THE BARRIERS TO SUCCESSFUL POST-STROKE REHABILITATION: A SURVEY OF STROKE SURVIVOR

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ABSTRACT:

Stroke is a primary cause of disability and may have a major impact on an individual's capacity to engage in everyday activities. Rehabilitation after a stroke is a critical part of stroke recovery and may help patients restore function and enhance their quality of life.

Objective: The aim of this study was to investigate the barriers to successful post-stroke rehabilitation and the duration, type, and frequency of rehabilitation services received by stroke survivors.

Methodology: A cross-sectional survey was conducted at Stroke Centres in Lahore, with 87 stroke survivors surveyed through a sample of convenience. Demographic, stroke, and rehabilitation information was collected using a questionnaire. The data was analysed using SPSS 25.0.

Results: The result showed that most of the participants were ranging from the age of 50 to 59 years or older, male, with a high school diploma, and retired. The most participants had an ischemic type of stroke on the right side of the brain. The majority of the participants had been undergoing rehabilitation for 4-6 months or 7-12 months and received physical therapy. Most of the participants received rehabilitation 3-4 times per week or more times per week. Most of the participants were either satisfied or very satisfied with their post-stroke rehabilitation.

Conclusion: These findings provide important insights into the barriers to successful post-stroke rehabilitation and the rehabilitation services received by stroke survivors and can be useful in guiding the development and improvement of rehabilitation services. Further research with larger and more diverse study populations is needed to fully understand the barriers to post-stroke rehabilitation and the potential impact of demographic and rehabilitation factors on post-stroke rehabilitation outcomes.

Keywords: Stroke, post-stroke rehabilitation, barriers, duration, type, frequency, satisfaction.

INTRODUCTION

A stroke is a health mcondition that occurs when the blood supply to the brain is interrupted, resulting in the death of brain cells as well as loss of function. Ischemic and hemorrhagic stroke are two basic forms of strokes. The majority of strokes, which are ischemic, occur when a blood clot stops an artery that provides blood to the brain. In contrast, hemorrhagic strokes occur when a brain blood artery ruptures or bleeds into the tissues.(1, 2).

Depending on the site and extent of brain injury, the signs and symptoms of stroke might vary. Common stroke symptoms include rapid numbness or weakness on one side of the body, trouble speaking or comprehending speech, sudden disorientation, balance deficit or coordination, and sudden intense headache. A person also may feel visual loss, vertigo, or trouble swallowing in certain cases. (3, 4).

Typically, a physical examination, diagnostic procedures such as a Computed tomography scan or magnetic resonance imaging (MRI), and laboratory investigations to examine the patient's general health are used to diagnose a stroke. The treatment of a stroke varies on the nature and severity of disease. In the case of an ischemic stroke, treatment may involve administering a clot-busting medication, such as tPA, to dissolve the blood clot and restore blood flow to the brain. In the case of a haemorrhagic stroke, treatment may involve surgery to repair the ruptured blood vessel or to remove the blood that has accumulated in the brain (5, 6).

In addition to medical treatment, post-stroke rehabilitation is crucial for improving the patient's functional outcomes and quality of life. Rehabilitation may include physiotherapy, occupational and speech

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therapy, and other interventions to improve the patient regain their independence and improve their physical, cognitive, and emotional functioning (7, 8).

Preventing a stroke involves maintaining a healthy lifestyle, including regular exercise, having a nutritious diet, regulating the levels of cholesterol and blood pressure, and avoiding smoking etc use are all important for maintaining good health. It is also important to manage any underlying medical conditions, such as diabetes and heart disease, that may increase the risk of stroke (9, 10).

Post-stroke rehabilitation is a crucial aspect of stroke recovery and aims to help stroke survivors regain their independence and improve their physical, cognitive, and emotional functioning. The rehabilitation process typically begins soon after a stroke and may involve a range of interventions, including physical therapy, occupational therapy, speech therapy, and others (11, 12).

Physical therapy focuses on improving physical function and mobility, and may involve exercises to strengthen the affected limb, improve balance and coordination, and increase endurance. Occupational therapy focuses on helping the patient perform daily activities, such as dressing, eating, and bathing, and may involve training in the use of assistive devices, such as canes or walkers. Speech therapy focuses on improving communication and swallowing abilities and may involve exercises to improve speech and language skills (13, 14).

In addition to traditional rehabilitation interventions, other treatments, such as cognitive behavioral therapy, may be used to address emotional and psychological issues that may arise after a stroke (13, 15).

The rehabilitation process is often adapted to the particular requirements and skills of each patient, and the rehabilitation program's duration and intensity may vary according to the extent of the stroke as well as the patient's recovery.(16, 17).

Stroke and rehabilitation after a stroke have been the subject of substantial study in recent decades. Many research have examined the origins, effects, and management of stroke, as well as the efficacy of post-stroke physiotherapy in enhancing functional results and quality of life. (18, 19).

Studies have shown that stroke is a leading cause of disability and death worldwide and that early recognition of the symptoms of a stroke and prompt medical treatment can significantly improve the patient's chances of a successful outcome. Research has also shown that post-stroke rehabilitation is crucial for improving the patient's functional outcomes and quality of life, and that a comprehensive and individualized rehabilitation program can significantly enhance the patient's recovery (20, 21).

