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Original Research

Assessment of anxiety and depression following stroke

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ABSTRACT:
Background: Stroke is defined as a sudden loss of blood supply to the brain leading to permanent tissue damage caused by thrombotic, embolic, or haemorrhagic events. The present study was conducted to evaluate anxiety and depression following stroke. **Materials & Methods:** 94 patients of stroke of both genders were enrolled. Parameters such as type of stroke, underlying disease, stroke onset, comorbid diseases, smoking, alcoholism, weakness side etc. was recorded. **Results:** Out of 94 patients, males were 54 and females were 40. Smoking was present in 30, alcoholism in 48, weakness side was right in 38, left in 36 and bilateral in 20. Type of stroke was infarct in 42 and haemorrhagic in 52, comorbid diseases seen were diabetes in 65, hypertension in 70, dyslipidaemia in 43 and previous stroke in 32. The difference was significant (P< 0.05). Common risk factors for anxiety and depression in patients with stroke was infarction (2.37), smoking (0.32), female gender (1.80), hypertension (0.49), dyslipidaemia (0.52). The difference was significant (P< 0.05). **Conclusion:** Anxiety and depression are common in stroke patients. Common risk factors were infarction, female gender, hypertension, dyslipidaemia and smoking.
Key words: Stroke, anxiety, depression

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INTRODUCTION

Stroke is defined as a sudden loss of blood supply to the brain leading to permanent tissue damage caused by thrombotic, embolic, or hemorrhagic events. Almost 85% of strokes are ischemic, while 12% are hemorrhagic. The incidence of stroke varies dramatically over the life course, with incidence rates between 10 and 20 per 10,000 individuals in the age range of 55–64, while incidence rates increase to 200 per 10,000 individuals for those aged over 85.[1]

Anxiety after stroke is common and disabling. Stroke trialists have treated anxiety as a homogenous condition, and intervention studies have followed suit, neglecting the different treatment approaches for phobic and generalized anxiety.[2] Anxiety is common, affecting around a quarter of stroke and nearly a third of transient ischemic attack (TIA). It can hamper stroke rehabilitation effort and prevent patients from returning to their usual activities.[3]

Few studies have documented the long-term prevalence of mood disorders or analysed the time course on an individual patient basis.[4,5] Studies have generally reported the prevalence of anxiety and depression 5 years or more after stroke as comparable to the prevalence in the first year.Depression and anxiety each affect around 1 in 3 people during the first year after a stroke. Suicide causes the death of about 3 to 4/1000 stroke survivors during the first 5 years.[6]Several factors have been investigated as potential prognostic indicators for anxiety and depression in the first year.[7]The present study was conducted to evaluate anxiety and depression following stroke.

MATERIALS & METHODS

The present study comprised of 94 patients of stroke of both genders. All were informed regarding the study and their written consent was obtained.

Data such as name, age, gender etc. was recorded. Parameterssuch as type of stroke, underlying disease, stroke onset, comorbid diseases, smoking, alcoholism, weakness sideetc. was recorded. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 94		
Gender	**Males**	**Females**
Number	54	40

Table I shows that out of 94 patients, males were 54 and females were 40.

Table II Assessment of parameters

Variables	Parameters	Mean	P value
Smoking	Yes	30	0.01
	No	64	
Alcoholism	Yes	48	0.90
	No	46	
Weakness side	Right	38	0.17
	Left	36	
	Bilateral	20	
Type of stroke	Infarct	42	0.81
	Haemorrhagic	52	
Comorbid diseases	Diabetes	65	0.05
	Hypertension	70	
	Dyslipidaemia	43	
	Previous stroke	32	

Table II, graph I shows that smoking was present in 30, alcoholism in 48, weakness sidewas right in 38, left in 36 and bilateral in 20. Type of stroke was infarct in 42 and haemorrhagicin 52, comorbid diseases seen were diabetesin 65, hypertension in 70, dyslipidaemia in 43 and previous stroke in 32. The difference was significant (P< 0.05).

