

Prevalence of Depression and Anxiety Among Stroke Survivors in Rural India: A Neuro - Physiotherapy Perspective

Prashant Raut¹, Dr. Ketaki Patani²

PG Student, Dr. APJ Abdul Kalam College of Physiotherapy, Loni, Ahmednagar, Maharashtra, India
Corresponding Author Email: [rautprashant1133\[at\]gmail.com](mailto:rautprashant1133[at]gmail.com)

Associate Professor, Neuro- Physiotherapy, Dr. APJ Abdul Kalam College of Physiotherapy, Loni, Ahmednagar, Maharashtra, India
Email: [ketu6731\[at\]gmail.com](mailto:ketu6731[at]gmail.com)

Abstract: *Stroke is a leading cause of disability worldwide, and individuals who experience a stroke are at heightened risk for developing mental health conditions such as depression and anxiety. These psychological disorders can significantly impair recovery, quality of life, and long - term functional outcomes. This study aims to investigate the prevalence of depression and anxiety in stroke survivors through a survey. A survey was conducted involving stroke survivors from Pravara Rural Hospital. 121 Participants were assessed using standardized screening tools "Hospital Anxiety and Depression Scale (HADS - 21)". Demographic, clinical, and stroke - related data were also collected to Hospital Anxiety depression scale outcomes. In accordance with the (HADS - 21) scale, anxiety had a mean value of 11.85, which is in the moderate group, and depression had a mean value of 24.64, which is in the severe category. P values for both factors indicated that they were very significant. The results of this study suggest that depression and anxiety are commonly in after stroke patients. "Depression is more prevalent compared to anxiety in the stroke patients after the survey done through DASS - 21 scale.*

Keywords: Depression, Anxiety, Stroke, Neuro - physiotherapy, Mental Health.

1. Introduction

A focal vascular lesion in the brain that results in a sudden neurological disability is known as a stroke. It is a quickly evolving clinical symptom of focal abnormalities of cerebral function that have lasted longer than 24 hours and are thought to have a vascular origin. [1], [2]

According to WHO, stroke is defined as the ‘‘rapidly developing sign of focal or global disturbance of cerebral function, which is lasting more than 24 hours (unless interrupted by surgery or death), with no apparent nonvascular cause. [3]

The second most frequent cause of death and disability worldwide is stroke.

Every year, it kills 5.5 million individuals and affects 13.7 million people. Ischemic infraction accounts for about 87% of strokes, with subsequent haemorrhages making up between 10% and 25%. After age 55, the incidence of stroke doubles. Stroke incidence rises with age. But in a worrying trend, the percentage of stroke cases in adults 20 to 54 years old climbed from 12.9% to 18.6% worldwide. China has the highest recorded rate of stroke incidence, affecting 331 - 378 people per 100, 000 life years. Eastern Europe had the second - highest rate (181 - 218 per 100, 000 life years), while Latin America had the lowest rate (85 - 100 per 100, 000 life years). In rural India, the prevalence of stroke among the elderly was 1.1%.

There are 2 types of Strokes

Ischemic Stroke: - These are brought on by a thrombus or embolism that blocks cerebral blood flow, robbing the brain of vital oxygen and glucose, upsetting cellular metabolism,

and causing damage and tissue death. It is a form of stroke that occurs when a clot blocks a brain artery, preventing blood flow to the affected area of the brain.

Haemorrhagic Stroke: - It is due to the rupture or trauma of intracerebral vessels leading to abnormal bleeding into the extravascular areas of the brain result increased ICP (intracranial pressure). It is type of stroke that happen when an artery rupture causing internal bleeding in the brain due to which lack of blood supply to the part of the brain causing ischemic and early sign of stroke [1]

"The journey to mental health is what matters. Not where you're going, but how you drive is what matters".

A crucial and vital part of health is mental well - being. The WHO defines mental health as a condition in which a person is aware of his or her capacity to handle everyday challenges, work effectively, and contribute to society. More than merely mental sickness or mental disorders, mental health is a state of wellbeing that affects how well we can live, enjoy our lives, and handle stress. It significantly affects how people perform personally and socially.

Keyes (2015) identifies emotional well - being, psychological well - being, and social well - being as the three pillars of mental health. The components of emotional health are Psychological wellbeing is defined as loving and accepting one's own personality, being able to manage everyday obligations effectively, keeping good connections with others, and being content with one's own life; Positive functioning, having something to offer the community, and a sense of belonging are all aspects of social well - being.

Mental health is the state of being emotionally or cognitively healthy. More specifically, it describes a person's feelings,

Volume 13 Issue 11, November 2024

Fully Refereed | Open Access | Double Blind Peer Reviewed Journal

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thoughts, and actions. Finding a balance between everyday activities and attempts to develop resilience can affect daily living, interpersonal relationships, the capacity to enjoy life, and even physical health.

