The Pattern of Cerebrovascular Accident (CVA) with their Associated Factors for the People Under 45 Years of Age at Bangladesh

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Abstract

Background: In Bangladesh many people are suffering from CVA in a very early age due to increase of certain associated factors. This study explores the factors associated with cerebrovascular accident (CVA) and the factors associated with stroke among the people under 45 years of age.

Methods: A descriptive type of cross sectional study of 109 participants was conducted. The sample was selected by using purposive sampling technique. Data was collected from participants through face to face interview. Descriptive study was used for data analysis.

Results: Majorities (64.2%) of the respondent were males, 65.1% were Muslim, 60.6% up to secondary level of education and almost half of the respondents (45.5%) urban area. More than half of the participants (68.8%) were from nuclear family. Majority (31.2%) of the respondent's monthly family expenditure was between 5001 to 10000 taka. The present study observed the highest age at onset of stroke was 31-40 years. A significant association between diabetes mellitus and the type of stroke (p=0.047), high blood pressure (p=0.049) and body mass index (p=0.037). Also cholesterol level was not significant but a weak association (p=0.560) present between them. This study did not find any association between the type of stroke and educational status (p=0.738), smoking status (p=0.414), age (p=0.628), occupation (p=0.265), alcohol consumption (p=0.910), physical activity (p=0.875), intake vegetable (p=0.323), fatty food (p=0.992) and salt (p=0.146) Therefore, a further large scale study is recommended to find out the factors associated with patter of stroke among the people under 45 years of age.

Conclusion: According to the result of this study, it can be concluded that Majorities of the respondent were males, Muslim and up to secondary level of education. The present study observed the highest age at onset of stroke was 31-40 years. Using multivariate analyses we found a significant association with diabetes mellitus, high blood pressure and body mass index. Also cholesterol level was not significant but a weak association present between them. This study did not find any association between the type of stroke and educational status, smoking status, age, occupation, alcohol consumption, physical activity, intake fatty food and salt.

Keywords: CVA: Cerebrovascular Accident; CRP: Centre for the Rehabilitation of the paralysed; ADL: Activities of Daily Living; BMI: Body mass index

Introduction

Chronic disease growing in low income countries and cardiovascular diseases account for 17.7 million deaths yearly globally; comprising 11% of estimates for the global burden of disease. The worldwide burden of stroke is enormous which has long been acknowledged as a major public health concern [1]. A worldwide study based on vital record and data imputation shows that per year 15 million people faces the event 'stroke' which cause in 5 million deaths and a further 5 million patient living with permanent cognitive and physical disability [2]. Stroke is widely recognized as a major cause of disability among adults and is the most common cause of dependence in activities of daily living (ADLs) among elderly. Approximately 90% stoke survivor has have permanent neurological deficits. Two third of stroke survivors require rehabilitation, and 50% do not regain their independence [3]. Disability results from stroke have massive economic effect on the care system [4]. The mentioned circumstances rationalized existing importance on the requirement to manage risk factors that are accountable for the maximum number of strokes [5]. There are very few studies which identify risk factor of stroke in Bangladesh. Identification of the risk indicators for cerebro-vascular diseases offers some possibilities for prevention and therefore arouses substantial public health interest.

Research Methodology

The study was conducted by Cross sectional study design that was undertaken to determine the factors associated with stroke at Centre for the Rehabilitation of the Paralyzed (CRP), Bangladesh with 109 samples included with the inclusion criteria. Data were collected by face to face interviewed method. At the end of data collection, data were entre in the software Statistical package for social Science (SPSS). To find out the association among the different variables Chi-Square test was performed.

Results and Discussion

From the result it indicates that patient has various patter with reasonable factors for the patient with stroke. In this study, 109 participants were selected with 64% (n=70) male and 36% (n=39) female where more than half 86% of the participants were married with the age above 20 years. Among the total participants 63% (n=68) were ischemic and 37% (n=41) were haemorrhagic in accordance to physician diagnosis with 62% HTN and other are associated with diabetes. The aim of this study was to find the association between pattern of stroke and its associated factors. Data were analyzed using appropriate statistical procedures and presented in the current chapter through flowing **(Tables 1 and 2).**

Table 1 Individual characteristics of the subject variables.

Variables	(%) N
Type	Ischemic (63%) 68
	Haemorrhagic (37%) 41
Preexisting diseases	High blood pressure (63%) 68
	Diabetes (56%) 51
	Heart disease (80.7%) 88
Addiction status	Never smoke (51%) 56
	Smoke (49%) 53
	Alcohol consumed (95%) 104
Food Habit	Vegetables (63%) 68/2/daily
	Fruits (88%) 96/2/daily
	Fatty food (85%) 93/2/daily
Family history of clinical condition	High blood pressure (52%) 57
	Diabetes (55%) 60
	Heart disease (90%) 10
Anthropometric measurement	Overweight (85%) 92
	Normal (16%) 17
Daily Activity	Mild to moderate activity (87%) 95
	Severe activity (13%) 14
Daily exercise before stroke	Not perform exercise regularly (89%)97
	Performed exercise regularly (11%)12

Table 2 The between-subject analysis for association.

Cross tabulation of smoking and pattern of stroke		
	Chi-Square	**P-value**
Smoking and type of stroke	0.665	0.414
Cross tabulation of consumed alcohol and pattern of stroke		
	Chi-Square	**P-value**
Consumed alcohol and type of stroke	0.031	0.91
Cross tabulation of level of activity and pattern of stroke		

Cross tabulation of smoking and pattern of stroke		
Level of activity and type of stroke	**Chi-Square**	**P-value**
	0.025	0.875
Cross tabulation of physical exercise and pattern of stroke		
Physical exercise and type of stroke	**Chi-Square**	**P-value**
	0.914	0.339
Cross tabulation of blood pressure and pattern of stroke		
Blood pressure and type of stroke	**Chi-Square**	**P-value**
	4.37	0.037
Cross tabulation of diabetes mellitus and pattern of stroke		
diabetes mellitus and type of stroke following	**Chi-Square**	**P-value**
	4.21	0.047
Cross tabulation of body mass index and pattern of stroke		
Body mass index and type of stroke following	**Chi-Square**	**P-value**
	3.861	0.049

Conclusion

According to the result of this study, it can be concluded that Majorities of the respondent were males, Muslim and up to secondary level of education. The present study observed the highest age at onset of stroke was 31-40 years. Using multivariate analyses we found a significant association with diabetes mellitus, high blood pressure and body mass index. Also cholesterol level was not significant but a weak association present between them. This study did not find any association between the type of stroke and educational status, smoking status, age, occupation, alcohol consumption, physical activity, intake fatty food and salt.

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