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**Research Article**

# Dystonia Frequency among Post-Stroke Patients in Pakistan

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## ABSTRACT

**Objective:** To know the frequency of dystonia and its types between post stroke patients in different hospitals of Rawalpindi and Islamabad

**Study Design:** Cross-sectional survey

**Place and Duration**: The study was conducted in different hospitals in Rawalpindi and Islamabad from August 2015 to March 2016.

**Materials and Methods:** 387 patients were recruited through unintentional sampling. Inclusion criteria included individuals; they have an age group over 18 years of age, the first episode experience of stroke, stroke or hemorrhage, having a stroke for at least three months at the time of presentation. A self-report questionnaire was used to collect data after informed consent. The data was analyzed using Microsoft Excel 2007 and SPV (V.20)

**Results:** The study population consisted of 51.6% of men and 48.4% of sick women. 33% belonged to the 46-55 age groups. The proportion of patients who developed a stroke after a stress disorder was 25% (97 patients). Of these, 19% (68 patients) had spasticity and 6% (29 patients) had several other types of stress disorder. Of these 16 patients had hemidistonia, 10 had coordination and only 3 were distal dystonia. It has been shown that patients with a stroke of 1-2 years had a higher frequency, 37, than a dyslexia in which 27 patients developed spastic dyspnea while 10 developed dyspnea of other types.

**Conclusion:** The prevalence of movement disorders after stroke is low as reported by previous investigations. These disorders may occur early after the stroke or may be delayed in its presentation. Spastic dystonia is the most common form that occurs in most patients. Most of the patients found with dystonia had a duration after the stroke between 1 - 2 years who showed a delay in the development of dystonia after the stroke.

**Keywords:** Stroke, movement disorders, dystonia.

## INTRODUCTION:

Stroke affects nearly 15 million people a year, the leading cause of death in second place. (1) The number of deaths from stroke is estimated at 5.7 million per year. With advances in medical science and human care in developed countries, the rate has fallen to 42 per cent. By contrast, the developing world continues to face the dilemma that the incidence rate has increased to nearly 100% in the past 40 years. . 2 In Pakistan, the figure was estimated at 3,000,000 per year. 1 Accurate assessment of post-stroke motion disorder is unclear. However, it has been shown that stroke is caused by movement disorders in approximately 22% of patients.3These secondary

disorders following a stroke-related stroke are very diverse and can occur immediately after a cerebrovascular disease, and in some cases occur in later stages. Movement disorders after stroke may be hypokentic or hyperactivity and may appear as Parkinsonism (disorder of movement of immobility) or in a wide range of hyperactivity disorders including; Coronary, Tendonitis, Balinese, Atticosis, Asterexis and Rami muscular. Destinia is described as a disorder that usually occurs after a dance after a stroke. Its initial presentation time is usually delayed (3). There is a lack of large studies that find exactly the occurrence and spread of this complex disorder after a stroke

Tension is defined as "hyperactivity disorder characterized by continuous involuntary muscle contractions that affect one or more sites of the body that lead to twisted and repetitive movements or abnormal positions of the affected part of the body." 6 may be restricted to a part of the body known as focal tension dysfunction, such as the upper limb which affects the muscles of the arm, forearm and hand. 7 can be generalized. Since it affects both legs and at least another part of the body, it can also be offered as hemidystonia where it is limited to one side of the body. After stroke, stress disorder is often associated with increased tone due to predominant convulsions, and here is described as a spastic dysplasia which shows a combination of dyspnea and convulsions and leads to anomalies. 3, 9, 10

. Currently, no study is conducted in Pakistan that has reported the exact prevalence of this post-stroke complication. Tension not only affects people's quality of life, but also increases the patient's disability and burden on the family. This study was designed to determine the frequency and types of stress disorder among post stroke patients, who are offered at different hospitals in Rawalpindi and Islamabad.