Graph I Assessment of parameters

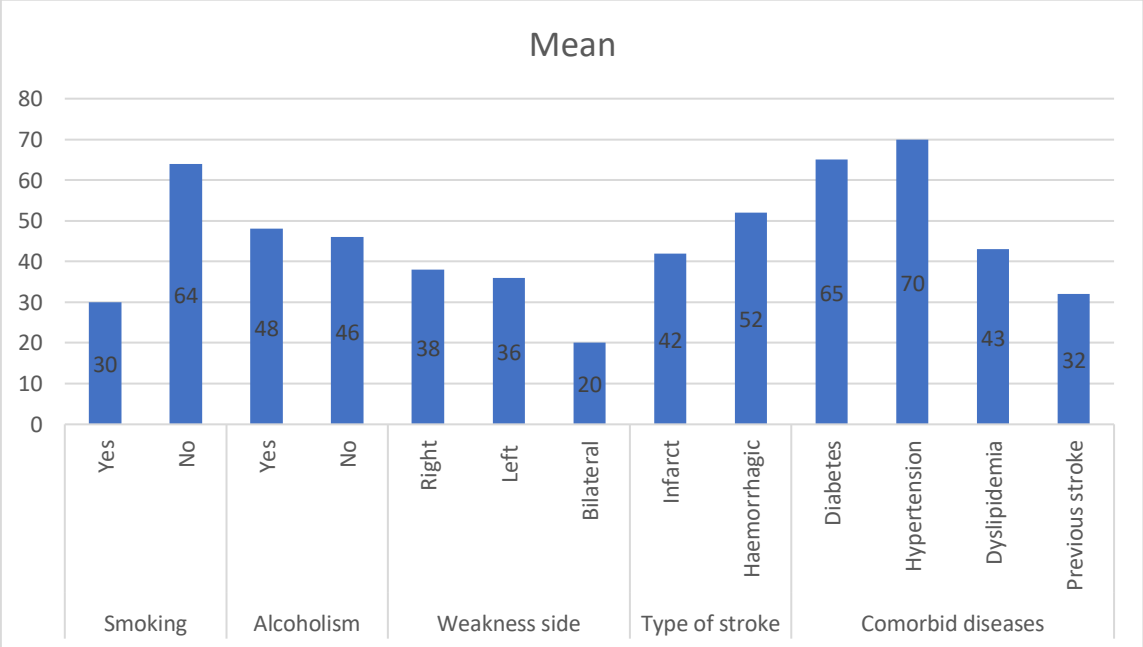

Table III Multivariate logistic regression analysis of risk factor with anxiety and depressive symptoms

Variables	Crude OR	P value
Infarction	2.37	0.05
Smoking	0.32	0.03
Female gender	1.80	0.04

Hypertension	0.46	0.02
Dyslipidaemia	0.52	0.01

Table III shows that common risk factors for anxiety and depression in patients with stroke was infarction (2.37), smoking (0.32), female gender(1.80), hypertension (0.49), dyslipidaemia (0.52). The difference was significant (P< 0.05).

DISCUSSION

Emotional changes related to cerebrovascular disease may be caused by the patient's brain damage per se or accounted for by psychological reactions.[8] However, early identification and treatment of anxiety and depression symptoms may prevent more serious effects on neurological outcome in stroke patients.Stroke is a leading cause for disability, dementia and death.[9] It is a predisposing factor for epilepsy, falls and is also a leading cause of functional impairments, with 20% of survivors requiring institutional care and 15% - 30% being permanently disabled. Depression is a common sequel of stroke.[10,11]The present study was conducted to evaluate anxiety and depression following stroke.

We found that out of 94 patients, males were 54 and females were 40. Lincoln et al[12] assessed prevalence and predictors of anxiety and depression 5 years after stroke. A cohort of 220 stroke patients was assessed at 2, 4 and 6 months and 5 years after stroke. Patients were assessed on the Hospital Anxiety and Depression Scale and measures of motor function and independence in activities of daily living. At 5 years, the prevalence of anxiety was 29% and depression 33%, with no significant differences between centres. The severity of anxiety and depression increased significantly between 6 months and 5 years. Higher anxiety at 6 months and centre were significantly associated with anxiety at 5 years, but not measures of functional recovery. Higher depression scores at 6 months, older age and centre, but not measures of functional recovery, were associated with depression at 5 years.

We found that smoking was present in 30, alcoholism in 48, weakness side was right in 38, left in 36 and bilateral in 20. Type of stroke was infarct in 42 and haemorrhagic in 52, comorbid diseases seen were diabetes in 65, hypertension in 70, dyslipidaemia in 43 and previous stroke in 32. Masskulpan et al[13]studied 251 stroke patients. Anxiety and depressive symptoms were evaluated in stroke patients using the Hospital Anxiety and Depressive Scales (HADS) twice, on admission and at discharge to rehabilitation program. Factors associated with anxiety and depressive symptoms were identified using univariate and multiple logistic regression analyses. It was found that 25.5% of the patients suffered from anxiety symptoms, 37.8% from depressive symptoms, and 17.5% from both. Anxiety symptoms were associated with depressive symptoms and negatively associated with dyslipidaemia. Depressive symptoms were related to anxiety symptoms and female gender. Patients with anxiety and depressive symptoms had lower functional ability and quality of life than patients without symptoms on admission and at discharge. After the rehabilitation program, patients without anxiety symptoms showed improvement in functional outcome and QOL. However, patients with or without depression symptoms have improvement in functional outcome after rehabilitation. However, patients without depressive symptoms showed more items improvement in QOL than patients with depression.

We found that common risk factors for anxiety and depression in patients with stroke was infarction (2.37), smoking (0.32), female gender (1.80), hypertension (0.49), dyslipidaemia (0.52). Fure et al[14] using the same scale observed a prevalence rate of 26.4% anxiety, 14% depressive symptoms and nearly 8% of patient with co-morbid symptoms.

CONCLUSION

Authors found that anxiety and depression are common in stroke patients. Common risk factors were infarction, female gender, hypertension, dyslipidaemia and smoking.

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