

Severity of post-stroke depression and fatigue in stroke survivors visiting tertiary care. (A hospital-based study).

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ABSTRACT:

BACKGROUND: stroke is one of the leading causes of different psychiatric disorders. Post-stroke depression and post-stroke fatigue is common neuro-psychiatric manifestation after a stroke, there is still confusion about the severity of different comorbid psychiatric conditions and stroke and further planning on rehabilitative measures and management. Knowledge of the severity of comorbid conditions will enable better prevention treatment and early intervention and the right referral.

AIM: The aim of our study was to examine the severity of depression and fatigue in post-stroke patients and analyze sociodemographic variables of post-stroke patients.

MATERIALS AND METHODS

Our study was hospital-based and done in collaboration with the Department of Neurology, with the recruitment of 64 participants to analyze the socio-demographic variables of patients discharged and on follow-up from the last 6 months since the episode of stroke. The severity of depression was analyzed using the Hamilton Depression Ranking Scale (HAM-D), the Fatigue Severity Scale (FSS) was used to assess the severity of fatigue, and the BG Prasad scale to analyze the socioeconomic status was administered.

RESULTS

The majority of the patients were married, female, age greater than 55 years Muslim, and employed, having the majority of participants' education level above

secondary with left-sided hemisphere stroke, ischemic, and of non- frontal location. On FSS the majority 54.68% of patients had mild severity and on HAM-D 57.81% had mild depressive episodes.

CONCLUSION

Assessing the severity of comorbid psychiatric disorders in post-stroke patients will help in planning referrals, management, and different rehabilitative measures for such patients. Proper management of associated depression at appropriate times will enhance the quality of life in such patients.

INTRODUCTION

Stroke is regarded as an acute onset of focal neurological deficits persisting for more than 24 hours. Ischemic strokes are found to be approximately 85% prevalent of all strokes, while as other 15% are of hemorrhagic type (Aali G, 2020). Ischemic strokes are further classified into five categories as due to atherosclerosis, cardioembolism, small artery occlusion (lacunar strokes), a stroke of other determined etiologies, and stroke of undetermined etiology. Hemorrhagic strokes are further classified as subarachnoid or intracerebral hemorrhages. Subarachnoid hemorrhages are caused due to the rupture of an aneurysm, in the large

Received: 28-Jun-2023, Manuscript No: ijemhhr-23-106734;

Editor assigned: 30-Jun-2023, Pre QC No. ijemhhr-23-106734 (PQ);

Reviewed: 14-Jul-2023, QC No. ijemhhr-23-106734;

Revised: 18-Jul-2023, Manuscript No. ijemhhr-23-106734 (R);

Published: 25-Jul-2023, DOI: 10.4172/1522-4821.1000586

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intracranial arteries. Intracerebral hemorrhages are sub-classified as lobar or deep (Ayerbe L,2013). It is documented about 25% to 50% of stroke survivors experience depressive symptoms poststroke (Ayotte BJ, 2010). Depression is a prevalent and severe mental illness characterized by sadness, loss of interest or pleasure, low self-worth, loss of sleep or appetite, tiredness, and difficulty concentrating (Carrozzino D,2020). Poststroke depressive symptoms have been associated with deficits in memory, executive function, and attention/psychomotor processing speed (Chatterjee K, 2010). Depression and diabetes interacted to increase the risk of dementia(Chen YK, et al, 2015).Depressive episode can increase risk for further episodes of stroke (Cumming TB 2016 & De Groot, 2003). Post-stroke fatigue is common and disturbing sequelae of stroke, with higher prevalence and may persist for many years after stroke (Furie KL, et al, 2011). Post-Stroke Fatigue (PSF) has been defined as an 'overwhelming feeling of exhaustion or tiredness, which is unrelated to exertion, and does not typically improve with rest (GS Xiang, 2015).Prevalence of post-stroke fatigue varies between 25% and 85%; and is widely accepted that post-stroke fatigue affects 50% of people after stroke (Hamilton M, 1960).

MATERIALS AND METHODS

STUDY AREA/SETTING: Our study was conducted with the collaboration of the Department of Neurology SKIMS Soura which is a super specialty where patients were examined in the outpatient department

STUDY SUBJECTS: Study participants above 18 years of age, diagnosed cases of stroke by the department of neurology, and are on follow-up with the department of neurology more than 6 months post-stroke.

STUDY DESIGN

AIM AND OBJECTIVES: The aim of our study was to examine the severity of depression and fatigue in post-stroke patients and the socio demographic variables of post-stroke patients.

METHODOLOGY: Our study was a cross-sectional done in collaboration with the Department of Neurology in the outpatient department at SKIMS Srinagar. The hospital has a wide catchment area that caters to all pockets of Kashmir Valley. Ethical clearance was obtained. 64 patients were recruited for the study, and examined after 6 months of stroke. Since the study was conducted in the outpatient clinic with written informed consent, diagnosed with stroke by the department of neurology. Inclusion criteria were patients diagnosed with stroke by the Department of Neurology and patients aged 18 years and above. Patients that were excluded from the study were a) having a past history of psychiatric disorder, B) substance use, C) poor cognitive

function, severe medical or neurological disorders, and D) psychosocial stressors. History since the onset of stroke or in the past 6 months. As the study was outpatient-department based, patients who were admitted to the hospital were excluded.GB Prasad scale was used to assess economic status, and HAM-D was used to assess the severity of depression. A Fatigue Severity Scale (FSS) questionnaire was used to assess the severity of post-stroke Fatigue (Table 1).