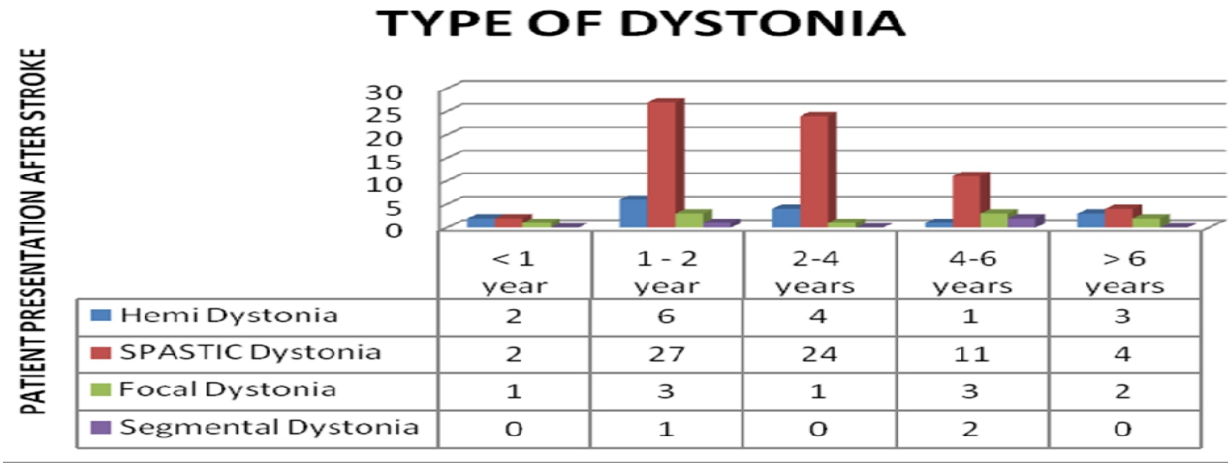
**MATERIALS AND METHODS:**

This cross-sectional study included 387 patients, through unintentional sampling. The sample size was calculated using a sample size calculator for who. The inclusion criteria for patients consists of individuals. They have an age group over 18 years old, they have the first episode of stroke, they have stroke, hemorrhage and stroke deficiency for at least three months at the time of presentation. All other patients with idiopathic stress disorder, specific stress disorder or functional dysfunction, stress disorder that occurs as complications of other non-stroke diseases, post-traumatic stress disorder, and Parkinson's disease a study. Data were collected from different hospitals in Rawalpindi and Islamabad from August 2015 to March 2016. The diagnosis was performed by a neurologist and a questionnaire was specially designed to collect data that included demographic data and used all relevant information about the incident. Cerebrovascular disease and stress disorder. Use SPACE (version 20) to perform data analysis. The results were shown in the form of frequencies, tables and graphs to explain the study variables.

**Table I:** Showing Type of Stroke and dystonia type

| STROKE TYPE & DYSTONIA | | | | |
|---|---|---|---|---|
| **Type of Dystonia** | **Hemorrhagic Stroke** | **Percentage** | **Ischemic Stroke** | **Percentage** |
| Spastic Dystonia | 17 | 4.4 | 51 | 13.2 |
| Segmental Dystonia | 1 | 0.3 | 2 | 0.5 |
| Hemidystonia | 10 | 2.6 | 6 | 1.6 |
| Focal Dystonia | 6 | 1.6 | 4 | 1.0 |

**Figure 1:** Showing Time of Patient Presentation after Stroke having dystonia.




| | < 1 year | 1 - 2 year | 2-4 years | 4-6 years | > 6 years |
|---|---|---|---|---|---|
| Hemi Dystonia | 2 | 6 | 4 | 1 | 3 |
| SPASTIC Dystonia | 2 | 27 | 24 | 11 | 4 |
| Focal Dystonia | 1 | 3 | 1 | 3 | 2 |
| Segmental Dystonia | 0 | 1 | 0 | 2 | 0 |

**RESULTS:**

There were 200 men and 187 women with 51.6% and 48.4% respectively. The highest proportion of patients (33%) was found in the 46-55 age group. There were 68% of patients with stroke while 32% of hemorrhagic type. The right side of the body was affected in 47.5% of patients, while 52.5% left side was affected by stroke.

Among the studied population, 35% of patients who were affected by stroke last year and 36% of patients were affected between two and four years of study time. Among the study population, 25% (97) patients with dystonia. The highest presentation in these patients was stroke after spasticity dysplasia (68, 19%, patients) followed by other types of stress disorder 29 patients, 6%). Of these 29 patients with disorders, 16 were hemedistonia, 10 had coordination and only 3 were distal distonia.Of the 121 patients with haemorrhagic stroke, 17 had developed spastic dysplasia, 10 had histidonia, 6 hadonia coordination, and 1 had developed a hyperbolic disorder. Of the 266 patients with stroke, 51 had spastic dysplasia, 6 had hemedistonia, 4 had dysunia coordination and only 2 were distal distonia.

