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“Exploring the Experience: Role of Physiotherapy in Stroke Recovery”

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The undersigned attests to having read this dissertation with great care and recommending its acceptance to the University of Dhaka's Faculty of Medicine.

“Exploring the Experience: Role of Physiotherapy in Stroke Recovery”

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DECLARATION

I certify that the work I've done is original to me. Every source that was used has been properly cited. I am responsible for any errors or inaccuracies. I also reject the requirement that I get my supervisor's written consent before publishing or disseminating any information about the study.

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ACRONYMS

ADLs	Activities of Daily Living
AR	Augmented Reality
DM	Diabetes Mellitus
DCPT	Dhaka College of Physiotherapy
ESD	Early Supported Discharge
HTN	Hypertension
ICF	International Classification of Functioning, Disability, and Health
PA	Physical Activity
rTMS	Repetitive Transcranial Magnetic Stimulation
SCMST	Saic College of Medical Science and Technology
tDCS	Transcranial Direct Current Stimulation
VR	Virtual Reality

ABSTRACT

Background: One of the main causes of chronic disability in Bangladesh is stroke. Though survivors lived experiences are still underreported in low-resource environments, physiotherapy is essential for healing. **Objective:** To explore the experience of stroke survivors who undergone physiotherapy interventions. **Methods:** Ten stroke survivors (ages 28 to 70) who had received physiotherapy at Saic College of Medical Science and Technology, Mirpur, Dhaka, participated in a qualitative phenomenology study. Open-ended questionnaires were used in in-person interviews to gather data. NVivo software was used for thematic analysis. **Results:** The impact of stroke on life, overall physiotherapy experience, access constraints, contribution to mobility and independence, social and familial support, and emotional reaction to recovery were the six themes that surfaced. The majority of participants said their confidence, freedom, and mobility had increased. The availability of limited rural services, transportation problems, and budgetary limitations were the main obstacles. Motivation and adherence were consistently facilitated by family support. **Conclusion:** Physiotherapy is essential for stroke rehabilitation, but its effects are greatest when treatment is available, tailored to each patient, and backed by robust psychosocial networks. Improving results in environments with limited resources requires integrating patient-centered approaches and increasing access to rehabilitation.

Keywords: *Physiotherapy, Experience, Stroke recovery, Rehabilitation*

1.1 Background

Stroke is a leading global cause of disability. Prior to the COVID-19 outbreak, the UK experienced more than 100,000 documented cases of stroke annually. Stroke case admission rates have significantly decreased since the pandemic's beginning. A third fewer admissions were made, for instance, in one London hospital; yet, the patients who were admitted had much higher pre-stroke disabilities and more severe strokes when they were admitted. In addition to decreased rates of thrombolysis (11.49%) vs. 46 (16.25%, $p = 0.030$), the rate of hospitalization for TIA between March 23 and June 30, 2020, was significantly lower (24.44%). contrasting with the same time frame in 2019 (Sahely et al. 2023, p. 2).

One of the main causes of impairment in adulthood and a major worldwide health issue is stroke. Over 70% of people who survive an acute stroke are thought to be affected by arm impairment, and half of them still have impaired arm function six months after their stroke. It affects everyday living activities, overall health, and quality of life in relation to health. Repetitive, functional task practice has the potential to improve arm function; however, there are currently few health resources available to provide the necessary dose (at least 20 hours above standard care). Hence, self-managed rehabilitation may be necessary for stroke survivors (Schnabel et al. 2022, p. 5).

A stroke can happen suddenly, but it can also have long-term effects like limited social involvement, emotional difficulties, disability, and depression. It is possible to alleviate long-term effects of stroke by self-management. While there is no universally accepted definition for the contentious idea of self-management, it can be generally understood to refer to the process by which people learn the techniques, methods, and information necessary to control the psychological, emotional, social, and physical consequences of a chronic illness. Social cognitive theory's concept of self-efficacy serves as the foundation for a popular methodology that supports self-management in both research and policy (Sadler et al. 2017, p. 3).

It is unclear whether strategy or intervention is better than another, although evidence from excellent research has demonstrated the beneficial effects of physical therapy on the recovery of function and mobility following a stroke. When there are multiple treatment options with comparable efficacy, clinical decision-making and rehabilitation intervention development should take the patient's preferences into consideration. According to Australian clinical recommendations, stroke restoration should be "a proactive, person-centered and goal-oriented process" that puts the needs of the patient and their family first (Luker et al. 2015, p. 1699).

The wishes of the stroke victim must therefore be taken into account at every stage of the recovery procedure. Contrary to the inclination of health practitioners to concentrate on specific physical goals, stroke survivors' social and emotional preferences need to be closely considered, even though the biological model prioritizes physical tasks. Communication, sociability, and other non-physical skills are in fact important components of the International Classification of Functioning Disability and Health (ICF), which is the World Health Organization's (WHO) framework for therapy. In general, returning to expressive actions after a stroke has been linked to improved health-related quality of life (White et al. 2015, p. 593).

On being released from the hospital, stroke survivors often experience changes and difficulties, particularly when they reestablish their independence, adapt to their new routines, and decide what they hope to recover from. While there is a wealth of quantitative studies on the efficacy of ESD, there is comparatively little study on the experiences of stroke survivors (Trudi et al. 2022, p. 1605). Nevertheless, several patients also expressed discomfort (such as itching, unpleasant stimulation) or apprehension about the potential side effects of tDCS. Patients undergoing rTMS have not yet had their subjective experiences evaluated. Researchers and medical practitioners may be able to better design future trials and their clinical implementation by using insights from patients' viewpoints to identify subjects that are essential to patients receiving treatment. Furthermore, patients' expectations might serve as significant indicators of how well a treatment will work (Eline et al. 2020, p. 2). Australia has a serious stroke problem, with over 60,000 cases each year. New stroke cases reported annually. The primary cause of stroke is Australia's long-term adult disability that affects survivors' physical as well as psychological operations (White et al. 2015, p. 594).

Programs for self-management based on self-efficacy make use of techniques to draw attention to one's own assets and encourage education. Research supports the idea that self-efficacy-based programs lead to better health outcomes (Sadler et al. 2017, p. 4). It is equally crucial to investigate and comprehend how stroke survivors want to meaningfully spend their time with occupation, as researchers and rehabilitation agencies work to increase the options for stroke survivors to be active. This article defines activity and employment based on Golledge's descriptions (Purcell et al. 2020, p. 1-2). One hospital in a northern Greek city has created stroke services that include a Stroke Bay (SB), which aims to be equivalent to an SU and provides extensive patient monitoring as well as acute stroke therapies like thrombolysis (Theofanidis and Gibbon, 2016, p. 2000).

Rehabilitation following a stroke has been demonstrated to lessen the chance in stroke survivors' chances of dying and developing long-term dependence. Additionally, following a stroke, improved functional results have been linked to higher therapeutic intensity and increased exercise intervention. Inclinations and ideals of stroke survivors should be taken into account all during their recovery (White et al. 2015, p. 595). Although the body is essential to physical therapy practice, the body as a concept is frequently overlooked in clinical theory. Physical therapy delivery might be improved with a deeper comprehension of the embodied experience (Timothy et al. 2016, p. 1565).

Since the brain may respond best to neurorehabilitation at this time, the treatment begins 21 days after the stroke occurs. Upper limb training, which is a component of inpatient rehabilitation care, always comes after the treatment (Eline et al. 2020, p. 2). Survivors are assisted in achieving the highest level of physical independence through rehabilitation, which is offered in hospitals and later in the community by specialists like physiotherapists. Physical activity (PA) involvement becomes crucial as survivors move toward independence in order to preserve and enhance their health as well as their functional and physical abilities (Morris 2014, p. 1). Aimed to investigate the relationship between stroke and embodiment by learning about the participants' physical experiences and how they allied to their life skills in the first month at home after being free from hospital-based stroke therapy (Timothy et al. 2016, p. 1566).

Additionally, although they have been largely disregarded, the influence and function of proximal social influencers, such as family and medical professionals, on survivors' involvement in PA may be significant. Despite their informal involvement in recovery, caretakers may feel left out of the official rehabilitation offered by medical specialists (Morris 2014, p. 2). The term "activity" refers to a broad group of activities that may or may not be relevant to an individual. The term "occupation" refers to a person's meaningful and purposeful actions (Purcell et al. 2020, p. 2). The majority of the data points to RT's effectiveness in increasing motor activity and lowering disability and loss (Stephenson & Stephens 2017, p. 2).

The length, frequency, and time of physiotherapy sessions are only a few of the many variables that might affect how the treatment is delivered. There is no justification for this element of physiotherapy, despite some descriptive evidence regarding the typical frequency and duration of sessions for individuals following a stroke (McGlinchey and Davenport 2014, p. 1). Qualitative studies of PA behavior following stroke have not yet produced thorough models to direct novel interventions or adopted a thorough strategy to investigating views of the entire spectrum of factors that may impact PA (Morris 2014, p. 2). The paucity of data for each of these elements demonstrates how little is known about the actual decision-making process involved in providing physiotherapy following a stroke. The study's goal was to investigate how decisions are made when providing physiotherapy in a stroke unit (McGlinchey and Davenport 2014, p. 2).

In order to successfully promote adoption in clinical practice and community settings, it is critical to comprehend and take into account endures viewpoints, post-stroke individuals, and physiotherapists while designing and implementing exoskeletons. Thus, the aim of our research is to investigate the viewpoints of physiotherapists and stroke survivors (Vaughan-Graham et al. 2020, p. 2). Technology's widespread use and potential have dominated 21st-century civilization overall, especially in the fields of rehabilitation and healthcare. This article details a study that was conducted as a component of a pre-registration MSc Physiotherapy award to investigate the experiences of physiotherapists with Robot Therapy (RT) in UL rehabilitation after stroke (Stephenson & Stephens 2017, p. 1).

1.2 Rationale

Understanding the logical application of physiotherapy within the larger framework of rehabilitation is necessary to investigate its role in stroke recovery. The brain's neural connections change significantly following a stroke. Physiotherapy uses the brain's capacity for self-reorganization through the formation of new neural connections, or neuroplasticity, to speed up healing. Physiotherapy helps reorganize the brain to compensate for lost functions and enhance motor abilities through specific exercises and activities. Physical deficits include paralysis, loss of coordination, and muscle weakness are common after strokes. In order to increase functional independence in activities of daily living (ADLs) like walking, dressing, and eating, physiotherapy interventions concentrate on enhancing mobility, balance, and coordination.

Preventing Secondary Complications because of their immobility, stroke survivors are susceptible to secondary complications such as deep vein thrombosis, pressure ulcers, and muscular contractures. In order to lower the risk of problems, physiotherapy employs techniques to preserve joint mobility, stop muscle atrophy, and improve circulation. A lot of people who have had a stroke feel pain, which is frequently brought on by tense or stiff muscles or a changed posture. To reduce pain and enhance general comfort, physiotherapy combines pain management strategies like manual treatment, therapeutic exercises, and modalities like heat or cold therapy.

In conclusion, the ability of physiotherapy to harness neuroplasticity, enhance mobility and functional independence, prevent secondary complications, manage pain, improve quality of life, offer individualized care, and support long-term management and recurrence prevention makes it a reasonable application in stroke recovery. Through a thorough approach to these areas, physiotherapy plays a major role in the overall rehabilitation of stroke survivors.

