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Research Article

**PRESENCE OF RISK FACTORS IN STROKE: A
MULTICENTRE STUDY ON THE RATE OF ADJUSTABLE
DANGEROUS ASPECTS IN THE STROKES OF ISCHEMIA
AND HAEMORRHAGE**¹Dr. Muhammad Shafique, ²Dr. Sonish Javed, ¹Dr. Abdul Khaliq¹Rashid Latif Medical College, Lahore²Sheikh Zayed Medical College, Rahim Yar Khan**Abstract:**

Objective: The main objective of this research work is to know about the rate of adjustable dangerous aspects in the strokes of ischemia and haemorrhage.

Methodology: This research is futuristic descriptive study carried out in many centres. This research was carried out in neurology department of Mayo Hospital Lahore. The time period of this research is eight months from July 2017 - February 2018. A question session was prepared keeping in view the objective of this research work. This document contains the detailed background history, neurological assessment and interrogations. Computerized tomography (CT) scan, Magnetic Resonance Imaging (MRI) or MRA testing was carried out on each participant of the research for the discovery of causes of mental attacks whether stroke was due to ischemia or haemorrhage. Dangerous aspects for the sufferers and their age at the time of earlier stage of the disease were also evaluated.

Results: Confirmed patients of having stroke were selected for this research. Fifty patients of the stroke were the participants of this study. Eighty-six percent participants (43) suffered from stroke due to blockage in blood veins in a consequence of clotting known as ischemia. Seven patients were the victims of brain haemorrhage. They were fourteen percent of the whole participants. Sixty-four percent patients have more one dangerous factor which caused the outcome of this terrible outcome. All the participants of this research were from seventeen years to eighty years of age. Twenty-nine were the male participants and twenty-one were the female participants of this work. Hypertension was the most frequent dangerous aspect of ischemic stroke constituting about thirty-three percent, diabetes was about twenty-four percent, hyperlipidaemia was also about twenty-four percent and IHD (ischemic heart disease) was about twenty percent. In the haemorrhage stroke, high blood pressure was the cause of more than seventy-one percent cases and aneurysm was the cause of more than twenty-eight percent cases.

Conclusion: A large number of the sufferers were found with one or more than one adjustable dangerous aspect for this disease. The most common danger factor was hypertension and it was followed diabetes.

Keywords: Dangerous aspects, stroke, ischemia, blood pressure, hyperlipidaemia, IHD, Diabetes, MRI, MRA, CT scan.

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INTRODUCTION:

Stroke can be defined as a medical syndrome with a range of abnormalities which results in the blockage of the blood veins due to clotting in the focal cerebral. A consistent description of stroke is necessary for the studies carried out in the field of transmission and control of this disease. The conventional definition of this term as mentioned by WHO (World Health Organisation) in 1970s [1] “stroke is a neurological shortfall of cerebro-vascular purpose that continues for more than twenty-four hours or broken up by death within twenty-four hours”. This definition concludes that stroke can be caused due to death of the living cell of cerebral causing stoppage in the blood supply or intra-cerebral and haemorrhage.

An uninformed time span of twenty-four hours differentiates the stroke from TIA (transient ischemic attack), which has the same description but explained as a neurological shortfall of less than twenty-four hours. Research These two terms are described as band and in the research works of neurology, cerebral infarction is TIA are always going together with TIA. The word cerebro-vascular disease contains all the vascular diseases of brain including the stroke. The danger factors are separated into two types; modifiable risk factors and non-modifiable risk factors. The main modifiable risk factor types are high blood pressure, irregular lipids found in blood [2], smoking, diseases related to heart [3], laziness, fatness, harmful and oily food and diabetes mellitus [4, 5]. Low statuses in the economic life, mental illness, use of wine and extra use of medicines are some other modifiable risk factors. The non-modifiable danger factors are gender, age of the patient, traditions [6], background history of the family, TIA and heat failure. The main aim of this research work is to establish the different danger

aspects in the stroke of ischemia and haemorrhage in Karachi [7, 8]. This is only the starting outcome of the research work which is still in progress.