According to a 2017 survey, 792 million people worldwide had a mental health problem. This represents little over one in ten persons worldwide (10.7%). The ten mental illnesses range from the most prevalent ones, such as depression and anxiety, to the extremely uncommon ones, like schizophrenia and bipolar disorder. There are 264 million people in the world suffer from 3.5

- 1) Depression: It is characterized by persistent sadness and lack of interest or pleasure in previously rewarding or enjoyable activity. It can also disturb sleep and appetite. Tiredness and poor concentration are common. [6] -44% depression, 3.8% anxiety, 0.6% bipolar illness and 0.3% schizophrenia. According to world health organization
- 2) Anxiety: Anxiety disorders are defined as a group of mental disorder characterized by an unpleasant feeling with uneasiness or worry about future events or the fear of responding to current events.

Need for Study

Cognitive impairment after stroke is frequent but it is neglected consequently compared to other neurological deficit such as sensory and motor impairment. However, in stroke, depression and anxiety is increasing nowadays and it has affected mental and physical health of patients and there is lack of study on prevalence of depression and anxiety so therefore the reported study is to understanding the effect and determine the prevalence of depression and anxiety after stroke.

Purpose

This study aims to evaluate the prevalence of depression and anxiety among stroke patients, highlighting the significance of mental health considerations in neuro - rehabilitation.

Aim and Objectives

Aim: To find out prevalence of depression and anxiety after stroke.

Objectives

- 1) To find out the prevalence of depression and anxiety after stroke.
- 2) To determine the effect of prevalence of depression anxiety after stroke.

Research Question

- 1) What will be the prevalence of depression and anxiety after stroke?
- 2) What is the effect of depression and anxiety after stroke patients?

Selection Criteria

Inclusion Criteria:

- Subject between 20 to 80 years
- Male and female can equally participate
- Subject diagnosed as stroke

Exclusion Criteria:

- Unconscious patients
- Patients with psychiatric disorder
- Patients with recurrent stroke
- Less educated patients
- Patients with metabolic disorder

Outcome Measures

Depression, Anxiety and Stress Scale - 21 (DASS - 21)

2. Methodology

The study was conducted among the stroke patients at Pravara Institute of Medical Sciences, Loni. The study received ethical clearance by the Institutional Ethical Committee of Dr. A. P. J Abdul Kalam College of Physiotherapy, PIMS - DU.

The sample size for this study was 121 The participants were selected on the basis of convenient sampling method according to the inclusion and exclusion criteria mentioned above.

An outcome measure was used which was DASS - 21 scale that is a questionnaire. Participation of the candidates was voluntary. "Participants received an explanation of the study's purpose and procedures in a language they understood" and their informed consent was taken before the study. Also, the confidentiality of information was explained and assured. After the study design is decided, the sample pool (convenience sample size) is drawn, inclusion - exclusion criteria are applied, and the subjects are derived from there. Before each subject participates in the present research study, they should first start by giving their informed consent.

The data analysis entails distributing a questionnaire to all subjects participating in the research. Goggle forms were used to distribute the questionnaire to all of the participants. The data analysis encapsulates the information gathered, while analytical and logical reasoning discerns the patterns and interrelationships among the subjects, having allowed for the conclusion to be drawn.

3. Data Analysis and Interpretation

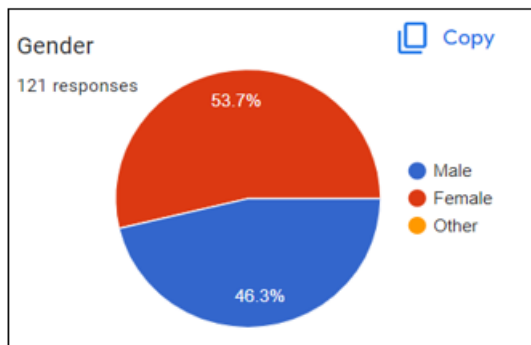
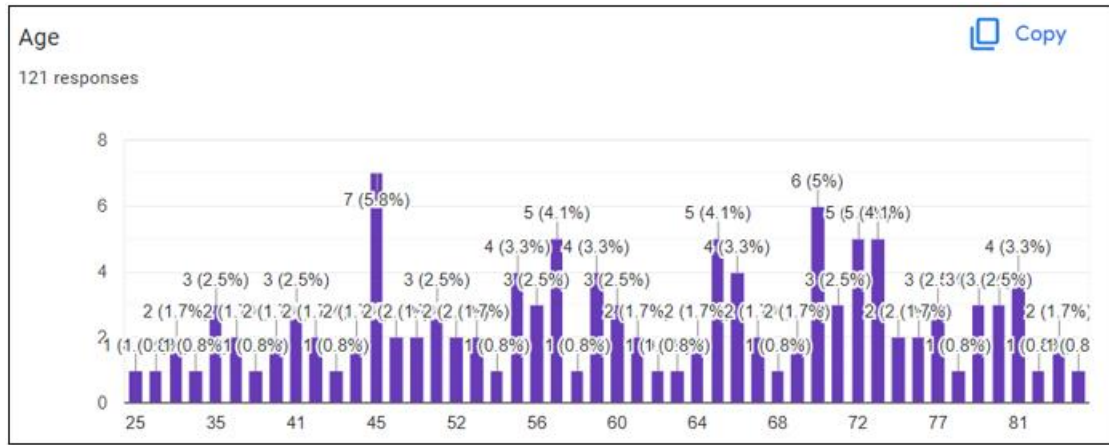
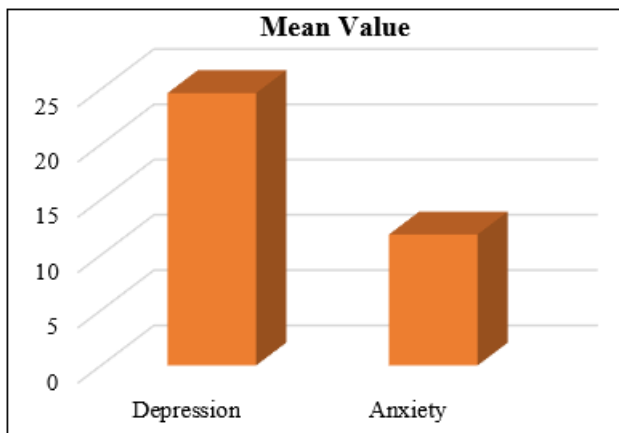