1.3 Research Question

- What is the experience of stroke recovery patients about physiotherapy treatment?

1.4 Aim of the study:

- The aim of the study to explore the experience of stroke survivors who have undergone physiotherapy interventions.

1.5 Objectives of the study

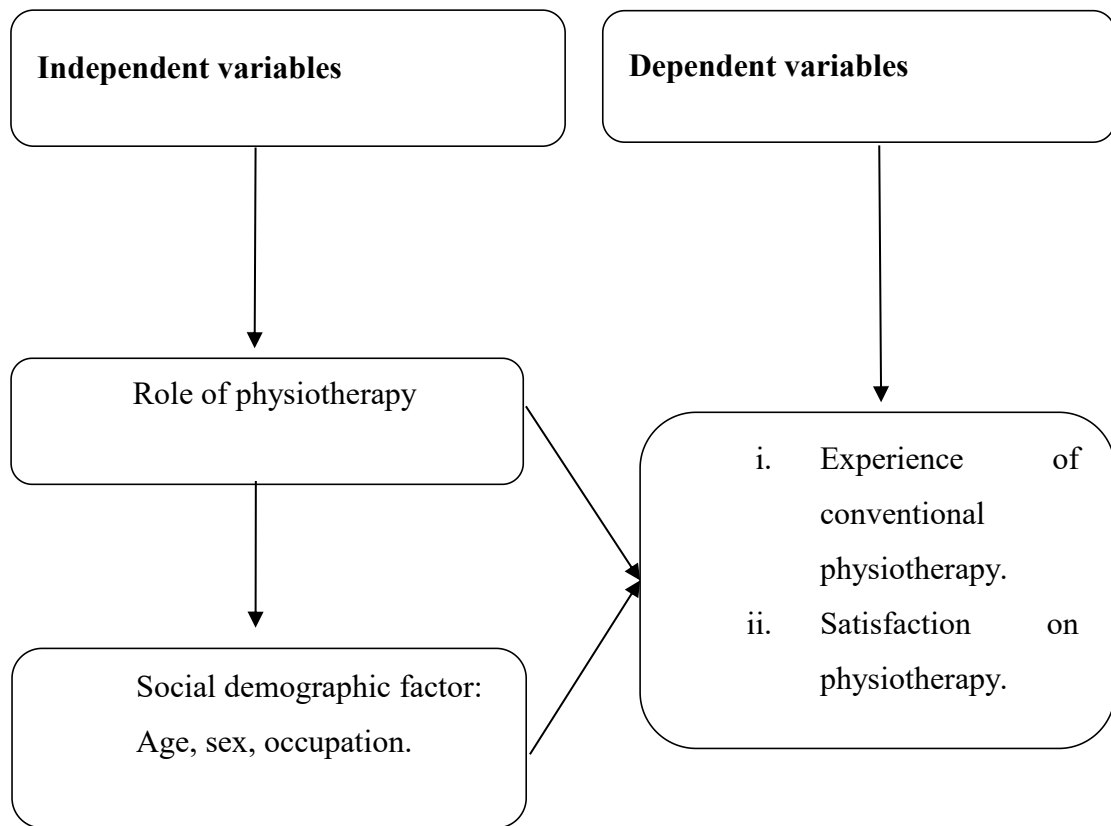
A. General objective:

To explore the experience of stroke survivors who have undergone physiotherapy interventions.

B. Specific objectives:

1. To find out the perceived role and effectiveness of physiotherapy in post stroke recovery.
2. To identify factors influencing the utilization and adherence to physiotherapy among stroke survivors.

1.6 Conceptual framework



In stroke recovery, innovations like virtual reality-based rehabilitation and robotic-assisted therapy have become more and more popular. Motor learning is improved by these technologies' constant and interesting tasks (Mehrholtz et al. 2018, p. 92). According to qualitative research, patients understand virtual rehabilitation to be accessible and inspiring (Laver et al., 2015, p. 310). Strokes have a major effect on patients' motor abilities, everyday activities, and general quality of life, making them one of the major causes of long-term damage usually (Langhorne et al. 2011, p. 156).

Geographical location, socioeconomic position, and healthcare policies all affect access to physiotherapy services. Due to inadequate healthcare infrastructure and transportation problems, many patients in rural locations find it difficult to receive regular physiotherapy (Fryer et al. 2020, p. 112). Physiotherapists stress the significance of customized therapy programs based on each patient's functional objectives and capabilities. To enhance loyalty to therapy, therapists place a high resolve on goal-setting and patient joining, according to a study (Lennon et al. 2013, p. 645).

Stroke management goes far beyond the acute stage of care, and it is one of the main causes of long-term impairment in the world. Self-management techniques have been promoted by healthcare systems more and more to help stroke survivors deal with the long-term psychological, social, and physical effects of stroke. The ability of an individual to manage symptoms, therapy, physical and psychological effects, and lifestyle modifications that come with having a chronic illness is sometimes referred to as self-management in chronic illness (Sadler et al. 2017, p. 1). For after a stroke care, Early Supported Discharge (ESD) is a proven technique that aims to promote early hospital discharge with home-based coordinated rehabilitation. When compared to conventional care, past investigations have consistently shown that ESD can result in better useful outcomes, shorter hospital stays, and higher patient pleasure (Cameron et al. 2023, p. 2604).

Also, a large portion of the research currently available on self-management tends to presuppose a high degree of cognitive and emotional engagement, which may not be

in line with the needs of stroke survivors who are suffering from depression, aphasia, or cognitive impairment. This discrepancy raises questions regarding how self-management is incorporated and supported in stroke care, as well as whether it takes survivors' changing preferences and skills into account (Sadler et al. 2017, p. 2–3). The body of evidence is still inconsistent and dispersed in spite of these advancements. It is challenging to draw definitive conclusions regarding the relative efficacy of telerehabilitation vs traditional rehabilitation because of the wide variation in previous research' designs, sample sizes, types of interventions, and end measures. Therefore, to consolidate data and direct future clinical practice, thorough assessments and meta-analyses are required (Chen et al. 2020, p. 15491).

Although vigorous, repetitive movement has been shown to be beneficial for recovery, stroke survivors frequently spend a large portion of their rehabilitation time idle, alone, and physically under stimulated. One method that has been shown in animal models to promote neuroplasticity and recovery in both the motor and cognitive domains is environmental enrichment (EE), which is suggested as a therapeutic approach in clinical situations. According to the research review, by encouraging voluntary, stimulating interactions with the environment, EE may be an intervention that increases social, cognitive, and physical engagement. The lack of information on whether enriched healthcare settings actually increase patient activity and engagement highlights the gaps in applying EE from controlled animal trials to human therapy (White et al. 2015, pp. 593-594).

People's quality of life (QOL) is significantly impacted by strokes, necessitating the rebuilding of the embodied self within the evolving body and social roles. Prior qualitative studies highlight the ways in which stroke survivors deal with identity changes, frequently perceiving themselves as either familiar, strange, or in recovery. The literature emphasizes the interaction between physical ability, social engagement, and meaning-making, positioning QOL as a dynamic process framed by "being, doing, belonging, and becoming." While weariness and functional restrictions operate as barriers, factors including social support, returning to work, and regular professional follow-up are known to improve quality of life. Research on these processes' manifestations in various rehabilitation contexts in Norway and Denmark is lacking, as evidenced by the literature currently in publication (Pedersen et al. 2019, pp. 2-3).

One of the main causes of disability in the world, strokes have a significant impact on survivors and their families. Previous studies have shown that family caregivers frequently take on the core role of long-term care providers, attending to survivors' physical and emotional requirements. Despite being linked to stress, role changes, and a lower quality of life, caring is also characterized as a source of resilience and meaning, according to studies conducted in many cultural contexts. Caregivers face more difficulties in many low- and middle-income nations due to a lack of community-based rehabilitation services and limited health resources. This study fills a gap in the qualitative literature by examining caring experiences in South Asian contexts, exactly Sri Lanka (Wagachchige Muthucumarana et al. 2018, pp. 398-399).

The impact of stroke rehabilitation on gait metrics in stroke survivors was investigated by Hugues et al. (2019). According to their review, specialized rehabilitation strategies like task-specific training and balancing exercises resulted in notable improvements in gait speed, stride length, and symmetry (pp. 724–728). To improve gait recovery and functional mobility, the study underlined the importance of early, demanding, and customized rehabilitation programs (pp. 729–731). In order to improve patients' mobility and quality of life following a stroke, these results lend support to the incorporation of comprehensive gait-focused therapy.

For the purpose of to enhance neurorehabilitation following a stroke, Krakauer et al. (2017) draw on lessons from animal models. They pinpoint the first month following a stroke as a key window of increased brain plasticity during which intensive therapy works best (pp. 610–613). While postponed therapy lowers the chance of recovery, premature intervention may exacerbate injury. Present-day therapeutic procedures sometimes lack adequate rigor and prioritize compensation above actual damage rehabilitation (pp. 615–617). To improve results, the authors advise boosting the dosage of therapy during this crucial time and using cutting-edge methods like robotics and brain stimulation (pp. 618–620). studied 14 randomized controlled studies to assess the impact of treatment on stroke patients' functional recovery. They discovered that task-oriented, intense exercise training significantly improved everyday activities and motor function, especially when initiated early. Targeted therapies such as enhancing sit-to-stand symmetry had higher effects (SMD = 0.92) than high-intensity training, which showed modest advantages (SMD = 0.13).

The impact sizes varied (pp. 733–735). The authors came to the conclusion that improving functional outcomes for stroke survivors requires early, intense therapy (Kwakkel et al. 2004). Include recommendations for standardizing sensorimotor recovery measures in stroke trials that are based on consensus. These guidelines, which were created by the Stroke Recovery and Rehabilitation Roundtable, emphasize the significance of adhering to the International Classification of Functioning, Disability, and Health (ICF) framework and employing consistent, validated outcome measures (pp. 783–785). To better capture recovery mechanisms, they advise using clinical scales in conjunction with kinematic and kinetic measurements. In stroke rehabilitation research, the uniform approach seeks to increase trial quality, improve data compare, and enable more exact duty of dealing results (Kwakkel et al. 2015, pp. 790–793).

Present a comprehensive analysis of stroke rehabilitation with a focus on early, interdisciplinary intervention to enhance functional recovery and lessen impairment (pp. 1929–1932). They emphasize how beneficial task-specific training and more intense therapy may be. Additionally, the paper examines modern technologies that aid in rehabilitation, like virtual reality and robots (pp. 1933–1935). In order to maintain gains in function and quality of life, the authors further emphasize the necessity of customized rehabilitation programs and continued assistance following hospital discharge (Langhorne et al. 2020, pp. 1936–1938).

Transitioning from hospital to home is a challenging and stressful time for stroke survivors, and they frequently experience substantial problems during this time. Prior research shows that unmet requirements during transitional care are a result of inadequate communication, inadequate care coordination, and a lack of support. The research shows that both survivors and caregivers frequently express a lack of readiness and struggle to manage new tasks, medication schedules, and emotional stress. According to research, rehabilitation, caregiver stress, and quality of life can all be improved by providing transitional care that is structured and includes education, follow-up, and service continuity (Lin et al. 2022, pp. 2-3).

