



POST-STROKE DEPRESSION AND ITS IMPACT ON QUALITY OF LIFE IN A TERTIARY CARE HOSPITAL

General Medicine

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ABSTRACT

Background: Post-stroke depression is associated with poorer functional results and a lower quality of life. Despite the vast amount of research that has been conducted on this subject, there is no consensus regarding the prevalence of post-stroke depression or the factors that put people at risk for developing it. **Objective:** Establishing the frequency of post-stroke depression as well as the risk factors associated with it, as well as the influence it has on quality of life. **Methods:** 70 adult patients participated in this 6-month prospective study. Of which 35 patients were from Group A (Depressed group) and the remaining 35 were from Group B (Non-depressed group), respectively. Sociodemographic data and Clinical features of the participants were collected. HAM D SCORE has assessed the presence and severity of depression in patients. Ethical approval was taken before the commencement of the study. SPSS (Version 20) was used for data analysis. **Results:** Most of the patients were from the 46-55 age group (Grp A-42.9% & Grp B-51.4%) with a male predominance (Grp A-60% & Grp B-74.3%). Most had secondary (Grp A-42.9%) and undergraduate (Grp B-48.6%) education, respectively. In Group A, the majority were skilled workers (68.6%) residing in urban areas (71.4%) and living in a nuclear family setup (94.3%). In Group A 20% had a family history of depression and 31.4% had personal history, respectively. Hypertension (Grp A-65.7% & Grp B-60%) is the predominant comorbid condition in both groups. HAM D SCORE reveals that 34.3% were having Mild to Moderate: 14 – 17, depression. The p value was found to be significant ($p < 0.001^*$) for education, occupation, Locality, marital status, and family setup, respectively. **Conclusions:** Post-stroke depression is prevalent and can lower quality of life. Lack of education, socioeconomic position, and marital status predicted post-stroke depression. Depression after a stroke severely lowers the quality of life. Comprehensive post-stroke depression assessment and therapy improve stroke outcomes

KEYWORDS

Post-stroke depression, Quality of life, Hamilton depression score (HAM D SCORE)

INTRODUCTION

Stroke is a leading cause of clinical mortality. Post-stroke depression (PSD) is the most common psychological and physical handicap in over half of survivors. Stroke caused the third most DALYs worldwide in 2017.¹ According to the findings of a study that was carried out in our community (Qena governorate), the incidence of stroke was 922 per 100,000 people.² Martin Roth was the pioneer in the field of research that investigated the connection between depression and stroke.³ Subsequently, Folstein documented that stroke patients exhibited a higher prevalence of depression compared to patients with equivalent levels of motor impairment resulting from orthopedic conditions.⁴ Multiple studies have demonstrated a substantial correlation between depression and the overall well-being of those who have experienced a stroke.^{5,6}

According to the global burden of illness, stroke, and depression are the main causes leading to the total number of years lost owing to disability. An association exists between first-diagnosed post-stroke depression intensity and stroke recovery, according to many studies. Research indicated that severe PSD increases mortality rates, while antidepressants and psychoeducation improve survival and quality of life.⁷ Prior research has demonstrated that the occurrence of post-stroke depression is impacted by various factors including patient selection, socioeconomic status, educational attainment, stroke severity, lesion site, study methodology, timing of assessment after stroke, and associated risk factors, etc.

Post-stroke depression is frequently not properly identified and not adequately reported. This is partly because cognitive issues following a stroke can complicate the symptoms of sadness and make it challenging to accurately diagnose depression. Although there is growing interest in the socioeconomic dimensions of chronic medical conditions in developing nations, there is a scarcity of information available. To address this issue, our study aims to determine the

prevalence of post-stroke depression, identify the risk factors associated with it, and assess its influence on the quality of life of stroke patients.

METHODS

It is a cross-sectional study conducted for 12 weeks at the Department of General Medicine in a tertiary care hospital, in Hyderabad. The study comprised 70 patients, out of which 35 patients had depression and the remaining 35 patients were in the non-depressed study group. The assessment of post-stroke depression and quality of life was done by the Hamilton depression score (HAM D SCORE).

The institution's ethical committee gave its clearance before the study was carried out. Before the research study, all patients were asked for written informed permission and given a thorough explanation of the advantages and dangers in their native tongue. The following inclusion and exclusion criteria were used in the patient selection process.