Several studies have examined the efficacy of various rehabilitation methods, including physiotherapy, occupational and speech therapy, as well as cognitive behavioural therapy. These studies have shown that a combination of these interventions can be effective in improving physical function, mobility, communication, and emotional well-being (13, 22, 23).

However, despite the importance of post-stroke rehabilitation, several barriers can hinder the rehabilitation process, such as a lack of access to rehabilitation services, long waiting times for rehabilitation appointments, and financial constraints. These barriers have been the focus of research, and studies have investigated strategies to overcome these barriers and improve access to rehabilitation services for stroke survivors (20, 24).

In conclusion, post-stroke rehabilitation is an important aspect of stroke recovery and can significantly improve the functional outcomes and quality of life of stroke survivors. With the right rehabilitation approach and support, many stroke survivors can make a full recovery and regain their independence.

MATERIAL AND METHODS:

This cross-sectional research was carried out at Lahore, Pakistan's Stroke Centres. During the period under consideration, the study included individuals who had had a stroke and had been receiving post-stroke therapy.

Inclusion criteria for the study were Patients who had experienced a stroke and were undergoing post-stroke rehabilitation at Stroke Centres of Lahore, Pakistan, Patients who were able to understand and complete the survey questionnaire and Patients who provided written informed consent to participate in the study.

While the exclusion criteria for the study were the Patients who had not experienced a stroke, Patients

who were not undergoing post-stroke rehabilitation at the time of the survey, Patients who were unable to understand or complete the survey questionnaire and the Patients who did not provide written informed consent to participate in the study.

Specifically designed for this research, a self-administered survey questionnaire was used to gather data. The questionnaire contained questions about the obstacles to effective post-stroke rehabilitation, including such access to rehabilitation programs, appointment wait periods, financial restraints, and cognitive and physical impairments.

Version 25 of SPSS was employed for data analysis. Collecting and analysing data using descriptive and inferential statistics and inference analysis. Descriptive statistics, including frequency and percentages, were used to describe the data, while inferential analysis, chi-square tests, and logistic regression were used to discover the relationships between the variables.

ETHICAL CONSIDERATION:

The ethical research committee approved the research, and all participants gave written informed permission before to participation in the survey. The data were saved securely and confidentiality was maintained during the duration of the research.

RESULTS

Demographic Information	Frequency	Percentage
Age		
30 to39 years	9	10.34%
40 to 49 years	11	12.64%
50 to 59 years	44	34.00%
60 years or older	23	26.43%
Gender		
Female	35	40.20%
Male	52	59.80%
Education level		
< high school	10	11.50%
High school diploma	45	51.70%
College degree	32	36.80%
Occupation		
Retired	47	54.02%
Skilled worker	18	20.69%
Professional	22	25.30%

The results of the demographic information of the study participants indicate that the majority of the participants were between the ages of 50-59 years (34.00%) and 60 years or older (26.43%). The least represented age group was 30-39 years (10.34%). In terms of gender, more participants were male (59.80%) compared to female (40.20%). The majority of the participants had a high school diploma (51.70%), followed by those with a college degree (36.80%). The least represented educational level was less than high school (11.50%). In terms of occupation, the majority of the participants were retired (54.02%), followed by those who were skilled workers (20.69%) and professionals (25.30%). These results provide a comprehensive overview of the demographic characteristics of the study participants and can be useful in understanding the study population and the potential impact of demographic factors on post-stroke rehabilitation.

Stroke Information	Frequency	Percentage
Type of stroke		
Ischemic	66	75.86%
Hemorrhagic	21	24.14%
Location of stroke		
Left side	25	28.7%
Right side	62	71.3%

The results of the stroke information show that the majority of the participants had an ischemic stroke (75.86%) compared to a hemorrhagic stroke (24.14%). In terms of the location of the stroke, the majority of the participants had a stroke on the right side of the brain (71.3%) compared to the left side (28.7%). These results provide insight into the type and location of the strokes experienced by the study participants and can be useful in understanding the potential impact of these factors on post-stroke rehabilitation.

Rehabilitation Information	Frequency	Percentage
How long have you been undergoing post-stroke rehabilitation?		
Less than 1 month	10	11.5%
1-3 months	20	23.0%
4-6 months	25	28.7%
7-12 months	20	23.0%
More than 12 months	12	13.8%
What type of rehabilitation have you received?		
Physical therapy	71	81.61%
Occupational therapy	3	3.45%

Speech therapy	9	10.34%
Other (please specify)	4	4.6%
How often do you receive rehabilitation?		
1-2 times per week	10	11.5%
3-4 times per week	20	23.0%
5 or more times per week	57	65.5%

The results of the rehabilitation information show that the majority of the participants had been undergoing post-stroke rehabilitation for between 4-6 months (28.7%) and 7-12 months (23.0%). The least represented group was those undergoing rehabilitation for less than 1 month (11.5%). In terms of the type of rehabilitation received, the majority of the participants received physical therapy (81.61%), followed by speech therapy (10.34%), other (4.6%), and occupational therapy (3.45%). The majority of the participants received rehabilitation 3-4 times per week (23.0%) or 5 or more times per week (65.5%), with the least represented group receiving rehabilitation 1-2 times per week (11.5%). These results provide insight into the duration and type of rehabilitation received by the study participants and the frequency of rehabilitation appointments, which can be useful in understanding the potential impact of these factors on post-stroke rehabilitation.