The authors of the study, compared to normal ward care, organized stroke units with multidisciplinary teams and coordinated rehabilitation greatly enhance discharge to

home, decrease dependence and improve mortality. More structured stroke units provide the most advantages, according to the investigation. To enhance outcomes following a stroke, our findings lend credence to the ongoing construction of specialized stroke units (Langhorne et al. 2020, p. 2). An in-depth evaluation assessing virtual reality's (VR) efficacy in stroke recovery. The study, which analyzed data from 72 studies with over 2,500 individuals, concluded that VR may enhance upper limb function and activities of daily living, especially when combined with traditional therapy. However, results differed among interventions and outcomes, and the quality of the evidence varied from low to moderate. Although the study calls for more high-quality research to demonstrate VR's advantages and cost-effectiveness, it does imply that VR can be a viable adjunct in stroke rehab (Laver et al. 2020, p. 2).

Studied data on stroke-related gait rehabilitation, highlighting the value of intense, repetitive, task-specific training to enhance walking capacity. The review focuses on a number of successful therapies, such as circuit class therapy, treadmill training, and overground walking. It also emphasizes how important early intervention, patient motivation, and goal-setting are to optimizing recovery. In order to improve mobility and independence after a stroke, the authors conclude that gait therapy should be customized and included into larger functional training programs (Lennon et al. 2013, p. 645).

A broad review of qualitative research examining the rehabilitation experiences of stroke survivors. They found important themes in 31 research, such as the necessity of person-centered care, emotional support, decision-making participation, and service continuity. Survivors wanted more control over their healing and appreciated the support of therapists. Many people complained about the lack of post-discharge support and the inadequate communication. In order to improve rehabilitation results and patient pleasure, the review stresses the worth of joining to both sensitive and physical demands (Luker et al. 2016, p. 970).

The effects of transcranial magnetic stimulation (TMS) on upper limb rehabilitation in stroke patients were investigated in this qualitative study. The majority of participants said TMS was a positive and inspiring treatment, and they valued the care they received from medical personnel as well as the fact that it was non-invasive. Some,

however, voiced doubts about its efficacy and asked for more precise information on the objectives and results of treatment. When employing TMS in stroke rehabilitation, the study highlights the significance of patient education, emotional support, and reasonable expectations. Incorporating patient opinions can improve therapy acceptance and participation (Van Lieshout et al. 2020, p. 8). Analyzed the experiences of stroke victims and the family members who care for them, highlighting how crisis-like stroke and its aftermath can be. The study's qualitative analysis revealed themes like role transitions, emotional turmoil, uncertainty, and the pressing need for assistance and knowledge. Patients suffered from losing their independence, while caregivers frequently felt unprepared for their roles. To facilitate the transition from hospital to home and enhance long-term recovery results, the study emphasizes the need of early, continuous education and emotional support for patients and caregivers (Lutz et al. 2017, p. 84).

Physiotherapist's decision-making procedures in a stroke unit. They determined the main determinants of clinical decisions, such as staffing numbers, time restrictions, safety, and patient motivation, using qualitative approaches. Therapists frequently modified interventions to meet the unique demands of their patients by striking a balance between professional guidelines and practical reality. The study emphasizes how physiotherapy decision-making in stroke care is dynamic and how crucial clinical judgment, collaboration, and adaptability are to maximizing results (McGlinchey & Davenport 2015, p. 1281).

To determine how well arm training with electromechanical and robot assistance works for stroke recovery. The study, which included 45 studies involving more than 1,600 people, discovered that these therapies can somewhat enhance arm function and daily living tasks, particularly when paired with traditional therapy. Patients with intermediate disability experienced the biggest advantages. Nonetheless, the authors pointed out that results varied and underlined the necessity of customized care and more high-caliber studies to validate long-term impacts (Mehrholtz et al. 2018, p. 3). Opinions on physical exercise following a stroke among physiotherapists, carers, and survivors. The study discovered that recovery encompasses more than just physical function, with a focus on maintaining one's identity from before the stroke and engaging in fulfilling activities. As person-centered rehabilitation that supports

psychological needs was considered essential (Morris et al. 2015, p. 70). Thoughts on the obstacles to rehabilitation, pointing out problems including restricted access to programs, trouble with transportation, lack of knowledge, and financial limitations. Engagement was also hampered by emotional difficulties and insufficient motivation. Improving rehabilitation results and engagement requires addressing these challenges (Oliveira et al. 2018, p. 1180). Physiotherapy techniques to enhance lower limb function and postural control following a stroke. Physiotherapy is helpful, according to the study, but no particular method was proven to be better than the others. The necessity for tailored, evidence-based therapies was highlighted by the promising results of task-specific and repetitive training (Pollock et al. 2014, p. 2).

Occupational experiences during restoration in a hospital. Participants frequently felt passive and powerless, and they reported little involvement in significant activities. In order to improve motivation, identity, and recovery, the study emphasizes the necessity of more person-centered, occupation-focused approaches (Purcell et al., 2020, p. 1883). Online therapy following a stroke, determining it to be a practical and successful substitute for face-to-face therapy. Although further high-quality research is required to show long-term effects, tele-rehabilitation increased motor function, adherence, and access to therapy, mainly in underserved sites (Sarfo et al. 2018, p. 678).

Component influencing compliance with stroke rehabilitation at home. Patient motivation, social support, therapist contact, and the clarity of exercise instructions were all important factors. Cognitive difficulties and weariness were frequent obstacles. Clear instructions and individualized support can improve rehabilitation results and adherence (Schmid et al. 2019, p. 428). Recognizing important risk factors for mobility-related disability in older persons, including falls, muscle weakness, and balance issues. They highlighted the value of focused exercise programs to increase mobility and strength, which lowers impairment and fosters independence (Sherrington et al. 2011, p. 124). Experiences of physiotherapists using robotic treatment for stroke rehabilitation in the upper limbs. It was seen by therapists as a useful supplement to traditional therapy that increased motivation and intensity. They did, however, highlight difficulties with patient appropriateness, training, and technological integration (Stephenson & Stephens 2018, p. 249).

Lessons learned by physicians and nurses in stroke care, exposing themes of communication difficulties, teamwork, and emotional stress. To enhance the quality of care and patient outcomes, participants underlined the necessity of improved interdisciplinary teamwork and training tailored to stroke (Theofanidis & Gibbon, 2016, p. 2003). Fundamental concepts applied to the embodied experiences of stroke survivors. According to the study, survivors experience difficult changes in their identity, movement, and body awareness. In order to promote holistic adjustment, rehabilitation should target not only physical recovery but also emotional and experiential alterations (Timothy et al. 2016, p. 1570).

A qualitative study focused on the opinions of physiotherapists and stroke survivors regarding the use of exoskeletons in gait therapy. Exoskeletons were seen by both groups as encouraging and helpful for encouraging repetitive exercise and upright walking. However, issues were brought up regarding the devices' comfort, accessibility, and requirement for therapist monitoring. Physiotherapists stressed how crucial it is to integrate the usage of exoskeletons into customized treatment regimens. Exoskeletons have the potential to improve stroke rehabilitation, according to the study, but in order to maximize their efficacy, better design, training, and clinical guidelines are required (Vaughan-Graham et al. 2020, p. 10).

A full comparison contrasting early and late treatment for stroke-related upper limb recovery. According to the research, greater motor results and functional gains may result from starting therapy as soon as possible within a few days after a stroke. In order to maximize recovery, the review also highlights the necessity for tailored, time-sensitive therapies and highlights variations in research quality (Veerbeek et al. 2014, p. 1226). Studied the COVID-19 pandemic experiences of therapists and stroke survivors. Significant issues were identified by the study, such as greater caregiver load, emotional anguish, and limited access to rehabilitation. Providing services and keeping patients engaged were challenges for therapists. The results emphasize the necessity of flexible, robust therapy services in times of medical emergency (Sahely et al. 2023, p. 282325).

Emphasized the main recommendations for adult stroke therapy, placing a focus on early, individualized, multidisciplinary intervention. The recommendations support

smooth transitions between care locations, task-specific training, and education for patients and caregivers. In order to optimize functional recovery and quality of life following a stroke, they emphasize the significance of evidence-based methods and ongoing evaluation (Gittler & Davis 2018, pp. 820–821). An account of the application of augmented reality (AR) in stroke recovery. They discovered that AR, especially in upper limb recovery, can improve motivation, engagement, and task repetition. Although first findings are encouraging, the authors point out that more thorough research is required to evaluate accessibility, long-term efficacy, and clinical integration (Gorman & Gustafsson 2022, pp. 409–417).

Evaluated the home rehabilitation experiences of stroke survivors, finding a strong desire to return to independence and a purposeful life. Although they experienced emotional difficulties and uncertainty, participants welcomed individualized, goal-oriented help. In home rehabilitation, the study highlights the value of comprehensive, person-centered care that attends to both physical and emotional needs (Taule et al. 2015, pp. 651–661)

3.1 Study Design

The design was the qualitative type of phenomenological study carried out with the objective to explore the experience of stroke survivors who have undergone physiotherapy interventions.

3.2 Study Area

Data for the present study were collected from the stroke survivors attending SAIC college of medical science and technology in Mirpur, Dhaka.

3.3 Study Period

This study period was from June 2024 to July 2025.

3.4 Study population

The study population was Stroke survivors who have undergone physiotherapy interventions.

3.5 Sample Size

I had collected data from 10 stroke survivors for my research project from SCMST outdoor.

3.6 Sample Technique:

A purposive sampling technique was used for selecting participants from the population by using predefined inclusion criteria. Purposive sampling was done in this study based on specific needs of the study; hence participants were selected if they fulfill the selection criteria set by the researcher. Inclusion criteria for participating in this study included individuals with stroke survivor at SCMST outdoor, Mirpur, Dhaka.

3.7 Eligibility criteria

3.7.1 Inclusion Criteria

- i. Age 28-70
- ii. Male and female both
- iii. Include stroke survivors undergone physiotherapy
- iv. Willingness to participate.

3.7.2 Exclusion Criteria

- i. Exclude stroke survivors who have not undergone physiotherapy.
- ii. Mentally unstable
- iii. Who wasn't willingly participants
- iv. Age below 28 and above 70 years

3.8 Method of data collection

Data collection was done through face-to-face interviews using open-ended questions. Open-ended questions can allow participants to give a greater opinion. Such interviews also provide the researcher with an opportunity to observe the facial and non-verbal expressions of the participants during the interview. The surroundings were made quiet with the help of the relevant authorities before the start of the formal interviews, and the participants were put in a comfortable environment by establishing rapport with them. The research questions and objectives of the study were explained to them. The permission was taken in Bangla by providing an information sheet and consent form.

3.8.1 Data collection tools and materials

The English Questionnaires were converted into Bangla to ask the participants during interview. A pen, paper, and clipboard were utilized to record observation notes. A consent form and information sheet were utilized to obtain permission from the participants. An open-ended questionnaire was utilized to conduct the interview.

3.8.2 Instruments for Data Collection:

The questionnaire consists of sections covering:

1. Personal Details (e.g. age, gender, marital status).
2. Sociodemographic Information (e.g. living area, education level, occupation).
3. Stroke Related Information.

3.8.3 Data analysis

Thematic content analysis was conducted during the data analysis phase, which was facilitated at all levels through the use of NVivo software for efficient and organized data management. The researcher first listened to the recorded interviews multiple times and transcribed them in Bangla. Transcripts were reviewed for accuracy and then translated into English. These transcripts were then imported into NVivo, where the approach of QCA was applied to identify and interpret emergent themes.