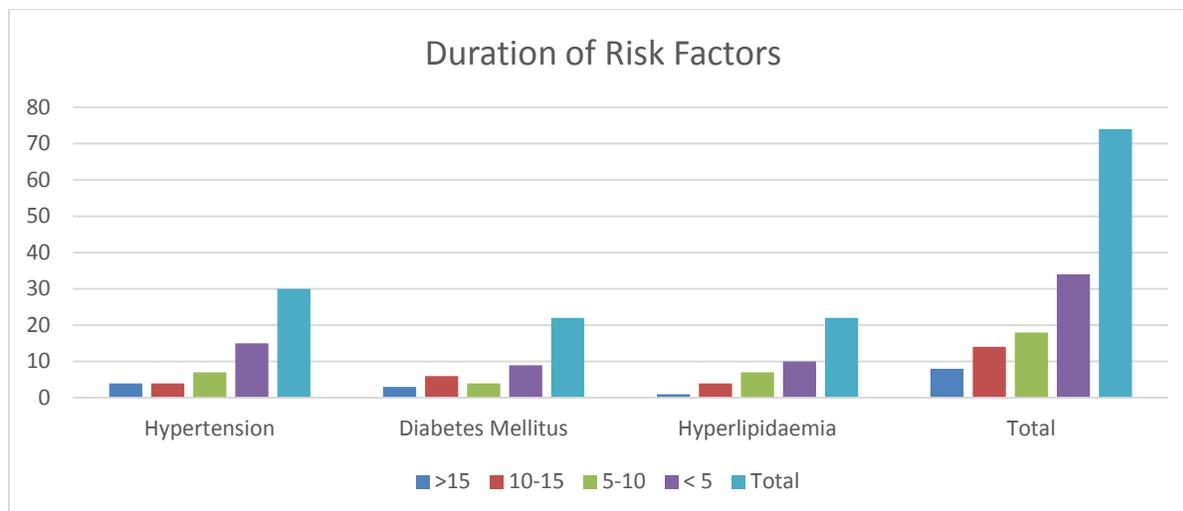
METHODOLOGY:

This research work is based on observations. This research was carried out in neurology department of Mayo Hospital Lahore. The time period of this research is eight months from July 2017 - February 2018. The definition of the stroke can be present as central neurological shortfall because of vascular abrasions that may be the death of the living cells that restricts the blood supply or haemorrhage which can be identified by computerized tomography scan which can lead to the complete or partial loss of consciousness of brain parts [9]. The sufferers of stroke who were fulfilling this standard for stroke regardless of gender were included in this research work. Patients with abnormal lipids in blood, high BP, CHD (coronary heart disease) and diabetes mellitus were entered into the research work. Sufferers were declared as hypertensive, if they were found with 3 or more analysis's of systolic blood pressure >140mmHg or diastolic blood pressure >95mmHg [10-13].

Diabetes was detected using the standard of World Health Organization following the instructions of NCEP III [6, 14]. Patients were confirmed as hyperlipidaemia if LDL-cholesterol level in the total serum was greater than two hundred and forty 240mg/dl and level of triglycerides was more than two hundred mg/dl [11, 15, 16]. The sufferers with the previous history of the CHD discovered and proved by the doctors were also documented [17, 18]. The connection between the danger aspects of stroke was also evaluated. The period from the start of the disease to the emergence of the danger factor was also documented as mentioned in Table-1.

Table-I: Duration of Risk Factors (n=50)

Years	Hypertension	Diabetes Mellitus	Hyperlipidaemia	Total
>15	4	3	1	8
10-15	4	6	4	14
5-10	7	4	7	18
< 5	15	9	10	34
Total	30	22	22	74



Socioeconomic contribution to stroke: The patients of this study were separated into four social classes on the basis of their monthly income.

- 1: - Lower class had monthly income of 5000 rupees per month.
- 2: - The monthly income of middle class was 6000-10000 per month.
- 3: - Monthly income of upper middle class was 11000-20000 per month
- 4: - Income of the upper class was more than 20000 per month.