Inclusion criteria:

- Patients with post-stroke depression
- Patients giving written informed consent

Exclusion criteria:

- Patients with disordered consciousness who were unable to communicate.
- Patients with dysphasia, cognitive impairment, severe medical complications like renal or liver failure, etc.
- Patients not willing to give informed consent

Study procedure:

The patients were selected based on certain criteria for inclusion and exclusion. Participants were evaluated for post-stroke depression and diminished quality of life if they indicated a desire to take part in the study. Enrollment in the study was limited to patients who were able to

complete the questionnaire and expressed a willingness to participate. Patients with a documented mental history, who did not give consent for the trial, and who had previously been administered psychiatric medications were not included in the study.

The scores and cases of HAM D SCORE were classified as follows:

- Mild: 10 - 13
- Mild to Moderate: 14 - 17
- Moderate to Severe: > 17

Statistical analysis: Data was analyzed using SPSS software (VERSION 20). Data were expressed as frequency (n), percentages (%) and Mean ± SD and p value <0.05* was considered statistically significant.

RESULTS

In the present study, most of the patients in Group A (42.9%) and Group B (51.4%) were from the age group of 46 to 55 years with male patients in the majority (Grp A - 60% & Grp B - 74.3%), respectively. In Group A most had secondary education (42.9%) and in Group B majority were undergraduates (48.6%). In Group A, the majority were skilled workers (68.6%) residing in urban areas (71.4%) and living in a nuclear family setup (94.3%). In Group B, the majority were skilled workers (80%) residing in urban areas (85.7%) and living in a joint family setup (82.9%). [Table 1]

As a result of the investigation into the history of depression in the family, it was discovered that Group A had a prevalence of 20%, while Group B had a prevalence of 8.6%, respectively. An assessment was conducted to examine the individual's personal experience with depression. The results revealed that 31.4% of individuals in Group A had a personal history of depression, while just 2.9% of individuals in Group B had a personal history of depression. [Table 2]

Table 3 displays the HAM D scores, indicating that the largest proportion (34.3%) of the participants in the study experienced Mild to Moderate (Score:14 – 17) post-stroke depression. This was followed by Mild (Score:10-13) post-stroke depression, which was observed in 25.7% of the participants. The smallest proportion of participants (40%) had Moderate to Severe: (Score:> 17) post-stroke depression, respectively.

Table 4 is illustrating the correlation between the predominant study group HAM D SCORE and various predominant parameters of Group A (Depressed group). The correlation between the HAM-D score (15.22±4.68) and the predominant age group (50.91±9.16) was statistically insignificant (p=0.06). The correlation between the HAM-D score (15.22±4.68) and the prevalent gender group (1.40±0.49) was statistically insignificant (p=0.07). The correlation between the HAM D SCORE (15.22±4.68) and the predominant education status (2.11±0.99) was found to be statistically significant (p=0.02). The correlation between the HAM D SCORE (15.22±4.68) and the predominant occupational group (1.69±0.47) was statistically significant (p=0.02). The correlation between the HAM-D score (15.22±4.68) and the predominant residing locality (1.14±0.36) was statistically significant (p=0.03). The correlation between the HAM-D score (15.22±4.68) and the predominant marital status (1.23±0.59) was found to be statistically significant (p<0.001*). The correlation between the HAM D SCORE (15.22±4.68) and the predominant family setup (1.94±0.23) was statistically significant (p=0.03).

Table 1: Demographic parameters

Variables	GROUP A (Depressed group) (n=35) n (%)	GROUP B (Non-depressed group) (n= 35) n (%)
Age (25 to 65 years)		
25 to 35 years	03 (8.6%)	0 (0%)
36 to 45 years	09 (25.7%)	04 (11.4%)
46 to 55 years	15 (42.9%)	18 (51.4%)
56 to 65 years	08 (22.9%)	13 (31.7%)
Gender		
Male	21 (60%)	26 (74.3%)
Female	14 (40%)	09 (25.7%)

