Risk Factors For Stroke Observation Stated In Baquba Teaching Hospital

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Abstract

Background: Stroke is one of the leading causes of disability worldwide. Early diagnosis and treatment of stroke are important for better clinical outcome. Rapid and accurate diagnosis of stroke subtypes is critical.

Objectives: detection risk factors of stroke diseases in patients sleeping in internal department / Baqubah teaching hospital.

Materials and Methods: This cross-sectional study was carried out in internal department at Baqubah Teaching Hospital between November 2023 to February 2024 among 100 stroke patients sleeping in hospital. Data was collected from stroke patients by using a structured form that involve; gender, age, genetics, DM, hypertension, hyperlipidemia, renal failure, previous stroke, drugs and life style (food, alcohol, obesity, smoking).

Results: Results of current study showed there is no significant different ($p>0.05$) between risk factors (genetics, DM, hypertension, hyperlipidemia, renal failure, previous stroke, and drugs) and gender with age groups of patients with stroke. In another hand, heart diseases scored highest percentage in males (100.0%) than females (42.0%) with significant different ($p<0.05$). Additionally, our study showed the food scored highest percentage (35%), followed by smoking (20%), obesity (20%), sports (15%), and then alcohol (10) in patients with stroke disease. The differences among life style features were significant ($p<0.05$) .

Conclusion: Our study indicates the heart diseases is more prevalence in male stroke patients. Food, smoking, and obesity are considered highest risk factors for stroke diseases.

Key words: Stroke, heart diseases, hypertension, diabetes.

Dedication

To the beloved whose love is faith :)On whom God and the believers may pray(

To the one who supported me and helped me in times of adversity throughout my life.

to the most prominent man in my life

My dear father.

To a generous heart and a compassionate chest

Dear mother.

To those whom God strengthened my support, and they were the best helper

My brothers and sisters .

To the piece of sugar with two springs (Razan).

To everyone who helped me, even if just a little, in my academic life...

On top professor (Shukur Mahmood Yassen).

I dedicate this.

Thanks and appreciation

We have reached the end of this research, and in the end I can only thank you for your good follow-up of this research. With this research, I have presented my humble opinion with the blessing, generosity, and success of God Almighty. God has honored me by offering my contribution towards this topic.

Perhaps God Almighty has helped me in this research on this topic, and perhaps my pen has been successful in presenting what is on my mind. In the end, I am a human being who makes mistakes and makes mistakes. I turn to God in supplication for my success in presenting this research and for your good reading and follow-up of this research. We thank you for your generosity. Thank you and we hope you like the research. Praise be to God who guided us.

1. Introduction

In industrialized nations, strokes is a leading cause of disability among adults and the second leading cause of mortality globally. Stroke affects clients, their families, hospitals, and society at large in a major way on a physiological, psychological, and economical level (Beghi et al., 2021). Early in 2000, there was a 95–290/100,000 annual range in the rate of stroke in Europe (Beghi et al., 2021). Individuals over 65 account for over 75% of strokes instances, and one-third of these individuals pass away within the year after a stroke (Efremova et al., 2023). Over 50% of survivors of stroke still require caregiver assistance to do their daily tasks.

With 11.13% of all fatalities attributable to it, strokes is the next most common reason for death and a significant contributor to lifelong impairment. Its yearly occurrence can reach 0.2% of the community; one in six victims pass away during the first month of an ischemic stroke, and nearly fifty percent of those who survive are disabled and dependent on caregivers (Mendelson and Prabhakaran, 2021). Acceptance and execution of successful population-wide stroke prevention strategies are impeded by several health care, financial, and social disparities, particularly in developing nations, which add to the burden of stroke.