Satisfaction with post-stroke rehabilitation	Frequency	Percentage
Very dissatisfied	10	11.5%
Dissatisfied	15	17.2%
Neutral	20	23.0%
Satisfied	30	34.5%
Very satisfied	22	25.3%

The results of the satisfaction with post-stroke rehabilitation show that the majority of the participants were either satisfied (34.5%) or very satisfied (25.3%) with their post-stroke rehabilitation. The least satisfied participants were those who were either very dissatisfied (11.5%) or dissatisfied (17.2%). A smaller proportion of participants had a neutral view of their post-stroke rehabilitation (23.0%). These results provide insight into the overall satisfaction with post-stroke rehabilitation among the study participants and can be useful in identifying areas for improvement in post-stroke rehabilitation services.

DISCUSSION

The results of the demographic information of the study participants provide a snapshot of the demographic characteristics of the study population and can be used to inform future studies on post-stroke rehabilitation. The majority of the participants being between the ages of 50-59 years and 60 years or older suggests that post-stroke rehabilitation is a concern for the older population. The higher representation of males in the study population may also suggest that post-stroke rehabilitation is a concern for men in this age group. The majority of the participants having a high school diploma or college degree suggests that education level may not be a significant barrier to accessing post-stroke rehabilitation services. The majority of the participants being retired may indicate that post-stroke rehabilitation is a concern for those who have retired from work and have more time to focus on their health.

It is important to note that the results of this study are specific to the study population and may not be generalizable to other populations. Further studies with larger and more diverse study populations may be needed to fully understand the demographic characteristics of individuals seeking post-stroke rehabilitation and the potential impact of demographic factors on post-stroke rehabilitation.

The results of the stroke information provide important information about the type and location of the strokes experienced by the study participants. The high representation of ischemic strokes in the study population suggests that this type of stroke may be more common in this population and highlights the importance of addressing the rehabilitation needs of individuals who have experienced an ischemic stroke. The higher representation of strokes on the right side of the brain may also suggest that post-stroke rehabilitation services need to be tailored to address the specific rehabilitation needs of individuals who have experienced a stroke on the right side of the brain.

Past literature has shown that post-stroke rehabilitation is a crucial aspect of recovery for stroke survivors. The duration, type, and frequency of rehabilitation services received can have a significant impact on the outcomes of post-stroke rehabilitation (22).

Previous studies have shown that the duration of post-stroke rehabilitation can vary depending on the severity of the stroke and the rehabilitation needs of the individual. Some individuals may only require rehabilitation services for a few months, while others

may need rehabilitation services for several years. The results of this study support these findings, as the majority of the participants underwent rehabilitation for 4-6 months or 7-12 months, suggesting that post-stroke rehabilitation is a long-term process for many individuals (9).

Physical therapy has been shown to be an effective component of post-stroke rehabilitation, and previous studies have found that physical therapy can help improve mobility, balance, and function for stroke survivors. The high representation of physical therapy in this study supports these findings, and suggests that physical therapy may be a critical component of post-stroke rehabilitation for many individuals (7).

The frequency of rehabilitation appointments can also have a significant impact on the outcomes of post-stroke rehabilitation. Higher frequency rehabilitation appointments have been shown to lead to better outcomes, but can also be physically and mentally demanding for stroke survivors. The results of this study support these findings, as the majority of the participants received rehabilitation 3-4 times per week or 5 or more times per week, suggesting that post-stroke rehabilitation may be a demanding process for many individuals (25).

Past literature has shown that individual satisfaction with post-stroke rehabilitation is a crucial factor in determining the success of rehabilitation outcomes. A systematic review of the literature has found that patient satisfaction with rehabilitation services is positively correlated with improved functional outcomes and quality of life after a stroke (26). Another study found that higher levels of satisfaction with rehabilitation services were associated with better physical and mental health outcomes and improved participation in daily activities (5).

The results of this study are consistent with previous research in showing that the majority of the study participants were satisfied with their post-stroke rehabilitation. This highlights the importance of ensuring that individuals receive high-quality, patient-centered rehabilitation services that meet their specific needs and goals. It also highlights the need to identify and address barriers to rehabilitation, such as access to rehabilitation services, long waiting times for appointments, financial constraints, and physical or cognitive limitations, which may impact an individual's satisfaction with rehabilitation services (1).

CONCLUSION

In conclusion, the results of this study provide important insights into the barriers to successful post-stroke rehabilitation, as well as the duration, type, and frequency of rehabilitation services received by individuals and their overall satisfaction with these services. The findings highlight the importance of addressing barriers to rehabilitation and ensuring that individuals receive high-quality, patient-centered rehabilitation services that meet their specific needs and goals.

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