Three steps of analysis were performed for the paper, namely coding, categorizing, and theme generation. The codes were developed through using the full capability of NVivo to underscore key segments of text representative of participants' expression and perception. Patterns and data relationships were viewed with the assistance of visualization tools like word clouds and node matrices in NVivo. Related codes were grouped together into broader categories in order not to miss even the minutest details of participants' experiences.

Key codes to set up the umbrella themes of this study were identified, reviewed, and re-refined for consistency and coherence in NVIVO. Features supporting data tracking and organization allowed for easy cross-referencing of data and triangulation of findings. The themes identified are interpreted based on a systematic review of data that is coded for comprehensive perspectives and experiences. NVivo ensured rigor and transparency in the analysis process to ensure that no analyzed data was superficial and unsystematic.

3.9 Ethical consideration

The research study had to be strictly in accordance with the ethical guidelines. A project proposal had been forwarded to the Department of Physiotherapy, Saic College of Medical Science and Technology (SCMST), and the Institutional Review Board of SCMST approved the same for conducting the study. The present study is part of research done in compliance with the guidelines from the WHO and BMRC. The questionnaires were guaranteeing the confidentiality of responses at all times. The data collection had been permitted by concerned authorities in the study area. Informed consent to participate was obtained after a clear explanation of the study's aims and objectives had been provided. Written consent was obtained from each of the respondents in addition to explaining the procedure to them verbally. The participants was assured that the information is confidential and for the use of the research supervisor only.

3.10: Rigor of this study

The rigorous manner was maintained to demeanor the study. This study was conducted in a systemic way by next steps of research under supervision of an experienced supervisor. During the interview session and analyzing data, never tried to influence the process by own value, perception and biases. Being accepted the answer of the questions whether they were of positive or negative impression. Information from the participant was coded accurately, followed by the supervisor going through any probable mistakes. Try to maintain confidentiality for any information and documents regarding participants.

The results section presents the key findings of the study on the experiences of stroke survivor patients undergoing physiotherapy rehabilitation at Saic college of Medical Science and Technology (SCMST) Mirpur, Dhaka. Through qualitative thematic analysis, six overarching themes emerged: Impact of Stroke on Life, Overall Experience with Physiotherapy, Barriers to Physiotherapy Access, Physiotherapy's Contribution to Mobility & Independence, Family and Social Support Role and Emotional Response Towards Recovery.

The demographic profile of the participants highlights a diverse group in terms of age, gender, education, and occupation, with the majority residing in rural areas. The findings reveal a spectrum of patient satisfaction, ranging from positive experiences and mixed feelings to negative perceptions, largely influenced by the effectiveness of treatment, accessibility, and the emotional challenges of long-term rehabilitation. Overall Experience with Physiotherapy among participants, with motivation from progress and support from family, friends, and physiotherapists playing a crucial role in their perseverance.

Table 4.1: Socio-demographic information of participants

Variables	Category	N= 10	%
Group of age (year)	29 - 39	2	20
	40 - 50	3	30
	51 - 61	2	20
	62 - 72	3	30
Sex of the respondents	Male	5	50
	Female	5	50
Marital status	Married	10	100
	Unmarried	0	0
Family type	Nuclear family	3	30
	Joint family	7	70
Living area	Urban	5	50
	Rural	5	50
Educational status	Illiterate	1	10
	Primary	3	30
	Secondary	1	10
	Bachelor or above	5	50
Occupation	Unemployed	2	20
	Day labor	1	10
	Desk job	1	10
	Farmer	1	10
	Banker	1	10
	Teacher	1	10
	Others	3	30
Monthly income BDT	21000-30000	4	40
	31000-40000	3	30
	41000-50000	2	20

	51000-60000	1	10
Comorbidities	Diabetes Mellitus	3	30
	Hypertension	4	40
	Kidney disease	1	10
	Respiratory disease	2	20
Type of stroke	Ischemic	9	90
	Hemorrhagic	1	10
Types of paralysis	Monoplegia	1	10
	Paraplegia	1	10
	Hemiplegia	7	70
	Quadriplegia	1	10

The sociodemographic profile indicates the Ten respondent's equal numbers of men and women participated in the study, and all were married. With an equal proportion between urban and rural areas, the majority (70%) lived in joint families and 30% in nuclear households. With the biggest percentage (30%) in the 40–50 and 62-72 age group, the age distribution varied from under 29 to 70 years. 50% had a bachelor's degree or above, 30% had just completed primary school, 10% had completed secondary school, and 10% were illiterate. There was a wide range of occupations, with 20% of people unemployed and others working in desk jobs, day labor, farming, banking, and teaching. The majority made between 21,000 and 40,000 BDT per month, with monthly incomes ranging from less than 21,000 BDT to 60,000 BDT. Diabetes mellitus (30%) and hypertension (40%) were prevalent comorbidities, followed by kidney disease (10%) and respiratory disorders (20%). Clinically, the most common kind of paralysis was hemiplegia (70%), followed by monoplegia, paraplegia, and quadriplegia (10%), with ischemic stroke secretarial for 90% of cases.

Table 4.2: Theme 1: Impact of Stroke on Life with Physiotherapy Patients as Experience

Category 1: Impact of stroke on Life

<i>Theme-1</i>			
Impact of Stroke on Life			
<i>Subthemes</i>			
Participants	Positive Adjustment	Mixed Feelings	Negative impact
P-1			✓
P-2		✓	
P-3			✓
P-4		✓	
P-5			✓
P-6		✓	
P-7			✓
P-8	✓		
P-9		✓	
P-10			✓

Theme 1: Impact of Stroke on Life

This subject examined how the participants' everyday lives, feelings, and positions in their families and communities were impacted by stroke. Five individuals (P-1, P-3, P-5, P-7, and P-10) out of 10 stated that their lives had been negatively impacted. Significant losses of independence, financial difficulties, interruption of professional tasks, and emotional distress as a result of reliance on others were underlined by these participants. Three participants (P-2, P-4, P-6 and P-9) acknowledged both difficulties and some adjustments they were able to make, expressing conflicting emotions. Only one participant (P-8) reported a favorable transition, citing personal resilience and family support as useful coping mechanisms for the new constraints.

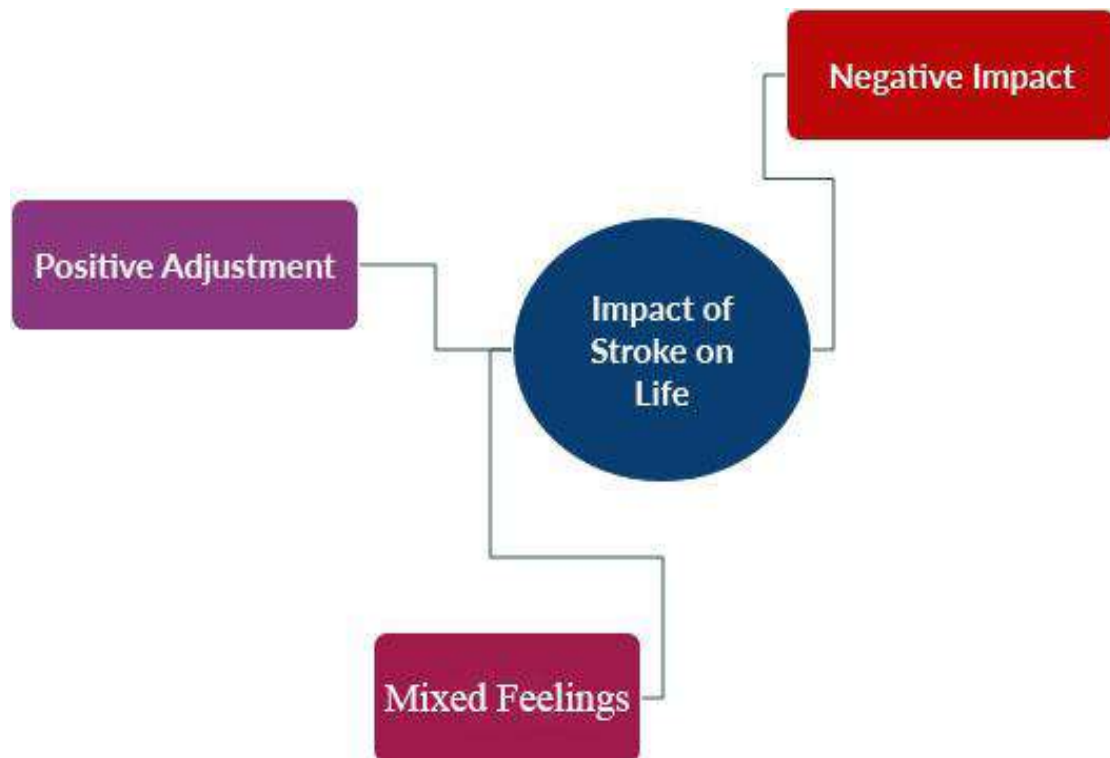


Figure 1: Map mind of Impact of Stroke on Life Produce using NVivo 15

Table 4.3: Theme 2: Overall Experience with Physiotherapy

Category 2: Overall Experience with Physiotherapy in Stroke Recovery

<i>Theme-2</i>			
Overall Experience with Physiotherapy			
<i>Subthemes</i>			
Participants	Positive Experience	Mixed Feelings	Negative Experience
P-1		✓	
P-2	✓		
P-3		✓	
P-4	✓		
P-5		✓	
P-6	✓		
P-7		✓	
P-8	✓		
P-9	✓		
P-10	✓		

Theme 2: Overall Experience with Physiotherapy

This theme investigated the participants' perceptions of their rehabilitation process and results. Six participants (P-2, P-4, P-6, P-8, P-9, and P-10) said they had a good experience with physiotherapy and that their confidence, mobility, and independence had improved. Four participants P-1, P-3, P-5, and P-7 voiced conflicting emotions; they acknowledged some progress but also bemoaned any lingering limits or delayed advances. Interestingly, none of the individuals had a completely bad experience.