Table 1: Interpretation between Depression and Anxiety with mean values.

	Depression	Anxiety
Mean Value	24.64	11.85
SD	±1.64	±2.02
P value	p<0.001 extremely significant	p<0.001 extremely significant
t value	163.4	64.01



Graph 1: Interpretation between Depression and Anxiety with mean values.

4. Result

It was feasible to analyse the data from 121 patients., the average age being 60.5 years. Depression and anxiety prevalence after stroke were recruited for this investigation.53.7% of the participants are female and 46.3% are male, ranging in age from 20 to 80. The Pravara Institute of Medical Sciences provides its services to all participants. "Participation was voluntary for both men and women" "Patients previously diagnosed with stroke showed a higher

prevalence of depression compared to anxiety. In accordance with the DASS - 21 scale, anxiety had a mean value of 11.85, which is in the moderate group, and depression had a mean value of 24.64, which is in the severe category. P values for both factors indicated that they were very significant.

When compared to anxiety, which had a P value of p0.0001 and a t value of 64.01, depression had a P value of p0.001 and a t value of 163.4.

Therefore, this study demonstrated that in the mean age group of 60.5, stroke patients were more likely to experience depression than anxiety.

5. Discussion

The current study was conducted to determine the prevalence of depression and anxiety in stroke patients. Participants were included based on inclusion and exclusion criteria, after which consent was obtained from those willing to participate. Depression and anxiety were assessed using the Depression Anxiety Stress Scale - 21 (DASS - 21). The scale's components were presented to participants in the form of questions via a Google form, which included seven questions for both depression and anxiety on the DASS scale. Afterward, the survey was completed.

The results showed that depression had a score of 24.64, which fell in the severe category, while anxiety had a score of 11.85, which was categorized as moderate. This indicated that the level of depression in participants after stroke was higher than the level of anxiety. Stroke patients with cognitive impairment exhibited mood disturbances and impaired social functioning, with depression being associated with these social impairments. This likely contributed to the higher level of depression compared to anxiety. Chronic behavioral issues, sexual difficulties, and dysphasia could strain relationships, and psychopathological symptoms were common among caregivers. Most patients reported an inability to feel positive emotions toward their environment, difficulty initiating activities, loss of interest in previously enjoyed tasks, and a sense that life held little meaning—these were all directly related to depression.

A similar study was conducted by Kanchana Riewthong MD et al. (2008), which examined anxiety and depressive symptoms in 251 stroke patients from nine rehabilitation centers. This study aimed to determine the occurrence of

anxiety and depressive symptoms during the rehabilitation phase and identify associated factors, including the impact on functional outcomes and quality of life. The Hospital Anxiety and Depression Scale (HADS) was used to evaluate these symptoms. The study found that anxiety and depression were interrelated, and women were more likely to experience depressive symptoms than men. Patients with anxiety and depression showed lower functional ability and quality of life than those without these symptoms.

Another comparable study by Hosking et al. (2000) found that the prevalence of anxiety was consistent with existing data, which indicated that 25% of individuals experienced acute anxiety post - stroke, with 20% continuing to experience anxiety at the 3–6 month follow - up. Co - morbid moderate anxiety and depression were found in 6.8% of participants, while an additional 5.5% had severe depression co - morbid with severe anxiety. No participants had co - morbid moderate anxiety with severe depression or moderate depression with severe anxiety. While this finding required further investigation, it suggested that when depression and anxiety co - occurred, their perceived severities were congruent. This could reflect the severity of specific symptoms assessed or be a global indication of distress. Another possibility was that shared method variance accounted for the association, as self - report was used to assess both depression and anxiety. This might have led to respondents who were generally distressed rating both their anxiety and depressive symptoms as high.

6. Conclusion

The results of this study suggest that depression and anxiety are commonly in after stroke patients. Depression is more as compared to anxiety in the stroke patients after the survey done through DASS - 21 scale.

Acknowledgments: We wish to thank the patients who took part in the study.

Conflict of Interest: None declared.

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