Educational status		
Primary	10 (28.6%)	0 (0%)
Secondary	15 (42.9%)	10 (28.6%)
Undergraduate	07 (20%)	17 (48.6%)
Postgraduate	02 (5.7%)	08 (22.9%)
Illiterate	01 (2.9%)	0 (0%)
Occupation		
Household	11 (31.4%)	07 (20%)
Skilled worker	19 (68.6%)	28 (80%)
Locality		
Urban	25 (71.4%)	30 (85.7%)
Rural	10 (28.6%)	05 (14.3%)
Marital status		
Married	30 (85.7%)	35 (100%)
Unmarried	02 (5.7%)	0 (0%)
Other	03 (8.6%)	0 (0%)
Family setup		
Joint family	02 (5.7%)	29 (82.9%)
Nuclear family	33 (94.3%)	06 (17.1%)

Table 2: History

History	GROUP A (Depressed group) (n=35)		GROUP B (Non-depressed group) (n= 35)	
	Yes n (%)	No n (%)	Yes n (%)	No n (%)
Family history of depression	07 (20%)	28 (80%)	03 (8.6%)	32 (91.4%)
Personal History of depression	11 (31.4%)	24 (68.6%)	01 (2.9%)	34 (97.1%)

Table 3: HAM D SCORE

HAM D SCORE	GROUP A (Depressed group) (n=35) n (%)	GROUP B (Non-depressed group) (n= 35) n (%)
Mild: 10 - 13	09 (25.7%)	35 (100%)
Mild to Moderate: 14 - 17	12 (34.3%)	0 (0%)
Moderate to Severe: > 17	14 (40%)	0 (0%)

Table 4: Correlation between predominant study group HAM D SCORE and various predominant parameters

GROUP 1 HAM D SCORE (Depressed group) (Mean±SD)	Various parameters (Mean±SD)	p value
HAM D SCORE	Predominant Age (46 to 55yrs)	0.06
15.22±4.68	50.91±9.16	
HAM D SCORE	Predominant Gender (Male)	
15.22±4.68	1.40±0.49	0.07
HAM D SCORE	Predominant Educational status (Secondary)	
15.22±4.68	2.11±0.99	0.02
HAM D SCORE	Predominant Occupation (Skilled worker)	
15.22±4.68	1.69±0.47	0.02
HAM D SCORE	Predominant Locality (Urban)	
15.22±4.68	1.14±0.36	0.03
HAM D SCORE	Predominant marital status (Married)	
15.22±4.68	1.23±0.59	0.001*
HAM D SCORE	Predominant Family setup (Nuclear family)	
15.22±4.68	1.94±0.23	0.03

DISCUSSION

A significant prevalence of post-stroke depression was found to come in at 34.3%, according to the primary findings of the current analysis. In addition, traits such as a lack of education, a low socioeconomic position, and a history of depression in the family were found as risk

factors that were connected to post-stroke melancholy and a lower quality of life.⁸ The development of PSD may have been brought on by either of two possible causes. To begin, post-traumatic stress disorder (PTSD) can be ascribed to injury in a particular region of the brain, which results in changes in neurotransmitters such as serotonin and dopamine during the condition. The second possibility is that it is a psychological reaction to the adverse effects of a stroke, which might have an effect on the quality of life in general.⁹ It was found that roughly 35 percent of the people who participated in this investigation were suffering from depression. The variations in prevalence estimates are most likely attributable to the fact that there is a wide range of clinical presentations of stroke, as well as the difficulties that arise when attempting to evaluate depression in a large number of patients. In addition, the utilization of various diagnostic criteria and measurements in the process of diagnosis may also be a potentially contributing factor to these differences.¹⁰ We came to the conclusion that the prevalence of PSD is higher among individuals with lower levels of education, which is a finding that is in line with the findings of a large number of earlier studies.¹¹ Despite the fact that depressive disorders are more prevalent among males in the general population, gender and age did not demonstrate any significant association with post-stroke depression. It is consistent with a systematic review that were conducted in the past by De Ryck and his fellow coworkers.¹²

CONCLUSIONS

Post-stroke depression is a common occurrence following a stroke and can affect one's quality of life. Factors such as a lack of education, low socioeconomic status, and marital status were found to be predictive of the development of post-stroke depression. Post-stroke depression significantly deteriorates the quality of life. An extensive assessment and treatment of post-stroke depression enhances the result of a stroke. Additional research is urgently needed to investigate the most effective therapy methods for these people.

DECLARATIONS

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