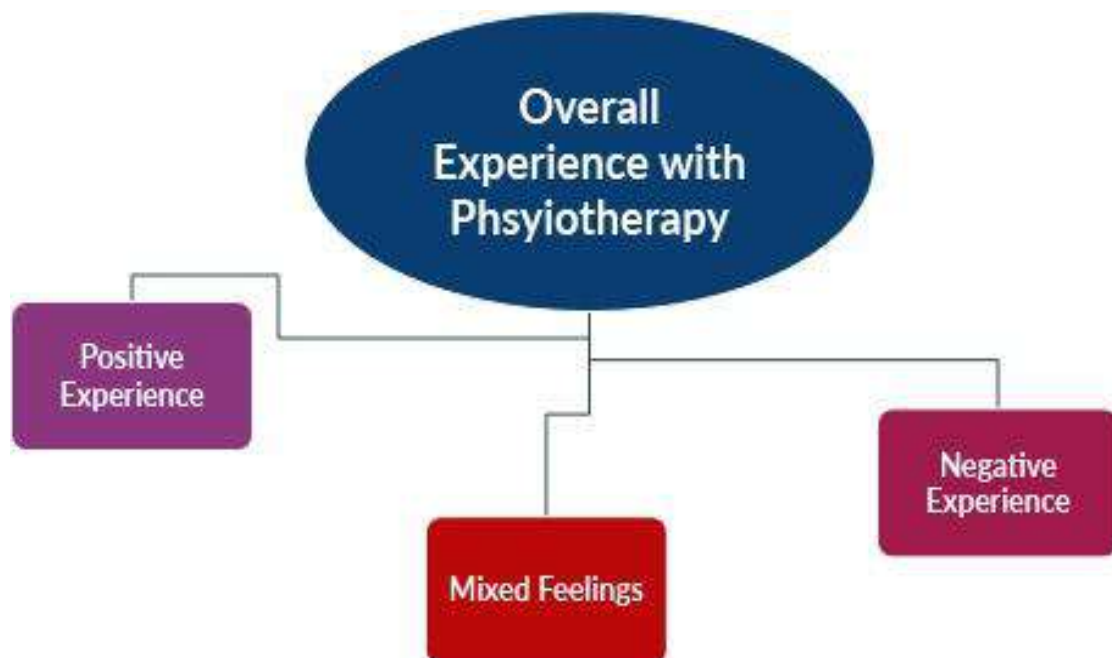


Figure 2: Mind map of Overall Experience with Physiotherapy Produce using NVivo 15

Table 4.4: Theme 3: Barriers to Physiotherapy Access with Patients as Stroke Survivors

Category 3: Barriers to Physiotherapy Access

<i>Theme-3</i>			
Barriers to Physiotherapy Access			
<i>Subthemes</i>			
Participants	No Barrier	Minor Barrier	Major Barrier
P-1			✓
P-2	✓		
P-3			✓
P-4	✓		
P-5			✓
P-6	✓		
P-7			✓
P-8		✓	
P-9			✓
P-10			✓

Theme 3: Barriers to Physiotherapy Access

This subject encapsulated the different obstacles that participants encountered when trying to obtain or continue physical treatment.

Six individuals (P-1, P-3, P-5, P-7, P-9, and P-10) stated that they had encountered significant obstacles, including lack of accessible facilities in rural areas, transportation issues, and financial hardships. Minor barriers were encountered by one participant (P-8), primarily in relation to time management and family obligations. Due to their improved access to services and support networks, three individuals (P-2, P-4, and P-6) reported no major barriers.

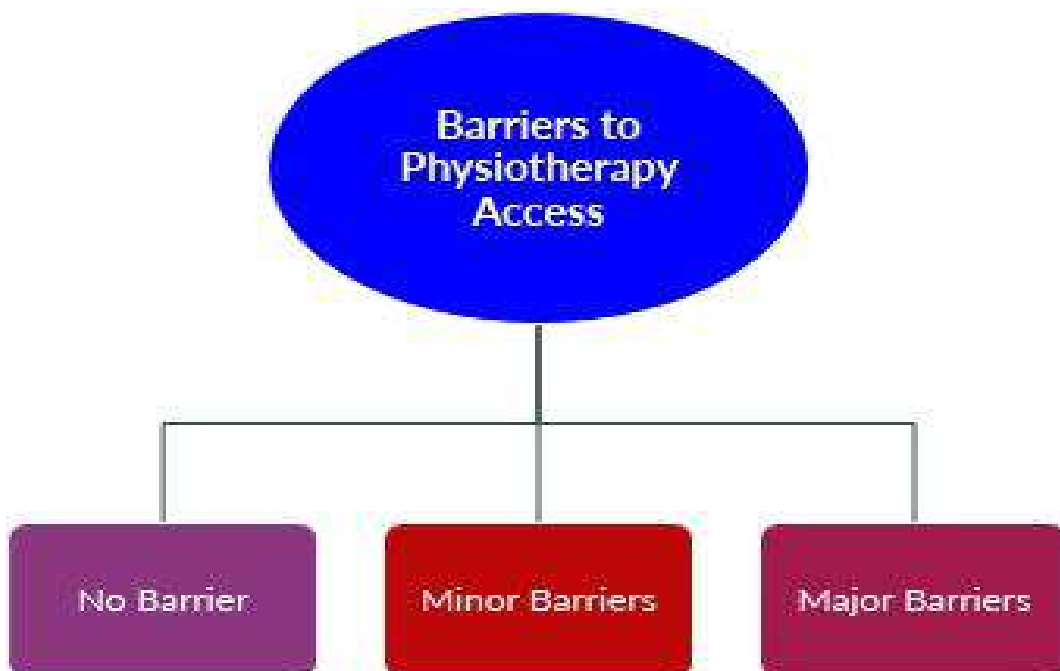


Figure 3: Mind map of Barriers to Physiotherapy Access Produce using NVivo 15

Table 4.5: Theme 4: Physiotherapy’s Contribution to Mobility & Independence Patients with Stroke Recovery

Category 4: Physiotherapy’s Contribution to Mobility & Independence

<i>Theme-4</i>			
Physiotherapy’s Contribution to Mobility & Independence			
<i>Subthemes</i>			
Participants	Significant Improvement	Small Improvement	No Improvement
P-1	✓		
P-2	✓		
P-3	✓		
P-4	✓		
P-5		✓	
P-6	✓		
P-7	✓		
P-8	✓		
P-9	✓		
P-10	✓		

Theme 4: Physiotherapy's Contribution to Mobility & Independence

This subject evaluated how much treatment improved mobility and helped individuals restore their independence. Significant improvements in physical abilities were reported by nine participants (P-1, P-2, P-3, P-4, P-6, P-7, P-8, P-9, and P-10), which resulted in increased independence in day-to-day activities. Despite rehabilitative attempts, only one person (P-5) reported a slight improvement, citing ongoing limits. Not a single participant said they had not improved at all.

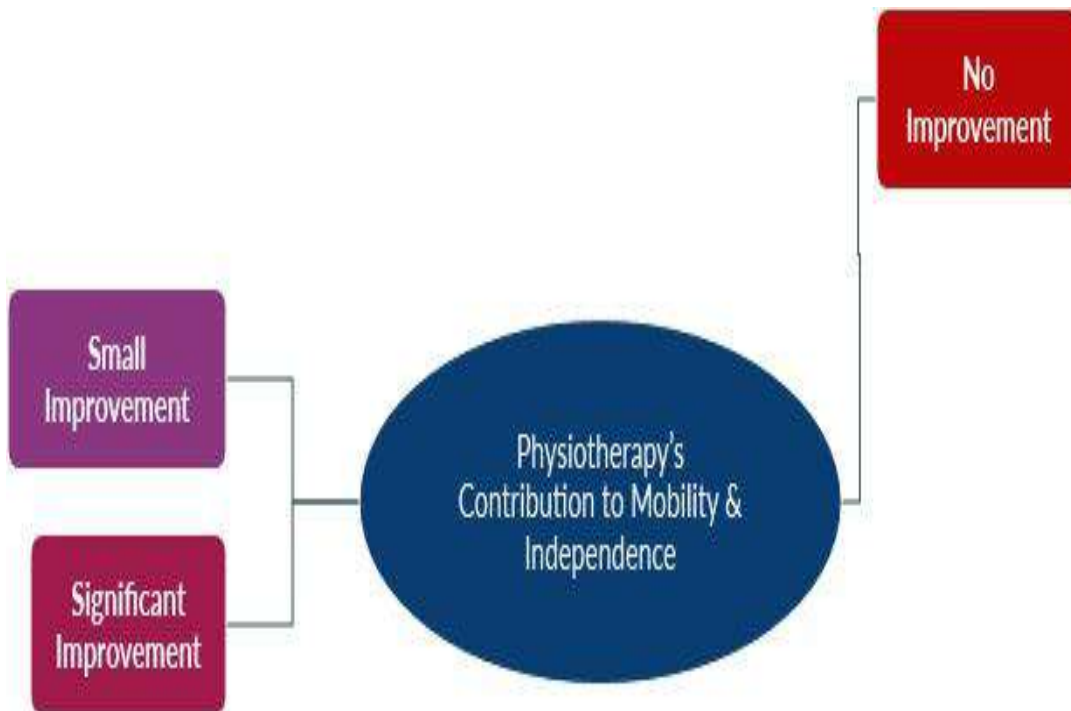


Figure 4: Mind map of Physiotherapy's Contribution to Mobility & Independence

Produce using NVivo 15

Table 4.6: Theme 5: Family and Social Support Role of Physiotherapy in Stroke Recovery

Category 5: Family and Social Support Role

<i>Theme-5</i>			
Family and Social Support Role			
<i>Subthemes</i>			
Participants	Strong Family Support	Moderate Support	Poor Support
P-1	✓		
P-2	✓		
P-3	✓		
P-4	✓		
P-5	✓		
P-6	✓		
P-7	✓		
P-8	✓		
P-9	✓		
P-10	✓		

Theme 5: Family and Social Support Role

This theme focused on how social networks and family can aid in the healing process. Throughout their rehabilitation process, all ten patients (P-1 to P-10) reported having significant family support. Family members were essential in helping patients with exercises at home, attending them to therapy sessions, and offering emotional support. The fact that none of the participants indicated moderate or poor support emphasizes Bangladesh's collectivist and family-oriented culture.

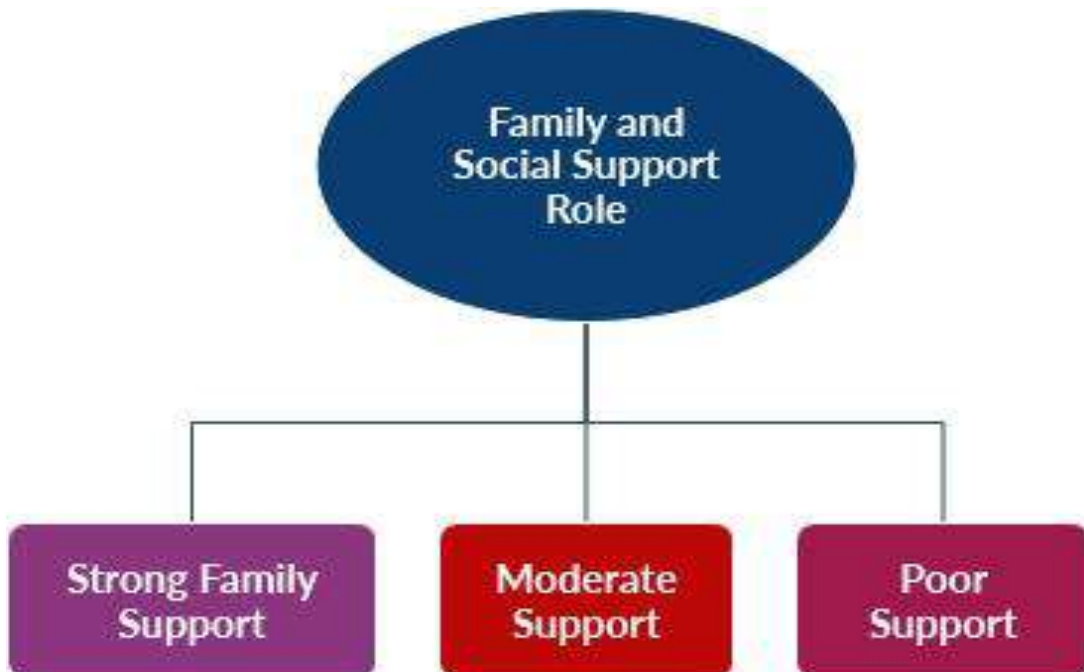


Figure 5: Mind map of Family and Social Support Role Produce using NVivo 15

Table 4.7: Theme 6: Emotional Response Towards Recovery with Patients as Stroke Survivors

Category 6: Emotional Response Towards Recovery

<i>Theme-6</i>			
Emotional Response Towards Recovery			
<i>Subthemes</i>			
Participants	Positive Adjustment	Optimistic	Pessimistic
P-1		✓	
P-2	✓		
P-3		✓	
P-4	✓		
P-5		✓	
P-6	✓		
P-7		✓	
P-8	✓		
P-9	✓		
P-10	✓		

Theme 6: Emotional Response Towards Recovery

This theme investigated the participants' emotional viewpoints on their recuperation. Seven of the subjects (P-2, P-4, P-6, P-8, P-9, and P-10) had a positive attitude, highlighting optimism and contentment with their development. Because of the sluggish pace of healing and lingering deficits, three subjects (P-1, P-3, P-5, and P-7) showed conflicting emotions, frequently alternating between hope and dissatisfaction. None of the participants openly indicated a truly gloomy outlook.

