Original Research Article

Attitude of Pharmacist about the Risk Factors of Stroke During HAJJ: Cross Sectional Study in Pharmacy Students

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Abstract: Stroke is an emergency condition in which blood supply get effected and blood flow to brain stops and brain cells starts to die. Stroke is a second leading cause of hospitalization during Hajj. There are six types of stroke. There are many risk factors which may lead to stroke during Hajj such as cardiovascular diseases, hypertension, hypercholesterolemia, depression, atrial fibrillation, increased volume of heart, angioplasty, elderly, renal disease, calcium and fat deposition in heart vessels and rheumatic fever etc. Our survey aims to find its awareness in pharmacy undergraduates. A cross sectional and random sampling method was used to collect data in the month of August and September 2015. Data was collected from 100 pharmacy undergraduates from Karachi, Pakistan. According to our survey 100% pharmacy undergraduates have basic knowledge about stroke, 58% have awareness about the second leading cause of hospitalization during Hajj, 74.5% have knowledge about types of stroke and 69.9% have awareness about the risk factor of stroke during Hajj. 88% pharmacist have knowledge that how to prevent stroke during Hajj. We concluded that there is lack of awareness. Steps should be taken to spread its awareness in layman.

Keywords: stroke, emergency condition, hospitalization, Haj.

INTRODUCTION

Stroke is a form of cardiovascular disease affecting the blood supply to the brain. When physicians speak of stroke, they generally mean there has been a disturbance in brain function, often permanent, caused by either a blockage or a rupture in a vessel supplying blood to the brain [1]. A stroke is a medical emergency. Prompt treatment is crucial. Early action can minimize brain damage and potential complications[2-54] .In the United States, stroke is a leading cause of death, killing nearly 130,000 people each year, and a leading cause of serious, long-term adult disability [55-56]. When a stroke damages part of the brain, that area may no longer work as well as it did before the stroke. This can cause problems with walking, speaking, seeing or feeling. [57] A stroke may be caused by a blocked artery (ischemic stroke) or the leaking or bursting of a blood vessel (hemorrhagic stroke). Some people may experience only a temporary disruption of blood flow to their brain (transient ischemic attack, or TIA) [2-54]. The effects of a stroke depend primarily on the location of the obstruction and the extent of brain tissue affected [59]. Stroke is a multi factorial disease where a combination of risk factors, all of which do not all have to be present, will, over time, influence the subject's likelihood of suffering a stroke [60]. Over 300 risk factors have been associated with coronary heart disease and stroke. The major

established risk factors meet three criteria: a high prevalence in many populations; a significant independent impact on the risk of coronary heart disease or stroke; and their treatment and control result in reduced risk[61]. The chance of having a stroke approximately doubles for each decade of life after age [55]. While stroke is common among the elderly, a lot of people under 65 also have strokes. the stroke risk may be greater if a parent, grandparent, sister or brother has had a stroke. Some strokes may be symptoms of genetic disorders caused by a gene mutation that leads to damage of blood vessel walls in the brain, blocking blood flow [62]. Each year, women have more strokes than men, and stroke kills more women than men. Use of birth control pills, pregnancy, history of preeclampsia/eclampsia or gestational diabetes, oral contraceptive use, and smoking, and post-menopausal hormone therapy may pose special stroke risks for women[55,59,61]. Transient ischemic attacks (TIAs) are "warning strokes" that produce stroke-like symptoms but no lasting damage [5,6, 55]. TIAs are strong predictors of stroke. High blood pressure is the leading cause of stroke and the most important controllable risk factor for stroke. Many people believe the effective treatment of high blood pressure is a key reason for the accelerated decline in the death rates for stroke [56, 57].In recent years, studies have shown cigarette smoking to be an important risk factor

for stroke. The nicotine and carbon monoxide in cigarette smoke damage the cardiovascular system in many ways. The use of oral contraceptives combined with cigarette smoking greatly increases stroke risk [55]. Diabetes is an independent risk factor for stroke. Many people with diabetes also have high blood pressure, high blood cholesterol and are overweight. This increases their risk even more. While diabetes is treatable, the presence of the disease still increases risk of stroke. The carotid arteries in neck supply blood to brain. A carotid artery narrowed by fatty deposits from atherosclerosis (plaque buildups in artery walls) may become blocked by a blood clot. Carotid artery disease is also called carotid artery stenosis [55] .This heart rhythm disorder raises the risk for stroke. The heart's upper chambers quiver instead of beating effectively, which can let the blood pool and clot. If a clot breaks off, enters the bloodstream and lodges in an artery leading to the brain, a stroke results. People with coronary heart disease or heart failure have a higher risk of stroke than those with hearts that work normally[57, 58]. Dilated cardiomyopathy (an enlarged heart), heart valve disease and some types of congenital heart defects also raise the risk of stroke [60,61].