RESULTS:

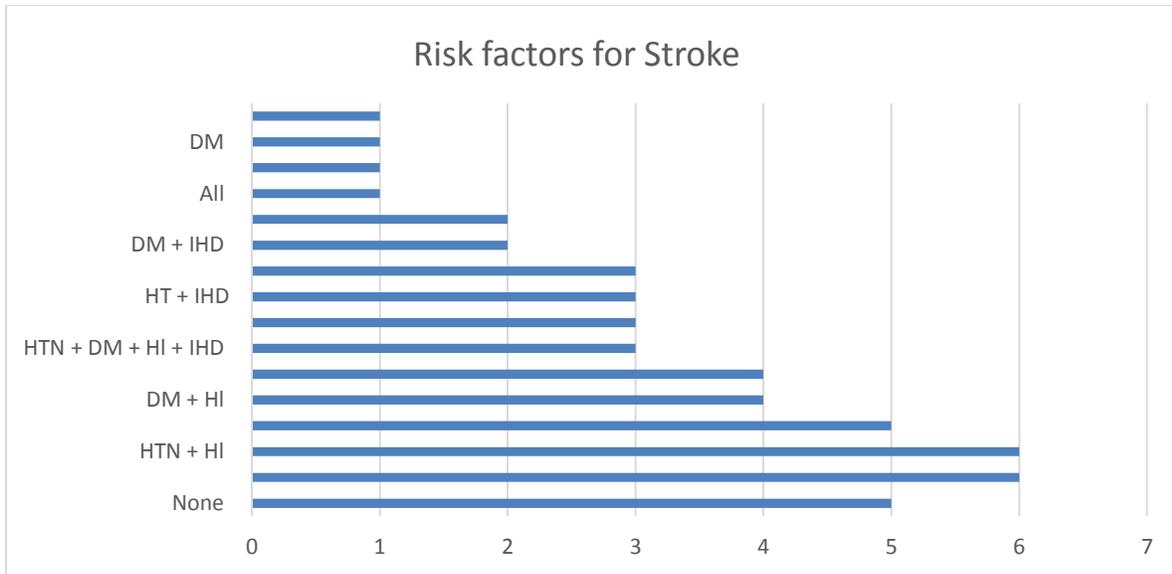
Participants of this research work were fifty patients of stroke. Forty-three patients were the victims of ischemic stroke and seven patients were the victims of haemorrhagic stroke. Ischemic stroke was the major cause of great suffering among those patients. Out of fifty patients fifty-eight percent were the male participants and forty-two percent were the female participants. About ninety percent sufferers were found with one or more than one danger factor. The age of the patients was from seventeen years to eighty years. Sixty-four percent patients were found with more than one danger factor as mentioned in Table-2.

Risk factors	No. of Patients (%)
None	5 (10)
HTN + DM	6 (12)
HTN + HI	6 (12)
HTN	5 (10)
DM + HI	4 (8)
HI	4 (8)
HTN + DM + HI + IHD	3 (6)
HTN + DM + IHD	3 (6)
HT + IHD	3 (6)
IHD	3 (6)
DM + IHD	2 (4)
HTN + HI + IHD	2 (4)
All	1 (2)
DM + HI + IHD	1 (2)
DM	1 (2)
HTN + DM + HI	1 (2)