There are three stages of stroke prevention: primordial, primary, and secondary. While recurrent stroke prevention techniques focus on the secondary level, primal and primary level strategies emphasize the prevention of a first stroke. A thorough description and assessment of stroke risk factors are necessary in order to identify those who are at danger of stroke (Tu and Wang, 2023). Risk factors can be divided into two categories: modifiable and non-modifiable. Modifiable risk factors are those that can be changed or removed by targeted medical interventions or suitable lifestyle adjustments, while non-modifiable risks are unchangeable traits that are unique to a certain individual (Ranta et al., 2023).

Non-modifiable risk factors are gender, ethnic background, age, and a family history of stroke. These are a few examples of modifiable risk factors: valvular heart disease, subclinical carotid stenosis, diabetes, obesity, hypercholesterolemia, smoking, drinking, and physical inactivity. According to recent research, high uric acid and homocysteine levels may also be linked to a greater risk of stroke. Age and sex are two distinct stroke risk variables (Hannah et al., 2024).

According to earlier theories, the broad range of stroke hazards varies between young individuals (aged 18–49), where uncommon causes are more common, and older persons (aged >50), when standard vascular risk factors are more common (Howard et al., 2023). Nonetheless, an increasing amount of data indicates that classic vascular risk factors including obesity, diabetes mellitus, dyslipidemia, and hypertension are becoming more common, which may be linked to the increased incidence of strokes in young adults (Ramírez-Carreto et al., 2023). Therefore, recognizing modifying risk factors in various age groups and proving the effectiveness of risk reduction initiatives are necessary to lower the prevalence of stroke in the general population. Reliable data on factors associated with stroke are lacking in developing nations, despite the fact that prevalence data are well-established in affluent nations (Fan et al., 2023).

The present investigation objected to determine risk factors of stroke diseases in patients sleeping in internal department / Baqubah teaching hospital.

2. Method and Material

2.1 Subjects

This cross-sectional study was carried out in internal department at Baqubah Teaching Hospital between November 2023 to February 2024 among 100 stroke patients sleeping in hospital.

2.2 Samples collection

Data was collected from stroke patients by using a structured form that involve; gender, age, genetics, DM, hypertension, hyperlipidemia, renal failure, previous stroke, and drugs.

2.3 Statistical analysis

The parameters of conducted were given as percentage frequencies ,and significant differences between frequencies were assessed by Pearson-Chi-square test or two-tailed Fisher exact probability (p). The statistical package SPSS version 21.0 was employed to carry out these analyses. A p-value ≤ 0.05 was considered significant.

3.Results

3.1 Relation of risk factors with gender of patients

Results of current study showed there is no significant different ($p>0.05$) between risk factors (genetics, DM, hypertension, hyperlipidemia, renal failure, previous stroke, and drugs) and gender of patients with stroke. In another hand, heart diseases scored highest percentage in males (100.0%) than females (42.0%) with significant different ($p<0.05$) (table 3.1).

Table 3.1: association of stroke risk factors with gender of patients

			Total	Gender		P value
				Males	Females	
Genetics	negative	n	53	28	25	p>0.05
		%	100.0%	52.8%	47.2%	
	positive	n	47	23	24	
		%	100.0%	48.9%	51.1%	
DM	negative	n	47	24	23	p>0.05
		%	100.0%	51.1%	48.9%	
	positive	n	53	27	26	
		%	100.0%	50.9%	49.1%	
Hypertension	negative	n	53	28	25	p>0.05
		%	100.0%	52.8%	47.2%	
	positive	n	47	23	24	
		%	100.0%	48.9%	51.1%	
Hyperlipdimia	negative	n	55	24	31	p>0.05
		%	100.0%	43.6%	56.4%	
	positive	n	45	27	18	
		%	100.0%	60.0%	40.0%	
Heart diseases	negative	n	50	30	20	p<0.05*