Diets high in saturated fat, trans fat and cholesterol can raise blood cholesterol levels. Diets high in sodium (salt) can contribute to increased blood pressure [57]. Diets with excess calories can contribute to obesity. Also, a diet containing five or more servings of fruits and vegetables per day may reduce the risk of stroke. Being inactive, obese or both can increase your risk of high blood pressure, high blood cholesterol, diabetes, heart disease and stroke[59]. Drug addiction is often a chronic relapsing disorder associated with a number of societal and health-related problems. Drugs that are abused, including cocaine, amphetamines and heroin, have been associated with an increased risk of

stroke. Strokes caused by drug abuse are often seen in a younger population. The good news is that 80 percent of all strokes are preventable [58]. The American Heart Association identifies seven factors to control for ideal health. Life's Simple 7: be active, control cholesterol, eat a healthy diet, manage blood pressure, maintain a healthy weight, control blood sugar and don't [61].

The aim of this study is to evaluate attitude of pharmacist about prevalence of stroke during Hajj and pharmacist role in preventions.

METHODOLOGY
A cross-sectional and random sampling method was used for the collection of data about the awareness of Stroke during HAJJ among the Pharmacy Undergraduates of Karachi. Data were collected in the month of August and September 2016 from universities and hospitals in Karachi city. A specially designed questionnaire was used for data collection. Data from 100 samples were collected and analyzed.

RESULTS AND DISCUSSION
A stroke is a medical emergency. Strokes happen when blood flow to brain stops. Within minutes, brain cells begin to die. Stroke is the leading cause of hospitalization during Hajj after cardiovascular events. In our survey, the first question "do you know about stroke or falij?" was asked from 100 pharmacy undergraduates. All the 100 pharmacy undergraduates answered this question by showing positive attitude. Than we asked the second question from them that was "do you know after cardiac problems, stroke is the 2nd reason of hospitalization during hajj?". This question was asked from 100 pharmacy undergraduates. 58 pharmacists answered this question by positive attitude whereas 42 pharmacy undergraduates answered this question by negative attitude.
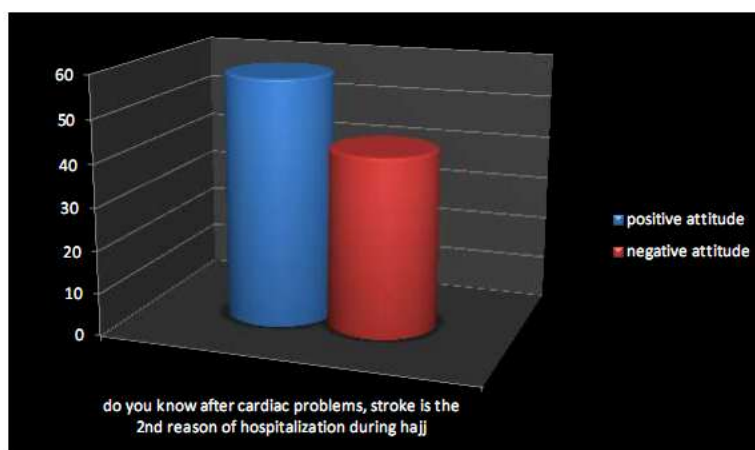

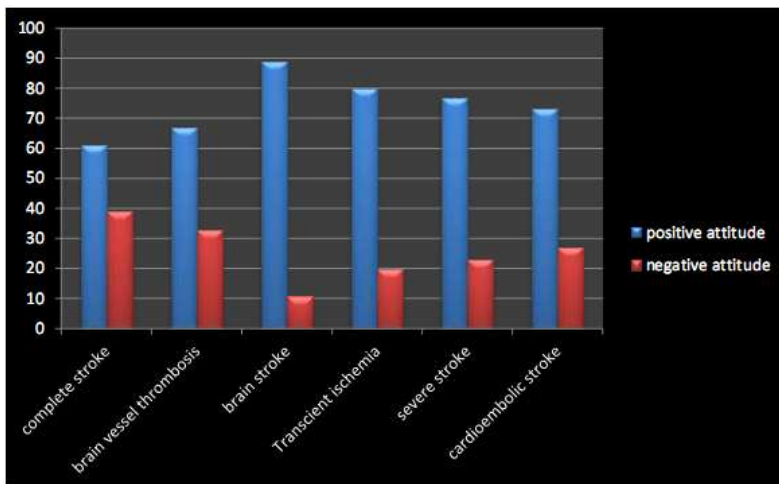**Fig-1: Awareness about the cause of hospitalization during hajj**
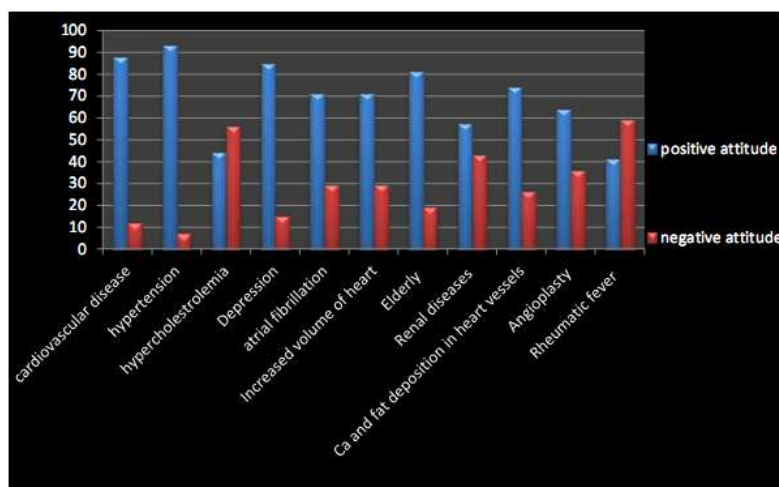
Fig-2: Awareness about types of stroke