When considering the duration of the relationship of the stroke with a type of dysfunction, 2 patients developed spastic dysplasia and 3 other types of dyspnea in those who have less than one year of stroke. The majority of patients with the disease of discomfort in the stroke duration group of 1-2 years, since 27 patients developed dyspnea spastic tension while 10 advanced stress disorder of other types after suffering stroke. In a group of patients with stroke for 2-4 years, there were 24 spastic spastic patients and 5 patients with postoperative tachycardia unrelated to stroke.

**DISCUSSION:**

An important complication that develops during or after a stroke is movement disorders, but accurate assessment regarding the development of these disorders is not yet available. In the current study, the frequency of postoperative stress disorder in the population was determined. Dystonia is a complication after joint stroke, because it occurs in about 25% (spastic dysplasia, 17.5% and pure stress disorder, 7.4%) of the population, and more disrupted movement disorder after cerebrovascular accident 11 prospective study of secondary motion disorders after stroke found Among the secondary movement disorders, stress disorder is the most common affecting nearly 30% of patients.The study also found that the most common cause of secondary motor disturbances was vascular (22.3%) with the highest proportion of population after stroke (65%). According to their results, those suffering from stroke stroke (80%) developed more movement disorders than hemorrhagic ones. The results also showed frequencies of different movement disorders due to etiology of blood vessels, with the most common disorder being in 56.6% of patients

followed hemiballism(13.1%), dystonia plus (8.7%) and tremor with tension disorder (20%). Another study also reported the development of movement disorders in patients after stroke. According to the results, movement disorders after stroke occur between 1.1-3.9% in several stages with different time period. The results of this study supported the current study, because they also reported delays in the development of dystonia Which occurs months later, and the early development of other disorders such as the movement of korea and hemiballism

Studies have shown that about 3.7% of patients suffer from movement disorders. 5 in the stroke record in Lausanne, 17% of patients with stroke developed a maladjustment and about 10% developed a maladjustment with muscular dystrophy. 9 of all forms, the most common type that develops in the population after a stroke is a spastic dysplasia which often goes unnoticed and is often confused with spasticity. The results of the present study also showed the highest rate in the population with stroke. Previous studies have reported the development of spastic dysplasia in later stages after stroke. Almost after 1 year with continuous spasm. 14 Similar results were found in the present study with the development of spastic dysplasia in the chronic stage of stroke with higher rates occurring after 1-5 years.

The other most common type of dysfunction found in the present study is hemidistonia. A study conducted on the development of hemedistonia showed that stroke is the most common cause with the most affected arm (48.5%) followed by leg (21.2%) and arms and legs in 36, 4% of patients. The interval between stroke and development of dizziness was also 9.5 months on average with a range of 3 months to 3 years. 15 Previous studies in post-stroke patients have shown the development of other types of stress disorder in post-stroke patients. According to the results of one study, the most common variant of hereditary stress disorder was followed by focal fibrillation, dystonic tension and tension disorder most developed after a period of 1 to 9 months

16 Similar results have been shown in this study, the most common type being hemidystonia followed by co-ordination and pustular tension, respectively. Another study on post-paralysis mobility disorders showed a higher prevalence of hemidystonia followed by a coordination dysfunction affecting the hand. Other studies have also shown the prevalence of focal tension in the hands and feet. 17 and similar results were found in the present study.

**CONCLUSION**:

According to the results of this study, a stress disorder was found in patients with hemorrhagic and hemorrhagic stroke. It is not a rare complication in our geographic population and found that spastic dysplasia is the most common form of stress disorder followed by hemidystonia and dystonia coordination. It is also found that it may occur early after a stroke or may be delayed initially, depending on the type of stroke and area involved.

**LIMITATIONS AND RECOMMENDATIONS:**

Although the prevalence of different types of dystonia is determined in the current study, it is limited to only one type of motion disorder ie, tension disorder and therefore the prevalence of other movement disorders should be evaluated. This study was conducted only in a limited number of hospitals in twin cities. It must be done more widely to see the exact spread of the movement disorders in the stroke. Moreover, patients were introduced at different stages of the stroke which made it difficult to know the exact time to develop maladjustment. Many patients and their families have not reported this condition, resulting in a low documentation of this disorder in motion.

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