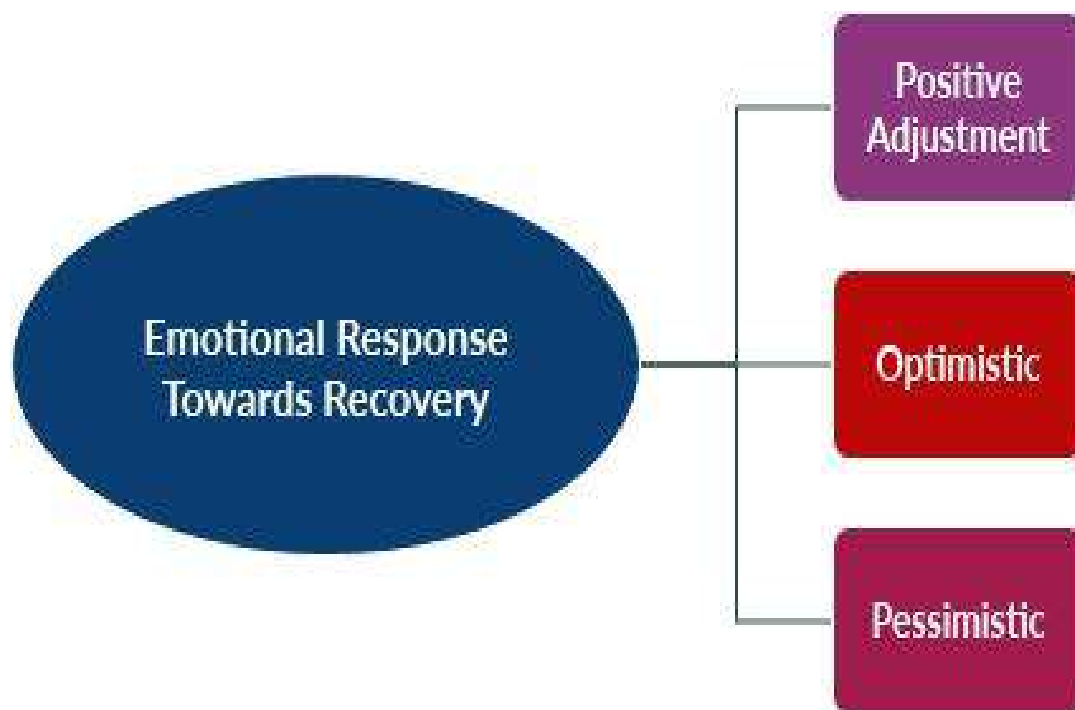


Figure 6: Mind map of Emotional Response Towards Recovery Produce using

NVivo 15

5.1 Discussion

The experiences of stroke survivors in Bangladesh are examined in this study, with particular attention paid to their emotional and psychological reactions, the difficulties they encountered, and their rehabilitation process. The results illustrate both the advantages and disadvantages of stroke rehabilitation by revealing a range of experiences with the effects of the stroke, access to physical treatment, and the function of family support. In order to shed more light on these findings, the analysis makes comparisons with previously published works.

Six out of ten survey participants said that stroke had a detrimental effect on their day-to-day life. This includes financial difficulties, mental pain, and a loss of independence, all of which were especially noticeable in their relationships and day-to-day functioning. Only one participant (P-8) reported a favorable transition, primarily because of personal resilience and strong family support, whereas a smaller percentage of participants (3 out of 10) had mixed feelings, acknowledging certain adaptations.

This concept is consistent with the body of research on stroke rehabilitation. According to Whalley Hammell (2017), stroke has a serious psychological cost that frequently results in emotional discomfort. This cost includes the loss of autonomy and roles. Jackson et al. (2020) also emphasized the financial burden that stroke survivors face, especially in low-resource environments with restricted access to rehabilitation services. The positive adjustment recorded by P-8, however, deviates from the overall pattern and implies that the deleterious effects of stroke can be lessened by resilience and robust support networks. This result is consistent with Yates et al. (2018), who contend that supportive family contexts and individual resilience are critical components of the healing process.

The majority of participants (6 out of 10) reported increases in mobility, independence, and confidence, according to the results of the Overall Experience with Physiotherapy survey. These favorable results were ascribed to the rehabilitation program's goal-directed and well-organized design. Some participants (P-1, P-3, P-5, and P-7) did,

however, exhibit differing emotions, especially in light of the therapy's logistical problems and the sluggish recovery rate.

This area is consistent with research by Winstein et al. (2016), which highlights how well physiotherapy works to improve motor function and quality of life. Restoring autonomy and the capacity to carry out everyday tasks is made easier by well-planned, goal-oriented physiotherapy (Whalley Hammell, 2017). However, Johnston et al. (2016) also pointed out that the unpredictability of recovery causes stroke survivors' satisfaction with rehabilitation to vary, which is in line with the annoyances that some study participants voiced. "The progress is there; it is slow and frustrating at times, and I just wish there were more resources to make it easier," for instance, was said by P-3, illustrating how long-term rehabilitation can cause feelings of frustration and boredom.

The research project's key theme is Barriers to Physiotherapy Access, where most participants (6 out of 10) mentioned major obstacles like lack of accessible facilities, transportation issues, and financial hardships, particularly in remote locations. Their access to prompt and efficient rehabilitation was severely hampered by these obstacles.

These outcomes are in line with research done in comparable socioeconomic settings. According to Khan et al. (2017), the main obstacles to rehabilitation programs in underdeveloped nations are a lack of funding and inadequate infrastructure. Participants in this study shared the transportation and facility accessibility challenges that Alimohammadi et al. (2020) noted as significant obstacles in rural locations. The three participants (P-2, P-4, and P-6) who indicated few obstacles, however, imply that individual circumstances, such as living in an urban area or having a higher socioeconomic standing, may have an impact on access to rehabilitation. The necessity for governmental initiatives to address these discrepancies and enhance service provision in underprivileged areas is highlighted by this disparity in access.

During physiotherapy, the majority of study participants (9 out of 10) reported notable increases in mobility and independence, allowing them to carry out daily living activities with greater independence, which is consistent with previous research. One participant (P-5) only had minor gains, though, highlighting how unique stroke recovery is for each individual.

Physiotherapy has been shown to be beneficial in helping stroke survivors regain their mobility and independence (Kwakkel et al. 2015, Hatem et al. 2016). These results, which show that physical treatment significantly improved everyday functioning, are supported by the favorable feedback provided by the majority of research participants. The experience of P-5, however, emphasizes the difficulty of stroke recovery, as some people might not recover as much even after rehabilitation. Langhorne et al. (2018) highlighted this diversity by pointing out that the severity of the stroke and the existence of comorbidities can have an impact on recovery results.

All of the participants in this study reported having good family support during their rehabilitation process, making the subject of the family and social support role crucial. This result is consistent with studies that highlight how important social networks and family are to stroke recovery. Rahman et al. (2019) and Pinquart and Sørensen (2011) discovered that family support improves stroke rehabilitation by offering both practical and emotional support.

The study's frequent expression of thankfulness for family support highlights Bangladesh's collaborative care system, where family participation is essential to the healing process. In contrast, research in Western contexts has shown that the demands of caregiving can lead to burnout among caregivers (Butcher et al., 2013). For stroke patients in Bangladesh, the collectivist culture seems to offer a more enduring and encouraging setting, assisting them in keeping a positive perspective on their recuperation.

The majority of participants (7 out of 10) expressed confidence about their development, indicating a generally favorable emotional response to rehabilitation. These upbeat viewpoints were essential for sustaining motivation and rehabilitative compliance. However, because of the prolonged recovery, some participants (P-1, P-3, P-5, and P-7) expressed conflicting emotions, alternating between dissatisfaction and hope.

This result is in line with Williams et al. (2018), who pointed out that even tiny victories can boost patient engagement in rehabilitation and inspire hope. According to Hollis et al. (2016), the psychological advantages of rehabilitation are also reflected in the positive emotional reactions of the majority of study participants. It has been demonstrated that optimism and hope increase motivation and involvement during

therapy, which improves functional outcomes. However, as Patterson et al. (2017) highlight, the conflicting emotions that some individuals expressed are consistent with the psychological stress that might result from the protracted and uncertain nature of stroke recovery.

The study's conclusions illustrate the intricate and varied aspects of stroke rehabilitation, pointing to both promising results and noteworthy difficulties. Physiotherapy is essential for regaining mobility and independence, but its effectiveness depends on a number of variables, such as family support, personal resiliency, and service accessibility. Access to rehabilitation is still hampered, especially in rural regions, which highlights the need for better healthcare facilities and legislative changes. Furthermore, the psychological and emotional components of recovery such as hope and family support are essential for sustaining motivation and improving the healing process as a whole.

These results shed light on the particular difficulties experienced by stroke survivors in Bangladesh and advance knowledge of stroke rehabilitation in poor nations. Future studies should concentrate on removing obstacles to rehabilitation, expanding access to resources, and delving deeper into the psychological and emotional facets of stroke recovery.

5.2 Limitations of the Study

While putting the results in perspective, it is important to take into account a number of limitations in this study. Initially, the results may not be as generalizable to bigger populations of stroke patients due to the limited sample size of 10 participants. Additionally, only one rehabilitation facility Saic College of Medical Science and Technology (SCMST) in Dhaka was the subject of the study. The rehabilitation outcomes of stroke patients from a variety of geographic, cultural, and socioeconomic backgrounds may be impacted by the differences in their experiences that this regional focus may obscure.

Self-reporting nature of interview data is another drawback; interviewees may have been influenced by their emotional state at the time of the interview, recall bias, or social desirability bias. Additionally, while qualitative methods provided a deeper understanding of patients' experiences, quantifying results and proving causation tasks that may have been outside the purview of this study design might have given the findings more empirical support.

The study's methodological issues, like the participants' restricted availability because of their rehabilitation schedules, may have limited the range of viewpoints that could have been recorded. The interpretation of qualitative data inevitably involves factors that may be subjective to the researcher's perspective, producing a degree of bias, even if theme analysis did uncover some very helpful patterns and insights from the data.

The study still makes a significant contribution to the understanding of the experiences and viewpoints of patients who had physiotherapy rehabilitation because of their diseases, even with these limitations. Future studies may address bigger and diverse populations, as well as quantitative metrics that can be used to develop follow-up on recovery during the rehabilitation process, taking this constraint into account.