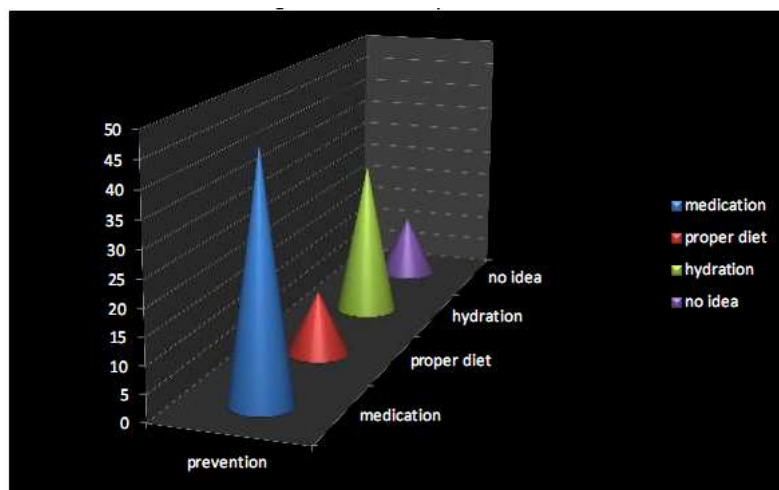**Fig-3: Awareness about risk factors of stroke**

Fig-4: Advise for prevention

We asked some questions about the types of strokes. There are six types of strokes. We check the awareness about these types of stroke. We asked "do you know about the complete stroke?" the positive attitude was shown by 61 pharmacists whereas 39 pharmacists have no awareness about the complete stroke. Than we asked about brain vessel thrombosis from 100 pharmacy undergraduates. The number counted for positive attitude was 67 whereas 33 was the number counted for negative attitude. On the question about brain stroke, that is third type of stroke, 89 positive and 11 negative attitudes were noticed. When

asked about the transient ischemia so we got 80 positive and 20 negative attitudes. Severe stroke is the fifth type of stroke. 77 pharmacy undergraduates have knowledge about this type while 23 have no awareness about this type of stroke. Cardioembolic stroke is the last type of stroke and 73 have awareness about cardioembolic stroke while 27 pharmacy undergraduates showed negative attitude.

We asked many questions about the risk factors of stroke during Hajj. In this session we asked first about cardiovascular diseases. Question asked was "is the cardiovascular disease lead to stroke during Hajj?" 88 pharmacy undergraduates showed positive while 12 pharmacists showed negative attitude for this question. Next question was asked about hypertension, "is the hypertension lead to stroke during Hajj?" 93 undergraduates showed positive while 7 pharmacists showed negative attitude for this question. Than we asked about hypercholesterolemia, "is the hypercholesterolemia lead to stroke during Hajj?" 44 undergraduates showed positive while 56 pharmacists showed negative attitude for this question. The next risk factor is depression; we asked the question, ""is the depression lead to stroke during Hajj?" 85 undergraduates showed positive while 15 pharmacists showed negative attitude for this question. Than we asked about atrial fibrillation "is the atrial fibrillation lead to stroke during Hajj?" 71 undergraduates showed positive while 29 pharmacists showed negative attitude for this question. Increased volume of heart is also a risk factor. When we asked "is the increased volume of heart lead to stroke during Hajj?" 71 undergraduates showed positive while 29 pharmacists showed negative attitude for this question. Elderly can also lead to stroke. When we asked, "is the elderly lead to stroke during Hajj?" 81 undergraduates showed positive while 19 pharmacists showed negative attitude for this question. When we asked the question about renal disease, "is the renal disease lead to stroke during Hajj?" 57 undergraduates showed positive while 43 pharmacists showed negative attitude for this question. Next question asked was , "is the Ca and fat deposition in heart vessels lead to stroke during Hajj?" 74 undergraduates showed positive while 26 pharmacists showed negative attitude for this question. According to our survey 64 pharmacist answered that angioplasty is a leading cause for stroke during hajj whereas 36 answered that angioplasty cannot lead to stroke during Hajj. Rheumatic fever is risk factor for stroke during hajj according to 41 pharmacy undergraduates while 59 pharmacists showed negative attitude for this question.

At last we asked about the recommendation of pharmacy undergraduates to prevent stroke during Hajj. 46 pharmacists advised to take proper medication, 12 advised to take proper diet and 30 advised to stay well hydrated during Hajj. 12 pharmacy undergraduates have no idea that how to prevent stroke during Hajj.

CONCLUSION

After our survey we find that there is lack of knowledge in pharmacy undergraduates about the stroke, its types, its risk factors and its prevention during Hajj. Steps should be taken to spread awareness about stroke during Hajj and pharmacist should also play role in awareness and its prevention in layman.

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