DATA COLLECTION METHODS, INSTRUMENTS USED,AND MEASUREMENTS: The participants were screened for of severity depression by using a HAM-D questionnaire face to face interviews were collected (Hasin DS, 2005 & Jiao JT, et al .2016). Which contain 21 items that are valuable for both research and clinical purposes, only the first 17 are used for scoring. Scores for each item range from 0 to 4, with 4 representing more severe signs of depressive episodes (Jonas BS,2000). The BG Prasad scale was used to assess the economic status of participants (Katon W et al, 2015). The fatigue severity scale was used to assess the extent of fatigue causing distress to the study population, subjective contains nine items with scoring 0-5 Of each item, Score of 1-3 was considered as mild or no fatigue while a score of greater than 4 in each item was treated as moderate to severe fatigue in each item of scale (Knesevich JW, 1977).

DATA MANAGEMENT AND ANALYSIS: Data has been analyzed using IBM SPSS statistics 24.0. Frequencies and percentages were used for qualitative variables.

RESULTS

In gender males N=37(57.81%),Females N=27(42.18%). All population is Muslim.Married N=45(70.31%). single,N=7(10.93%) and divorced N=12(18.75%). Education of participants as N=10(15.62%) had primary education,47(73.43%)had secondary, N=4(6.25%) were graduates and 3 (4.68%) were postgraduates. The majority of participants were employed (37%) and N=27(42.18%) were unemployed. As per economic status, N= 22(34.32%) had lower economic status,30 had middle and N=12(18.75%) belonged to higher economic status. Moreover, N=25(39.06%)had right hemisphere stroke,39 left-sided,N=52(81.25%) had an ischemic stroke, N=12(18.75%) had hemorrhagic stroke,12.% had frontal and remaining N=56(87.5%) had non frontal stroke.

DISCUSSION

Stroke is one of the major causes of mortality and disability (Mpembi MN, 2013). post stroke fatigue results in a number of adverse consequences, and impacts on the well-being and quality of life affected (Narushima K, 2003). A depressive episode is commonly seen after stroke, that affects one-third of patients having a history of stroke with a cumulative

Table 1.

Indicates that in our study we had no participants in the age group of 18-35 years, N=18(28.12%) in the 36-55 years of age group, N=46(71.87%) in the age group of 55 years and above.

Variable		N	%
Age	18-35years	0	0%
	36-55years	18	28.12%
	>55years	46	71.87%
Gender	Male	27	42.18%
	Female	37	57.81%
Marital status	Married	45	70.31%
	Single	7	10.93%
	Divorced	12	18.75%
Religion	Muslim	64	100%
Education	Primary	10	15.62%
	Secondary	47	73.43%
	Graduate	4	6.25%
	Postgraduate	3	4.68%
Employment status	Employed	37	57.81%
	Unemployed	27	42.18%
Economic status	Lower	22	34.32%
	Middle	30	46.87%
	High	12	18.75%
Type of stroke	Right hemisphere	25	39.06%
	Left hemisphere	39	60.93%
	Ischemic	52	81.25%
	Heamorrhagic	12	18.75%
	Frontal	8	12.50%
	Non-frontal	56	87.50%

Table 2.

Indicates N= 37 (57.81%) had mild depression, N=19 (29.68%) moderate, and 12.5% had severe depressive episodes. whereas 54.68% had no or mild fatigue and 45.31% had moderate to severe depressive episodes.

Psychiatric co morbidity	Severity	N	%
Depression (Ham-D)	Mild	37	57.81%
	Moderate	19	29.68%
	Severe	8	12.50%
Post-stroke fatigue (FSS)	No or Mild (1-3)	35	54.68%
	Moderate to severe >4	29	45.31%

incidence of 55% (Pennlert J, 2017).In our study majority of participants belong to the age group of greater than 55 years, finding of our study were consistent with the studies of international importance (Pikula A).In our study majority were females, and many studies have highlighted the higher ratio in a sociodemographic variable, our study had similar results with few studies of national and international level (Ressler KJ,2017& Robinson RG,2010& Salaycik KJ,2007). It may be also due to the fact that females have caregiver responsibility in families. In our study, the majority of the patients were married which is in contrast to studies done by (SharmaR,2013).It may be due to the breadwinner model role of the male population. The majority of the population had an education level above high school and from lower socioeconomic status. Our study had findings that were in resonance with other studies (Sreedharan SE,2013 & Townsend AL, 2001).It may be due to worries about future income resources and other life stressors. The majority of

patients were employed which was in resonance with a study done by (Vincent-Onabajo G,2017).In our study Majority of participants had a left-sided ischemic non-frontal stroke that was echoed by many international studies (WahabKW, 2008).Our patients had mild depressive episodes in the majority that were in resonance with other studies done by (Wei N, 2015). The likely reason may be that our patients had lower volume ischemic stroke, not extending to greater areas, non-frontal regions, The severity of post-stroke fatigue in our patients was less than that in correspondence to few other international studies(Whyte EM,2004).Likely reason would be an early referral and early intervention would have lowered the post-stroke sequelae (Table 2).

IMPLICATIONS:

- Early diagnosis and intervention of comorbid depression and fatigue is likely to improve quality of life.

- Early intervention will prevent the recurrence of stroke and will lessen the severity of depression and fatigue.
- Patients with a stroke history should be rehabilitated according to the severity of fatigue via vocational training and occupational therapies.
- Patients having a stroke should be classified on the severity of psychiatric morbidities so that required referrals may be made.

LIMITATIONS: Hospital-based study restricted to only one tertiary care center. Sample from periphery centers/secondary level that are managed at secondary level, should have been included. A follow-up study may be planned.

STRENGTHS OF THE STUDY: Our study has assessed the severity of depression and post-stroke fatigue which enables us to categorize the patients on the severity and subsequently plan the type of rehabilitation and referral.

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