6.1 Conclusion

The purpose of this study was to investigate stroke survivors' experiences in Bangladesh, with particular attention on how the stroke affected their day-to-day activities, how they recovered from therapy, and how supportive their families were during this time. The results offer vital insights into the lived realities of stroke survivors in an environment with limited resources, illuminating the difficulties they encounter, their advancements, and the coping mechanisms that support them during their recovery process.

According to the study, stroke had a tremendous effect on the lives of the participants; the majority reported major changes in their social roles, emotional health, and everyday functioning. Participants frequently noted the emotional toll of being dependent on others, financial hardships, and the loss of independence. Given that stroke is a disorder that frequently results in long-term physical, mental, and social repercussions, our findings are in line with the larger understanding of its impact. Many stroke survivors may feel less independent and valuable as a result of the disturbance of everyday routines, such as taking care of themselves or doing domestic chores. For people with the illness, this loss of freedom combined with the difficulties of acclimating to a new lifestyle is a major cause of distress.

It's interesting to note that, in spite of the detrimental consequences of stroke, the study also emphasized how important family support is in easing these difficulties. All participants reported having good family support, which was a major factor in their rehabilitation, according to one of the study's main findings. Family members helped participants stay motivated and optimistic during recovery by offering emotional support, accompanying them to therapy sessions, and providing helpful assistance with everyday tasks. This system of support appeared to mitigate the adverse effects of stroke, allowing participants to adjust to their new situation more skillfully. The importance of family in stroke rehabilitation cannot be stressed in cultures like Bangladesh, where collectivism is valued and family bonds are strongly ingrained. It may be simpler for people to deal with the limits imposed by their illness if they have a strong support network to help them manage the emotional and psychological

challenges of stroke rehabilitation. The results also showed that the majority of participants had a favorable experience with physiotherapy, which helped them become more independent, confident, and physically capable. As it assisted stroke survivors in regaining their mobility, managing their pain, and carrying out everyday duties with greater independence, physiotherapy became an essential part of the healing process. The capacity to carry out everyday tasks including eating, dressing, and walking has improved, according to participants who expressed satisfaction with physiotherapy. These advancements improved their emotional health in addition to increasing their level of physical independence. As they started to see measurable outcomes from their rehabilitation efforts, participants' confidence levels rose, confirming their conviction that recovery was achievable even if progress was sluggish.

However, the study also found that some participants had trouble recovering at a rapid rate, with a number of them complaining about the logistical difficulties and delayed progress of physical therapy. These conflicting emotions were especially noticeable among participants who had trouble getting rehabilitation services because of things like transportation issues or the high expense of therapy. Some people may feel frustrated and helpless due to the physical restrictions of stroke and the emotional toll of long-term recovery. This emphasizes how recovery from a stroke is rarely a straight line and frequently consists of both successes and failures, which can be emotionally taxing for survivors.

Regarding access barriers to physiotherapy, the study found that many individuals faced major challenges in getting the necessary rehabilitative therapies. These obstacles included limited access to physiotherapy services, especially in rural locations, transportation problems, and budgetary limitations. Given that many stroke survivors are unable to receive the required care because of financial and logistical constraints, these findings highlight the need for a more accessible and reasonably priced rehabilitation infrastructure in Bangladesh. People find it challenging to get the thorough rehabilitation they need for a full recovery in rural locations due to a lack of rehabilitation facilities and the high expense of care. Improving stroke recovery outcomes in Bangladesh and other low-resource environments requires addressing these obstacles.

6.2 Recommendations

The following recommendations based on this study's findings in improving the rehabilitation experience of the patients with Stroke:

1. The ease of access to physiotherapy Rehabilitation services should ease these financial and logistic burdens with subsidy costs of therapies, the creation of more such centers in the rural, less privileged parts, and alternatives to transportation to such that all such patients are benefited without much added burden.
2. Patient-Centric Rehabilitation Plans: Rehabilitation plans have to be charted and put into operation concerning the patient's needs, targets, and advances. This kind of approach can allow the optimization of functional recuperation and gratification of the patients by looking into the peculiar challenges and wishes of each case.
3. Include Psychosocial Support Rehabilitation programs need to address the involvement of the psychological and emotional states of the patients with Stroke. Access to counselors, support groups, or psychiatrist supports facilitates the smoothing of some difficult psychological stages for the Stroke victims in their process of recovery.
4. Enhancing Training for Rehabilitation Professionals: There is an absolute need for continuous professional development in keeping physiotherapists and other rehabilitation staff updated with the latest knowledge and techniques. Training should also include communication and empathy skills to foster stronger therapeutic relationships with patients.
5. Public Awareness and Advocacy: Better education of the public about the needs and capabilities of persons with Stroke may lead to less stigmatization by society. The aim of advocacy would be the promotion of inclusiveness, barrier-free environments, and policies that support improved vocational and social opportunities for the patient with Stroke.

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APPENDIX

Consent Form (English)

Please Read It Carefully

Assalamualaikum!

I am Anamul Haque, a student of B.Sc. in physiotherapy, 4th year 2018-19 session, at Saic College of Medical Science & Technology, affiliated with the University of Dhaka under the faculty of Medicine. I am conducting a research program entitled **“Exploring the Experience: The Role of Physiotherapy in Stroke Recovery”** In this study, I would like to explore patient experiences towards physiotherapy rehabilitation. I would like to request some information regarding your sociodemographic, and medical information-related questions. Please note that this academic research interview will take approximately 20-30 minutes to complete. Participating in this study will not affect your current or future treatment in any way. It is important to mention that the information collected will only be used for academic research purposes, and all your provided data will be kept confidential. In the case of any report or publication, we will ensure that your identity remains anonymous.

Your participation in this study is voluntary, and you may withdraw at any time during this study without any negative consequences. You also have the right not to answer a question you don't like or do not want to answer during the interview.

If you have any questions regarding the study or your rights as a participant, please feel free to contact the investigator Anamul Haque, or the research supervisor Dr. Zakia Rahman (PT), Lecturer, Department of Physiotherapy, SCMST, Dhaka.

Do you have any questions before I start? Yes No

So, may I have your consent to proceed with the interview? Yes No

Signature of the Participant..... Date.....

Signature of the Interviewer Date.....

**Title: Exploring the Experience: The Role of Physiotherapy in Stroke Recovery.
A Qualitative Study**

Questionnaire (English)

Part 1: Personal information

1.1 Patient ID:	
1.2 Date of Test:	
1.3 Name of participant:	
1.4 Code:	
1.5 Address:	
1.6 Phone:	

Part 2- Patient's Socio-demographic information

Please give a tick (√) mark on the left side of the correct answer

Questions	Responses
2.1. Age:	..... Years
2.2. Gender:	1. = Male 2. = Female
2.3. Marital status:	1. Unmarried 2. = Married 3. = Separated
2.4. Family type:	1. = Nuclear Family 2. = Joint Family
2.5. Living area:	1. = Rural 2. = Urban
2.6. Educational qualification:	1. = Illiterate 2. = Primary 3. = Secondary 4. = Higher secondary 5. = Bachelor or above
2.8. Occupation:	1. = Unemployed 2. = Day labor 3. = Desk job 4. = Farmer 5. = Defense/Police 6. = Banker

	7. =Teacher 8. = Others
2.9. Number of Earning members in family	.....
2.10. Monthly family income	.....

Part 3: Medical information

3.1 Height	.....feet
3.2 Weight	..... kg
3.3 BMI	
3.4 Co-morbidities	<ol style="list-style-type: none"> 1. = Diabetes Mellitus 2. = Hypertension 3. = Anemia 4. = Heart disease 5. = Kidney disease 6. = Respiratory disease 7. = Others
3.5. Type of Stroke:	<ol style="list-style-type: none"> 1. = Ischemic 2. = Hemorrhagic
3.6. Types of Paralysis:	<ol style="list-style-type: none"> 1. = Monoplegia 2. = Paraplegia 3. = Hemiplegia 4. = Quadriplegia

Part 5: Interview Questionnaire

Experience:

1. How did you feel when you first started physiotherapy?
 - I. Poor
 - II. Fair
 - III. Good
2. What are your thoughts on the effectiveness of the physiotherapy treatments you have received?
 - I. Effective
 - II. Ineffective
3. Dose this (stroke) impact in your life?
 - I. Yes
 - II. No

If yes, would you please tell, how this effect in your life?

Your response:

4. How do you the role of your physiotherapist in your rehabilitation journey?
 - I. No
 - II. A little
 - III. Roughly
 - IV. Excellent
5. Can you describe your overall experience with physiotherapy rehabilitation since your stroke?
 - I. Yes
 - II. No

If yes, would you please tell what was your experience about treatment?

Your response:

6. What specific aspects of physiotherapy have you found most beneficial in your recovery?
 - I. Manual therapy
 - II. Mechanical therapy

7. Have you encountered any barriers or difficulties in accessing or continuing your physiotherapy sessions?

I. Yes

II. No

If yes, would you please tell what was barriers or difficulties you face?

Your response:

8. How has physiotherapy impacted your daily life and ability to perform everyday activities?

I. A little or slowly

II. A lot better or rapidly

9. Can you share any experiences where physiotherapy made a significant in your mobility or independence?

I. Yes

II. No

If yes, would you please tell what was significant in your mobility?

Your response:

সম্মতি বিবৃতি (বাংলা)

দয়া করে এটি মনোযোগ সহকারে পড়ুন

আসসালামুয়ালাইকুম!

আমি এনামুল হক বিএসসি ইন ফিজিওথেরাপিতে, ৪র্থ বর্ষ ২০১৮-২০১৯ সেশন, মেডিসিন অনুষদের অধীনে ঢাকা বিশ্ববিদ্যালয়ের অধিভুক্ত সাইক কলেজ অফ মেডিকেল সায়েন্স অ্যান্ড টেকনোলজিতে অধ্যয়নরত। আমি "অভিজ্ঞতা অন্বেষণ: স্ট্রোক পুনরুদ্ধারের ক্ষেত্রে ফিজিওথেরাপির ভূমিকা" শিরোনামের একটি গবেষণা কার্যক্রম পরিচালনা করছি এই গবেষণায়, আমি ফিজিওথেরাপি পুনর্বাসনের প্রতি রোগীর অভিজ্ঞতাগুলি অন্বেষণ করতে চাই। আমি আপনার সামাজিক জনসংখ্যা সংক্রান্ত কিছু তথ্যের অনুরোধ করতে চাই, এবং চিকিৎসা সংক্রান্ত তথ্য-সম্পর্কিত প্রশ্ন। অনুগ্রহ করে মনে রাখবেন যে এই একাডেমিক গবেষণা সাক্ষাৎকারটি সম্পূর্ণ হতে প্রায় 20-30 মিনিট সময় লাগবে। এই গবেষণায় অংশগ্রহণ করা আপনার বর্তমান বা ভবিষ্যতের চিকিৎসাকে কোনোভাবেই প্রভাবিত করবে না। এটি উল্লেখ করা গুরুত্বপূর্ণ যে সংগৃহীত তথ্য শুধুমাত্র একাডেমিক গবেষণার উদ্দেশ্যে ব্যবহার করা হবে, এবং আপনার দেওয়া সমস্ত তথ্য গোপন রাখা হবে। কোনো প্রতিবেদন বা প্রকাশনার ক্ষেত্রে, আমরা নিশ্চিত করব যে আপনার পরিচয় গোপন থাকবে।

এই গবেষণায় আপনার অংশগ্রহণ স্বেচ্ছায়, এবং আপনি এই গবেষণা চলাকালীন যেকোনো সময় কোনো নেতিবাচক পরিণতি ছাড়াই প্রত্যাহার করতে পারেন। সাক্ষাৎকারের সময় আপনি পছন্দ করেন না বা উত্তর দিতে চান না এমন প্রশ্নের উত্তর না দেওয়ার অধিকারও আপনার আছে।

অধ্যয়ন বা অংশগ্রহণকারী হিসেবে আপনার অধিকার সংক্রান্ত কোন প্রশ্ন থাকলে অনুগ্রহ করে তদন্তকারী এনামুল হক, অথবা গবেষণা তত্ত্বাবধায়ক ড. জাকিয়া রহমান (পিটি), ফিজিওথেরাপি বিভাগের প্রভাষক, এসসিএমএসটি, মিরপুর, ঢাকা-এর সাথে নির্দিধায় যোগাযোগ করুন।

আমি শুরু করার আগে আপনার কোন প্রশ্ন আছে?

