, 16]). In a nationwide survey, it was reported that only 49% of Australian adults were able to correctly name a stroke warning sign and as a result, a mass

media campaign was launched in the country in order to increase awareness about stroke and it signs. During the campaign it was observed that Australian public's awareness of stroke warning signs in 6 out of 7 Australian States had improved significantly ([17]). Similarly, in a population based survey in Ireland on 2033 participants it was found that more than half of the participants were not able to identify established risk factors for stroke with exception for hypertension which was identified by 74% of the participants ([18]). The latter trials have been carried out in developed countries where people are regarded to have more awareness about health compared to the population living in developing countries. The same problem may exit in Pakistan and patients with stroke people may be expected to have less awareness regarding the signs, symptoms and its associated factors. It is obvious from majority of the survey that there is a dire need to increase public awareness of stroke risk factors and warning signs. The reason behind this is the fact that stroke is one of the major causes of disability in the whole world. Moreover, information about these risk factors can be disseminated by ordinary methods. For instance, a small booklet on stroke can significantly increase knowledge of risk factors and warning signs if it is given to all those patients who are at high risk to stroke incidence. As elderly patients are at high risk for stroke, it is particularly important that these people and their care givers must be targeted for such information. It is obvious from the literature that awareness about the signs and risk factors for stroke in developed countries in general and developing countries in particular is significantly lacking. Moreover, to the authors' knowledge no such trials have been carried in Pakistan and therefore, conducting such survey in the country may be helpful to assess the need of awareness about the signs and risk factors of stroke. Therefore, this survey was designed in order to find out levels of awareness regarding risk factors associated with stroke.

METHODS

This was across sectional study where a survey form consisting information about the sign, symptoms and awareness of stroke in patients was distributed and filled. The sample size was 500 which included both male and female population. The minimum age for inclusion in this survey was 40 years. After obtaining permission from the concerned departments, potential participants were approached. A detail description about the study was given. An informed consent was obtained before inclusion in this trial. A self-reported questionnaire about the level of awareness, warning signs, symptoms and risk factors associated with stroke was distributed among all willing participants. The study was carried out in various hospitals and residencies of Rawalpindi Islamabad. The researchers personally collected the data from all the respondents. All the questions were explained to every participant of the study. Since most of the respondents of the study were not educated, therefore, the researchers filled the questioners as told by the respondents. The participants included in the study were house wives, workers, business men, government employees and teachers. However, female respondents were more compared to their counterparts' male. The hospitals that were included in the study were Pakistan Railway Hospital, Rawalpindi, Holy Family Hospital, Rawalpindi, Armed Forces Institute of Rehabilitation Medicine and Pakistan Institute of Medical Sciences.The duration of the study was 7 months; starting from September 2015 and finished in February2016. Data was analysed by using SPSS 20 (Statistical Package for Social Sciences) software.

RESULTS

A total of 500 participants 229 (46%) male and 271 (54%) female participated in this survey. The mean age of the participants was 54.4±13.4 years with 15% population in age group 41-45 years, 13% population in 46-49 years, 26% in 50-54 years, 24% in 55-60 years, 15% in 61-65 years and 7% in 66-70 years. Body weight of the majority of the participants (42%) was falling into 50-60kg category, 38% into 61-70kg category, 17% into 81-90kg category and 3% into 90 kg or more category. Responses to the questions In response to questions how many cigarettes do you smoke per day, 8% of the population replied 2 cigarettes, 8% replied 4 cigarettes, 18 % replied 6 cigarettes and 8% replied 10 or more cigarettes per day. More than half (58%) of the population included in this survey were non-smokers. In response to the question related to managing stress, a big number (45%) of participants responded becoming aggressive, 30% responded lying on bed, 20% responded crying or weeping and a small number (5%) responded feeling hungry. Majority (47%) of the responders were unaware of their Cholesterol level while 42.9% of the population reported normal cholesterol level and small proportion 8% and 1.2 % reported it high and low, respectively. Only 19% of the population were involved in doing any sort of physical activities on daily basis, 13% were doing exercises once a week, 6% two times a week and a remarkable number (62%) of the population were not doing any exercises. Half of the population was reported to have normal sugar level while 39% of the

population were unaware of their sugar level and rest reported to have moderate (6%) or high (5%) sugar level durinr mornings. Almost 12 % of the population associated stroke with imbalance diet, 6.6% associated with stress,36.9% replied don't know the causes, 18.1% associated it with lack of awareness and 26.4% associated stroke with lack of proper medications. A big proportion of population (65%) were not aware about the sign, symptom and risk factors of stroke. A small number of the patients (20%) were aware of how to manage their daily activities independently. The rest of the population needed some assistance at during carrying out activities of daily living. Majority of the population live with their children who were responsible for assisting them in their activities of daily living.

DISCUSSION

The aim of this survey was to find out level of awareness regarding factor associated with stroke in elderly population. A total of 500 participants included both genders male and female were recruited for this survey and questionnaires were distributed amongst them. Participants with less than 40-years old were not included in this survey. The reason for keeping the minimum age 40-years was justified by the fact that the incidence of stroke has been reported after 40 years. Moreover, stroke at different stages of life is caused by factors that may not necessarily be same for other stages of life; the factors causing stroke at early stage (less than 40 years) are different from the ones making an individual prone to stroke during latter stages of life (19). Donnell et al in their case controlled trial reported that patients with age more than 40-years were at a higher risk of stroke compared the patients who age was less than 40-years(20). Similarly, a secondary analysis of the European-Australian acute stroke study have suggested that the incidence of stroke increases with the increasing age(21). In our survey, the number of female population was more compared to their counterparts' male. In a systematic review on the epidemiology of stroke amongst male and female genders it was suggested that the prevalence of stroke was higher in female population compared to male population(22). The reasons for that may be associated factors of the stroke as 3 out 10,000 female faces stroke during their pregnancy. Moreover, the use of contraceptive medicine has been associated with incidence of stroke. A big proportion of female population uses these medicines to avoid pregnancies. The role of increased levels of physical activities in preventing stroke is obvious from that fact that it has been associated with improving cardiac function and lipid profile by lowering down the level of cholesterol in human body. Moreover, it is obvious from literature that people with increased level of physical activities are less prone to high blood pressure and increased resting heart rate. One of the findings of this survey suggested that more than a half (61%) of the population in this survey were not involved in any sort of exercises. Only a small proportion of the participants were doing exercises on regular basis. This might be one the factors that has caused stroke in these patients. The present recommendations even for geriatrics population included performing physical activities on regular basis with less intensity than suggested to younger population (23). Majority of the population included in the trial were smokers with different number of cigarette smoking per day. Woman in this trial were reported to be non-smokers. This might be due the culture as majority of the woman in the country are non-smokers. Hashimoto reported that one of the significant factor for stroke is smoking and an increase in number of cigarette per day leave general population more prone to the incidence of stroke (24).Similarly, in a systematic review and met-analysis it was reported that smoking in female population was exposing more female population to stroke when compared to male population.

CONCLUSION

Based on the findings this survey it may be concluded that a big proportion of patients with stroke are not aware of the sign, symptom and risk factors associated with stroke.

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