		%	100.0%	60.0%	40.0%	
	positive	n	50	21	29	
		%	100.0%	42.0%	58.0%	
Renal failure	negative	n	46	22	24	p>0.05
		%	100.0%	47.8%	52.2%	
	positive	n	54	29	25	
		%	100.0%	53.7%	46.3%	
Previous stroke	negative	n	54	25	29	p>0.05
		%	100.0%	46.3%	53.7%	
	positive	n	46	26	20	
		%	100.0%	56.5%	43.5%	
Drugs	negative	n	54	25	29	p>0.05
		%	100.0%	46.3%	53.7%	
	positive	n	46	26	20	
		%	100.0%	56.5%	43.5%	

3.2Relation of risk factors with age groups of patients

Results of current study showed there is no significant different (p>0.05) between risk factors (genetics, DM, hypertension, hyperlipidemia, renal failure, previous stroke, and drugs) and age groups of patients with stroke (table 2).

Table 2/ association of stroke risk factors with age groups of patients

			Total	**Age groups (years)**			**P value**
				18-35	36-60	61-90	
Gender	males	n	51	7	14	30	p>0.05
		%	100.0%	13.7%	27.5%	58.8%	
	females	n	49	6	13	30	
		%	100.0%	12.2%	26.5%	61.2%	

Genetics	negative	n	53	6	17	30	p>0.05
		%	100.0%	11.3%	32.1%	56.6%	
	positive	n	47	7	10	30	
		%	100.0%	14.9%	21.3%	63.8%	
DM	negative	n	47	8	13	26	p>0.05
		%	100.0%	17.0%	27.7%	55.3%	
	positive	n	53	5	14	34	
		%	100.0%	9.4%	26.4%	64.2%	
Hypertension	negative	n	53	3	17	33	p>0.05
		%	100.0%	5.7%	32.1%	62.3%	
	positive	n	47	10	10	27	
		%	100.0%	21.3%	21.3%	57.4%	
Hyperlipdimia	negative	n	55	6	18	31	p>0.05
		%	100.0%	10.9%	32.7%	56.4%	
	positive	n	45	7	9	29	
		%	100.0%	15.6%	20.0%	64.4%	
Heart diseases	negative	n	50	6	14	30	p>0.05
		%	100.0%	12.0%	28.0%	60.0%	
	positive	n	50	7	13	30	
		%	100.0%	14.0%	26.0%	60.0%	
Renal failure	negative	n	46	6	14	26	p>0.05
		%	100.0%	13.0%	30.4%	56.5%	
	positive	n	54	7	13	34	
		%	100.0%	13.0%	24.1%	63.0%	
Previous stroke	negative	n	54	6	15	33	p>0.05
		%	100.0%	11.1%	27.8%	61.1%	
	positive	n	46	7	12	27	
		%	100.0%	15.2%	26.1%	58.7%	
Drug	negative	n	54	6	15	33	p>0.05

	%	100.0%	11.1%	27.8%	61.1%
positive	n	46	7	12	27
	%	100.0%	15.2%	26.1%	58.7%

3.3 Life style of patients

Results of current study showed the food scored highest percentage (35%), followed by smoking (20%), obesity (20%), sports (15%), and then alcohol (10) in patients with stroke disease. The differences among life style features were significant ($p<0.05$) (table 3).

Table 3/ frequency and percentage of life style of patients with stroke

Life style	n	%	P value
Smoking	20	20%	p<0.05*
Alcohol	10	10%	
Food	35	35%	
Obesity	20	20%	
Sports	15	15%	
Total	100	100%	

4. Discussion

Since over 76% of stroke occurrences are primary events, prevention—especially primary prevention—remains the most successful approach, even with advancements in stroke therapy. According to a global case-control study, 12 risk factors account for 90% of stroke cases: (1) age, (2) sex, (3) hypertension of the arteries, (4) type 2 diabetes, (5) heart disease, (6) current cigarette smoking, (7) obesity in the abdomen, (8) lipid disorders, 9) physical inactivity, 10) consumption of alcohol, (11) eating habits, and (12) psychological and social stress and depression. By leading a healthy way of life or looking for therapeutic solutions, many of these controllable risk factors for stroke can be avoided or reduced (Kario et al., 2023).

