



## Cross Sectional Study of the Comorbid Depression and Anxiety in Post Stroke Patients

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### ABSTRACT

*Psychiatric morbidities following stroke is very common and often underdiagnosed by medical settings. Presence of Psychiatric morbidities especially depression and anxiety affect the therapeutic outcome of stroke by both direct and indirect ways.*

*Aim of this study is to find out depression and anxiety in a patients who is treated for stroke. Setting of study: Study was carried out in out-patient and in-patient Department of General Medicine at Stanley Medical College Hospital & Research Centre. A total of 100 patients consecutively chosen, form the sample for cases. Patients were assessed within the period of two to six weeks after Stroke. Results: Among 100 post stroke patients 66 patients having depression and 11 patients having anxiety disorder. Conclusion: Psychiatric morbidities is higher in post stroke patients. It is essential to identify psychiatric morbidities in post stroke patients in order to prevent negative consequences associated with both stroke as well as psychiatric conditions.*

### KEYWORDS :

#### Introduction:

Depression is the most common mood disorder to follow stroke <sup>(1,2)</sup> with major depression affecting around one quarter to one third of patients <sup>(2)</sup>

Depression hampers functional recovery in a post stroke individual. In Diagnostic and statistical manual (DSM) IV Post Stroke Depression classified under "mood disorder due to general medical condition (i.e. stroke)" with the specific depressive features, major depressive-like episodes, manic features or mixed features.

Studies describe that cerebral ischemia is associated with two types of depressive disorder. Incidence of major and minor depression is 25% and 30% respectively. Prevalence may vary over time with an apparent peak 3 months after the stroke and subsequently decline in prevalence at 1 year<sup>(3)</sup>.

Robinson and colleagues studies showed a spontaneous remission in the natural course of major depression occurring post stroke in the first to second year following stroke. However in few cases depression may become chronic and persist for a longer period.

While some propose that post stroke depression is due to stroke affecting the neural circuits concerned with mood regulation <sup>(4)</sup> (thereby supporting a primary biological mechanism), others in the scientific community claim it to be due to the ensuing psycho-social stressors occurring as a result of stroke <sup>(7)</sup>.

Though an integrated bio- psycho- social model is warranted, most studies clearly suggest biological mechanism to have an upper hand in the later post stroke period than in the immediate phase.

In the same way Anxiety is also common in post stroke individuals with the incidence rate being 20%, and it is most common in first three to four months after the stroke.

#### Aim and objective:

To study of psychiatric profile, depression and anxiety in patients with post stroke.

#### Setting of study:

Study was carried out in out-patient and in-patient Department of General Medicine at STANLEY MEDICAL COLLEGE Hospital & Research Centre.

#### Period of study:

From January 2009 to December 2010

#### Design of study:

Cross sectional

#### Selection of sample:

A total of 100 patients consecutively chosen, form the sample for cases

Patients were assessed within the period of two to six weeks after Stroke.

#### Inclusion criteria:

Patients with Stroke and age between 18 years to 60 years.

#### Exclusion criteria:

Patients not in this age group

Patients with aphasia and incomprehensive

Previous history of psychiatric illness

#### Tools used:

- A structured interview schedule to study the demographics, clinical features and other relevant factors in history.
- Hospital Anxiety and Depression Scale (HADS)
- Hamilton Depression rating Scale (HDRS/HAM-D)

#### Procedure:

A total of 100 patients with post stroke consecutively chosen form the sample for cases who after filling the exclusion and inclusion criteria were taken for study.

A written informed concern was obtained. HAMD, HADS, GHQ-28, scales were administered after clinically evaluation.

#### Observation and results:

In our study majority of individuals were old age, 60 patients with stroke lies in the age of 55-60 and majority of our sample consist of male patients and in our study most of the individuals were from poor economic background and lower literacy and majority of people belonging to the Hindu religion.

**Table-1  
Age distribution**

Age Group	Post stroke patients	
	N	%
20 – 25	0	0
25 – 35	0	0
35 – 45	5	5
45- 55	35	35
55- 60	60	60
Total	100	100

**Table-2**  
**Socio demographic variables**

Variables		N
Sex distribution	Male	69
	Female	31
Occupational status	Semi Skilled	48
	Skilled	24
	Unemployed/dependent	22
	Retired	6
Religion	Hindu	67
	Christian	4
	Muslim	29
Education	Illiterate	43
	Literate	57
Socio economics status	≤ 10000	22
	>10000	78
Marital status	Married	81
	Unmarried	2
	Divorced/Seperated	17
Social support	Negative	32
	Positive	68

**Table-3**  
**FUNTIONAL DIAGNOSIS OF STROKE**

Side involved	Type	Frequency (n=100)
Rt.	Hemiparesis	22
Rt.	Hemiplegia	12
Lt.	Hemiparesis	51
Lt.	Hemiplegia	15
Total -Rt		34
Total-Lt		66

Regarding functional diagnosis of stroke 66 individuale were having left sided weakness and only 34 were having right sided weakness.

Regarding Psychiatric comorbidities, We found 63 individuals found depressed on HADS and 66 found depressed on HAM-D and 11 individuals were suffering from anxiety. [The difference in depression scoring between two scales may due to the HAM-D will pick up the somatic compliance also but it lacks in case of HADS].

**Table-4**  
**PSYCHIATRIC MORBIDITIES**

Psychiatric Morbidities		Post stroke patients (n=100)
Depression	HAM-D	66
	HADS-A	63
Anxiety disorders	HADS-A	11

**Table-5**  
**Psychiatric morbidities and side of the leison**

Psychiatric morbidities	Side of the leison	
	Left sided leison (n=66)	Rt sided leison (n=34)
Depression	40	26
Anxiety	7	4

**Discussion:**

The study of mood disorders after stroke has focused mainly on de-

pression. Reported prevalence of Post stroke depression varies broadly, although most studies place prevalence from 20% to 50%, and indicates that depression persists for 3–6 months post stroke (8).

In our study prevalence of post stroke depression is higher than the previous studies.it is around 66 percent.

Distinguishingly, PSA has only lately started to be investigated with prevalence information ranging from 4 to 28% (9,10). Which is almost similiar to our study where post stroke anxiety is 11 percent.

Our Study found no significant association between frequency of depression and left hemispheric stroke. This finding contrasts with Robinson et al study(11) which found depression to be significantly associated with left hemispheric stroke, but compares favorably with the study of Ebrahim et al , House et al who found no association between left hemisphere stroke and frequency of depression(12,13).

**Summary**

The present study has attempted to study the psychiatric morbidity, mainly concentrating on anxiety and depression, and socio-demographic variables in patients with amputation.

The sample in this study consists of 100 patients with stroke has been treated in general medicine department of SRM Medical College and Research Centre were included.

From Our results showed that psychiatric morbidity is higher in post stroke patients. Shows higher level of depression and higher rates of anxiety in patients with stroke.

**Conclusion:**

Presence of depression immediately following stroke will adversely affect the therepeutic outcome of stroke and also it further detoriate the activities of the individual. Unless we are not aware the possibility of depression and anxiety following stroke it tends to be underdiagnosed in a routine clinical practice.

In a other way if we treat the post stroke depression effectively, its not only facilititate improvement of the therapeutic outcome and also make the individual cooperative for all ongoing treatment process like physiotherapy etc.

So it is essential to treat post stroke psychiatric morbidities especially depression to prevent morbidity associated with both stroke as well as psychiatric conditions.

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