Abbreviations: HTN = Hypertension

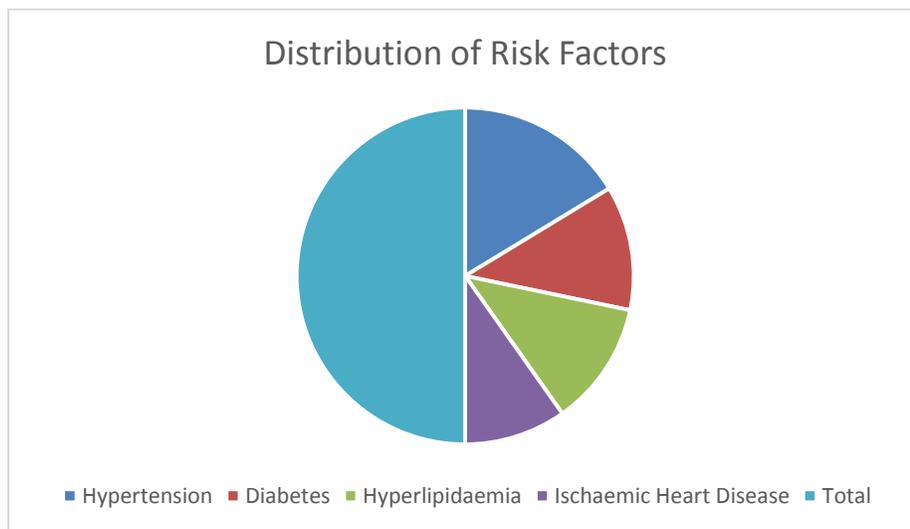
HI = Hyperlipidaemia, DM = Diabetes Mellitus

IHD = Ischaemic Heart Disease.



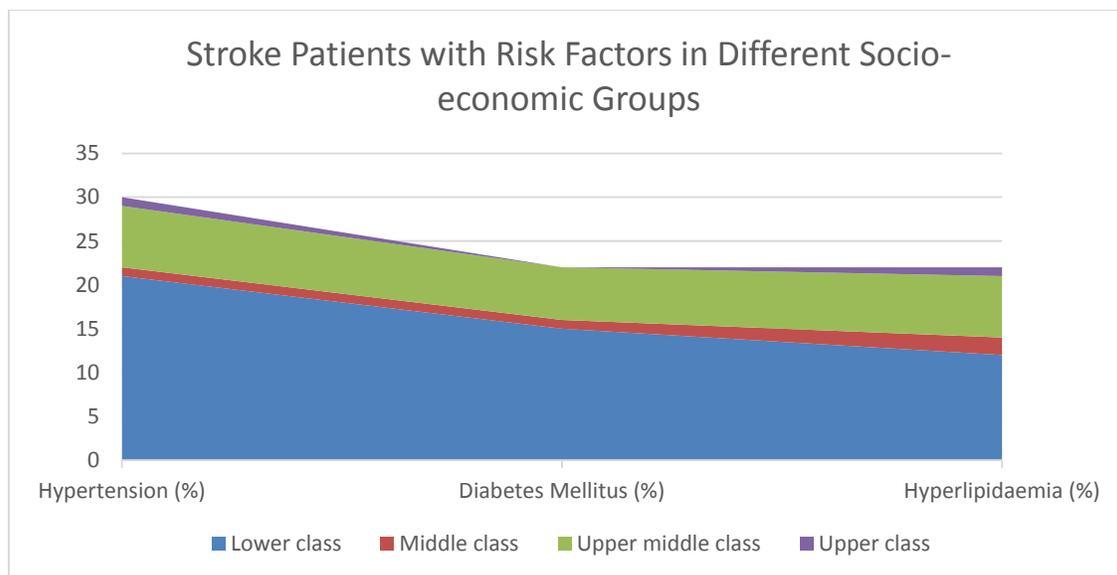
The most frequent danger factor was hypertension constituting about thirty-three percent, diabetes was about twenty-four percent, hyperlipidaemia was also about twenty-four percent and IHD was close to twenty percent as described in Table-3.

Risk Factor	Total (%)
Hypertension	30(32.61)
Diabetes	22(23.91)
Hyperlipidaemia	22(23.91)
Ischaemic Heart Disease	18(19.57)
Total	92(100.00)



Danger factors existing together were IHD, diabetes, High BP, hyperlipidaemia and drug addiction as described in Table-2. The most frequent danger factors in various socioeconomic classes are described in Table-4.