হ্যাঁ না

তাহলে, ইন্টারভিউ নিয়ে এগিয়ে যেতে আমি কি আপনার সম্মতি পেতে পারি? হ্যাঁ না

অংশগ্রহণকারীর স্বাক্ষর..... তারিখ.....

ইন্টারভিউয়ারের স্বাক্ষর তারিখ.....

টাইটেল: এক্সপ্লোরিং দ্য এক্সপেরিয়েন্স: স্ট্রোক রিকভারিতে ফিজিওথেরাপির ভূমিকা। একটি গুণগত অধ্যয়ন

প্রশ্নাবলি (বাংলা)

পার্ট ১: ব্যক্তিগত তথ্য

১.১ রোগীর আইডি:	
১.২ পরীক্ষার তারিখ:	
১.৩ অংশগ্রহণকারীর নাম:	
১.৪ কোড:	
১.৫ ঠিকানা:	
১.৬ ফোন:	

পার্ট ২- রোগীর সামাজিক-জনসংখ্যা সংক্রান্ত তথ্য

অনুগ্রহ করে সঠিক উত্তরের বাম পাশে একটি টিক (√) চিহ্ন দিন

প্রশ্ন	প্রতিক্রিয়া
২.১ বয়স:	..... বছর
২.২ লিঙ্গ:	১ = পুরুষ ২ = মহিলা
২.৩ বৈবাহিক অবস্থা:	১ = অবিবাহিত ২ = বিবাহিত ৩ = বিচ্ছিন্ন
২.৪ পারিবারিক প্রকার:	১ = নিউক্লিয়ার ফ্যামিলি ২ = যৌথ পরিবার

২.৫ বসবাসের এলাকা:	১ = গ্রামীণ ২ = শহুরে
২.৬ শিক্ষাগত যোগ্যতা:	১ = নিরক্ষর ২ = প্রাথমিক ৩ = মাধ্যমিক ৪ = উচ্চ মাধ্যমিক ৫ = স্নাতক বা তার উপরে
২.৭ পেশা:	১ = বেকার ২ = দিন মজুর ৩ = ডেস্ক জব ৪ = কৃষক ৫ = প্রতিরক্ষা/পুলিশ ৬ = ব্যাংকার ৭ = শিক্ষক ৮ = অন্যান্য
২.৮ পরিবারে উপার্জনকারী সদস্যের সংখ্যা:	.....
২.৯ মাসিক পারিবারিক আয়:	.....

পার্ট ৩: মেডিকেল তথ্য

৩.১ উচ্চতা	..... ফুট
৩.২ ওজন	..... কেজি
৩.৩ বিএমআই	

<p>৩.৪ কো-মরবিটি</p>	<p>১ = ডায়াবেটিস ২ = উচ্চ রক্তচাপ ৩ = রক্তশূন্যতা ৪ = হৃদরোগ ৫ = কিডনি রোগ ৬ = শ্বাসযন্ত্রের রোগ ৭ = অন্যান্য</p>
<p>৩.৫ স্ট্রোকের প্রকারভেদ:</p>	<p>১ = ইস্কেমিক ২ = রক্তক্ষরণজনিত</p>
<p>৩.৬ পক্ষাঘাতের প্রকারভেদঃ</p>	<p>১ = মনোপ্লেজিয়া ২. = প্যারাপ্লেজিয়া ৩ = হেমিপ্লেজিয়া ৪ = কোয়াদ্রিপ্লেজিয়া</p>

পার্ট ৪ : ইন্টারভিউ প্রশ্নাবলী

অভিজ্ঞতা:

১. আপনি যখন প্রথম ফিজিওথেরাপি শুরু করেছিলেন তখন আপনি কেমন অনুভব করেছিলেন?

১. খারাপ

২. মোটামোটি

৩. ভাল

২. আপনার প্রাপ্ত ফিজিওথেরাপি চিকিৎসার কার্যকারিতা সম্পর্কে আপনার চিন্তা কি?

১. কার্যকরী

২. কার্যকরী নয়

৩. আপনার জীবনের উপর কি স্ট্রোক প্রভাব ফেলেছে?

১. হ্যাঁ

২. না

যদি হ্যাঁ, আপনি কি দয়া করে বলবেন, এটি আপনার জীবনে কীভাবে প্রভাব ফেলবে?

আপনার প্রতিক্রিয়া:

৪. আপনার পুনর্বাসন যাত্রায় আপনার ফিজিওথেরাপিস্টের ভূমিকা কেমন?

১. না

২. একটু

৩. মোটামুটি

৪. চমৎকার

৫. আপনার পুনরুদ্ধারের ক্ষেত্রে ফিজিওথেরাপির কোন নির্দিষ্ট দিকগুলি আপনি সবচেয়ে উপকারী বলে মনে করেছেন?

১. ম্যানুয়াল থেরাপি

২. ইলেক্ট্রোথেরাপি

৬. ফিজিওথেরাপি কীভাবে আপনার দৈনন্দিন জীবন এবং দৈনন্দিন কাজকর্ম সম্পাদন করার ক্ষমতাকে প্রভাবিত করেছে?

১. একটু বা ধীরে ধীরে

২. অনেক ভালো বা দ্রুত

৭. আপনি কি এমন কোনো অভিজ্ঞতা শেয়ার করতে পারেন যেখানে ফিজিওথেরাপি আপনার চলাফেরা বা স্বাধীনতার ক্ষেত্রে গুরুত্বপূর্ণ ভূমিকা পালন করেছে?

১. হ্যাঁ

২. না

যদি হ্যাঁ, আপনি কি দয়া করে বলবেন যে আপনার চলাফেরায় উল্লেখযোগ্য কী ছিল?

আপনার প্রতিক্রিয়া:

৮. আপনি কি আপনার ফিজিওথেরাপি সেশনগুলি অ্যাক্সেস বা চালিয়ে যাওয়ার ক্ষেত্রে কোন বাধা বা অসুবিধা পেয়েছেন?

১. হ্যাঁ

২. না

যদি হ্যাঁ, আপনি কি প্রতিবন্ধকতা বা অসুবিধার সম্মুখীন হয়েছিলেন তা বলবেন কি?

আপনার প্রতিক্রিয়া:

৯. আপনি কি আপনার স্ট্রোকের পর থেকে ফিজিওথেরাপি পুনর্বাসনের সাথে আপনার সামগ্রিক অভিজ্ঞতা বর্ণনা করতে পারেন?

১. হ্যাঁ

২. না

আপনার প্রতিক্রিয়া:

Permission later

SCMST-BPT/IRB/05.23/008

To
Anamul Haque
4th Year Student of B.Sc. in Physiotherapy
Session: 2018-2019 , Reg No: 10474
SAIC College of Medical Science & Technology (SCMST)
Mirpur-14, Dhaka-1216, Bangladesh

Subject: Approval of the thesis proposal "Exploring the Experience : Role of Physiotherapy in Stroke Recovery . A Qualitative Study" by ethics committee.

Dear Anamul Haque
Congratulations.

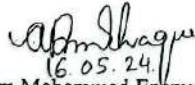
The Institutional Review Board (IRB) of SCMST has reviewed and discussed your application to conduct the above-mentioned dissertation, with yourself, as the principal investigator. The Following documents have been reviewed and approved:

Sr. No.	Name of the Documents
1	Dissertation Proposal
2	Questionnaire (English version)
3	Information sheet & consent form.

The purpose of the study is to determine the Exploring the experience of stroke survivors who undergone physiotherapy interventions . The study involves face to face interview by using semi-structured questionnaire to explore the experience : Role of physiotherapy in stroke recovery in Dhaka city that may take 30 to 40 minutes to fill in the questionnaire and there is no likelihood of any harm to the participants. The members of the Ethics committee have approved the study to be conducted in the presented form at the meeting held at 09.00 AM on 28th September 2023 at SCMST.

The institutional Ethics committee expects to be informed about the progress of the study, any changes occurring during the study, any revision in the protocol and patient information or informed consent and ask to be provided a copy of the final report. This Ethics committee is working accordance to Nuremberg Code 1947, World Medical Association Declaration of Helsinki, 1964 - 2013 and other applicable regulation.

Best regards,



Dr. Abul Kasem Mohammad Enamul Haque
Principal, SCMST & Chairman, Institutional Review Board (IRB)
SAIC College of Medical Science & Technology (SCMST)
Mirpur-14, Dhaka-1216, Bangladesh



SAIC COLLEGE OF MEDICAL SCIENCE AND TECHNOLOGY

Approved by Ministry of Health and Family Welfare
Affiliated with Dhaka University

Ref:
3rd July, 2024

Date :

To

Principal

SAIC College of Medical Science and Technology (SCMST)

Mirpur 14, Dhaka-1216


Subject: Prayer for permission to collect data from the SAIC College of Medical Science and Technology to conduct a research project.

Sir,

With due respect and humble submission to state that I am a student of B.Sc. in Physiotherapy at SAIC College of Medical Science and Technology (SCMST). As a part of our course curriculum, we have to conduct a research project for the partial fulfillment of the requirement for the degree of B.Sc. in Physiotherapy. My research title is "Exploring the Experience: The Role Of Physiotherapy in Stroke Recovery. A Qualitative Study." and the aims of the study is to explore the experience of stroke survivors who undergone physiotherapy interventions. This is a qualitative study under the supervision of Dr. Zakia Rahman, Lecturer, Department of Physiotherapy, SCMST. I want to collect data from the SAIC College of Medical Science and Technology (SCMST). So, I need your permission to collect data and ensure that the study will not be harmful for participants.

So, I, therefore, pray and hope that you would be kind enough to give permission for data collection that will help me to complete my study.

Yours Faithfully


Anamul Haque

Student of B.Sc. in Physiotherapy

Session: 2018-2019

Reg No: 10418

SAIC College of Medical Science and Technology (SCMST)

Mirpur-14, Dhaka 1216, Bangladesh

*Allowed to collect data
for the research.*

*Abm Haque
03.07.24*

Dr. Abul Kasem Mohammad Enamul Haque
MBBS, M.Phil(PSM)
Principal
SAIC College of Medical Science and
Technology (SCMST)
Mirpur-14, Dhaka.

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