The biggest factor influencing stroke risk is age. According to Howard et al. (2023), the incidence of stroke increased with age beyond 55 years of age. These results agreed with the current investigation. Premenopausal women have an increased risk of stroke due to the combined effects of oral contraceptive usage and pregnancy, which is equal to or greater than the risk experienced by males. Men have a somewhat greater stroke rate as they age. In the UK, women experience strokes at a higher rate than males overall (Ospel et al., 2023). These results were inconsistent with the current study, which found that the rates of stroke in men and women were equal. Diabetes results in a number of macrovascular and microvascular alterations that frequently lead to serious clinical problems, stroke being one of them. Despite the fact that the risk of stroke has decreased over the past 20 years, the current increase in diabetes rates poses a threat to undo this progress. Out of all the many subtypes of mechanistic stroke, people with diabetes are more vulnerable to the negative effects of small artery disorders in the brain. A higher chance of stroke occurs when blood sugar levels are elevated (Bradley et al., 2022).

The risk factor that is most common in Asia is hypertension. According to Turana et al. (2021), there exists a positive correlation between stroke incidence and not just ethnicity, but also systolic and diastolic blood pressure as well as blood pressure variability.

Food was shown to be one of the most frequent risk factors in our investigation, then obesity, which has been demonstrated to be a separate risk factors for strokes (Lee et al., 2023). Additionally, a number of studies have shown a high correlation between obesity and the risk of strokes. According to Yoshimura et al. (2023), a research that took age and sex into account found that obesity and excess weight were linked to a higher risk of attack in older men than in women. A study conducted by Ostpel et al. (2023) revealed that women had a weaker correlation between obesity and stroke risk than males, indicating the impact of sex on the relationship. These findings contradict a recent study that found obesity rates are higher in women than in males. Strong evidence has been found linking hyperlipidemia, particularly LDL-C, to CVD and stroke. This suggests that LDL-C should be lowered in individuals deemed to be at moderate to elevated risk for CVD using a combination of treatment medicines and statins. Furthermore, reducing mortality and morbidity in communities requires determining which factors are the most crucial for residual risk for developing stroke and CVD (Alloubani et al., 2021).

According to a recent study, there was an increased risk of negative functional outcomes three months after an acute ischemic stroke for both former and present smokers who had stopped smoking for less than two years prior to the stroke. Thus, quitting smoking is advised for both the purpose of enhancing post stroke functional recovery and result, as well as preventing the occurrence or recurrence of stroke (Anadani et al., 2023).

Increased risks of intracerebral hemorrhage, ischemic stroke, and total stroke were linked to excessive alcohol intake and heavy episodic drinking (HED). The percentage increase in chances was the same for all age, sex, and geographic categories, despite the fact that the incidence of this risk variable may differ. Reducing excessive alcohol use and binge drinking should be a part of future efforts to promote healthy lives. Low or moderate consumption did not appear to significantly lower the risk of stroke (Smyth et al., 2023). The length of recovery time had a significant impact on the authors' findings on running speed and strokes quality during intermittent golf drills. Optimizing training effectiveness in sports games necessitates deftly fine-tuning monitoring criteria in order to achieve coupled enhancement of condition and technical abilities (Lambrich and Muehlbauer, 2022)

Conclusions and recommendations

Conclusions

Our study indicates the heart diseases is more prevalence in male stroke patients. Food, smoking, and obesity are considered highest risk factors for stroke diseases.

Recommendations

There are some recommendation can be provided from this study

1-Studying the effect of the heart diseases and the risk factor of stroke disease.

2 -Determintation the effect of risk factor of stroke related with heart disease and cure, medication of patient suffering from heart problem.

3-Studying the effect of life style (smoking, obesity, alcohol, food) in patient suffering of stroke .

4-Commitment of patient suffering from stroke to adhere to the treatment of hearts diseases, as well as their life style including food rich in fat and avoiding smoking and factors that cause obesity.