Socio Economic Status	Hypertension (%)	Diabetes Mellitus (%)	Hyperlipidaemia (%)
Lower class	21 (28.38)	15 (20.27)	12 (16.22)
Middle class	1 (1.35)	1 (1.35)	2 (2.70)
Upper middle class	7 (9.46)	6 (8.11)	7 (9.46)
Upper class	1 (1.35)	0 (0)	1 (1.35)



DISCUSSION:

Stroke is one of the main causes of morbidity and death rates [19]. Stroke is 3rd most frequent reason of death after cancer and heart failure in Western world [20]. World Health Organization stated in a report of year 2003 that disability adjusted life years (DALY's) lost due to this particular disorder per thousand population of harmonized age is five to nine years for Pakistan, ten to fourteen years for India, fifteen to nineteen for Russia and twenty or more than twenty for Mongolia. The danger of the death always depends upon the type of this disease. TIA is found with the best consequence followed by this disorder caused by the narrowing of carotid. The restriction of the blood flow in any artery especially blood vessels of cerebral is most dangerous among all these disorders.

Hypertension was proved to be most common danger factor for these strokes in this research work. This factor was present in more than thirty-two percent samples of the study [21-23]. This outcome is about same as concluded by Lickner H (forty percent) [24].

The second most common danger factor was diabetes. Its percentage in the samples was 23.91% [25, 26]. These results are very close to the results of Basharat RA (twenty-one percent) [27] and Liaquat A (twenty-seven percent) [28]. Hyperlipidaemia was discovered in 23.91% patients and concluded as the 3rd most frequent dangerous aspect for this disease in this research work which is very close as concluded by Tanveer A [29] in his research work. IHD was the 4th most frequent risk aspect of stroke in 19.57% sufferers [30-32]. Several patients were found with more than one risk factor as combination of diabetes & hypertension which is possible cause of diabetogenic [33] due to the preservation of sodium in kidneys.

CONCLUSION:

IHD, Hypertension, diabetes mellitus and hyperlipidaemia are the main adjustable danger aspects of stroke as concluded in this research work. These factors will maintain confront with medical experts. This matter is in need of appropriate administration and analysis of sufferers. All main

danger aspects are modifiable but required lack of ignorance, diminishing of poorness, regular medical treatment and change in the style of lives.

REFERENCES:

- World Health Organisation. Cerebrovascular Disorders (Offset Publications). Geneva: World Health Organization. ISBN 9241700432 1978.
- Hebert PR, Gaziano JM, Chan KS. Cholesterol lowering with statins drugs. Risk of stroke, and total mortality. An overview of randomized trials. *JAMA* 1997;278(4):313-21.
- Goldstein LB, Adams R, Becker K. Primary prevention of Ischaemic Stroke. AHA Scientific Statement. *Circulation* 2001;103:163-82.
- Clark CM, Perry RC. Type II diabetes and macrovascular disease. *Epidemiology and etiology. Am Heart J* 1999;138:930-3.
- Elkind MS, Sacco RL. Stroke risk factors and stroke prevention. *Semi Neurol* 1998;18:429-39.
- Hu FB, Manson JE, Stampfer MJ. Diet, lifestyle, and the risk of type 2 diabetes mellitus in women. *N Engl J Med* 2001;345:790-797.
- Hasan SR, Ghouri ASK. Frequency of known risk factors of stroke and its outcome in patients admitted in Sindh Government Qatar Hospital Karachi. *Pak J Med Sci* 2007;23(4):634-6.
- Rafique BA, Yousuf M, Iqbal J, Khan MM. Frequency of known risk factors for stroke in poor patients admitted to Lahore General Hospital in 2000. *Pak J Med Sci* 2002;18:280-3.
- Khan J. Frequency of hypertension in stroke patients presenting at Ayub Teaching Hospital. *J Ayub Med Coll Abbottabad* 2006;18(1):36-9.
- Iqbal F, Hussain S, Hassan M. Hypertension, diabetes mellitus and hypercholesterolaemia as risk factors for stroke. *Pak J Med Res* 2003;42(1):17-22.
- Westin S. Thresholds for normal blood pressure and serum cholesterol. *BMJ* 2005;330:1461-62.
- He J, Whelton PK. Epidemiology and prevention of hypertension. *Med Clin North Am* 1997;81:1077.
- The sixth report of the joint National Committee on Prevention, Detection, Evaluation and treatment of high blood pressure. *Arch Intern Med* 1997;157:2413-45.
- Expert panel on Detection, Evaluation and Treatment of high Blood Cholesterol in Adults. Executive summary of the third report of the National Cholesterol Education program (NCEP) Expert panel on Detection, Evaluation and Treatment of high Blood Cholesterol in Adults (Adults treatment panel III) *JAMA* 2001;285:2486-96.
- Meyer JS, Rogers RL, Mortel KF, Judd BW. Hyperlipidemia is a risk factor for decreased cerebral perfusion and stroke. *Arch Neurol* 1987;44(4):418-22.
- Iso HJ Jr, Wentworth D. Serum cholesterol levels and six year mortality from stroke in 360,977 men screened for the multiple risk factors intervention trial. *N Engl J Med* 1989;320:904-10.
- Schwartz SM, Reidy MA. Factors important in arterial narrowing. *J Hyperten Suppl* 1996;14(5):S71-81.
- Stampfer MJ, Hu FB, Manson JE, Rimm EB, Willett WC. Primary prevention of coronary heart disease in women through diet and lifestyle. *N Engl J Med* 2000;343:16-22.
- Safeer M, Tariq M, Rehman U. Frequency of risk factors of cerebral infarction in stroke patients. A study of 100 cases in Naseer Teaching Hospital, Peshawar. *Pak J Med Sci* 2008;24(1):109-13.
- Aho K, Harmsen P, Hateno S, Maarqyarsen T, Smirnov VE, Strasser T. On behalf of the participants in the W.H.O collaborative study on control of stroke in the community. Cerebrovascular diseases in the community. Results of the W.H.O collaborative study. *Bulletin of W.H.O* 1998;58:113-30.
- Basharat RA, Yousuf M, Iqbal J, Khan MM. Frequency of known risk factors for Stroke in poor patients admitted to Lahore General Hospital in 2000. *Pak J Med Sci* 2002;18(4):280-3.
- Khan H, Afridi AK, Ashraf S. A hospital based study on stratification of risk factors of stroke in Peshawar. *Pak J Med Sci* 2006;22(3):304-7.
- Khan SN, Vohra EA. Risk factors for stroke: A hospital based study. *Pak J Med Sci* 2007;23(1):17-22.
- Lickener H, Eiswarth CC, Hachinski VC. Risk factors for stroke in Australian population. *Wien Klin Wochensher* 1993;105(14):393-403.
- Kuller LH, Dorman JS, Wolf PA. Cerebrovascular disease and diabetes. Chapter XVIII in *Diabetes in America*, Harris MI, Hamman RF, eds. NIH publ 1985;85-1468.
- Abbott RD, Donahue RP, MacMahon SW, Reed DM, Yano K. Diabetes and the risk of stroke. The Honolulu Heart Program. *JAMA* 1987;257:949-52.
- Basharat RA, Elahi A, Tariq M, Saeed A. One month audit of stroke at PIMS. *Pak J Neurol* 1999;56(1):12-5.
- Liaqat A, Jamil H, Alam MS. Risk factors in stroke. *J Coll Physician Surg Pak* 1996;7:7-10.
- Tanveer A. Localization and management in Cerebrovascular accident: A comparison of clinical assessment versus C.T Scan

- (Dissertation). J Coll Physician Surg Pak 1996;5-6.
30. Ali L, Jameel H, Shah MA. Risk factors in stroke. J Coll Physicians Surg Pak 1997;7:7-10.
31. Javed MA, Ahmed M, Sial MSH, Naheed T. Risk factors in stroke. Pak J Neurol 1998;4:55-8.
32. Alam I, Haider I, Wahab F, Khan W, Taqweem MA, Nowsherwan. Risk factors stratification in 100 patients of acute stroke. J Postgrad Med Ins 2004;18(4):583-91.
33. Skafor ET, Lethell HO, Salinin KT, Aberg H. Doantihypertensive drugs precipitate diabetes in predisposed men? BMJ 1989;298:1147-52.