FACTORS COMPLICATING TREATMENT SESSIONS IN SPINAL CORD INJURY (SCI) REHABILITATION: SPEECH AND LANGUAGE THERAPIST'S (SLT'S) PERSPECTIVE

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Research proposal presented to the

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APPROVAL

We certify that we have carefully read and recommended to the Faculty of Medicine, University of Dhaka, for the acceptance of this dissertation entitled "Factors complicating treatment sessions in Spinal Cord Injury (SCI) rehabilitation: Speech and Language Therapist's (SLT's) perspective."

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DECLARATION

The research study "Factors complicating treatment sessions in Spinal Cord Injury (SCI) rehabilitation: Speech and Language Therapist's (SLT's) perspective" is my original work undertaken under the supervision of Md. Mizanur Rahman from the Bangladesh Health Professions Institute (BHPI). I declare that this study has not been submitted to any institution or university for the award of any degree or qualification, either in part or in whole. Information, data, and references from all sources have been duly acknowledged and cited to the standards of academic integrity and by the Presentation referencing style APA seventh. This research was conducted using the ethical guidelines of the Institutional Review Board (IRB) of BHPI. The contents of this thesis and any errors or omissions therein are my sole responsibility.

Signature

…….

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DEDICATION

This research is dedicated to **my beloved parents, husband & siblings**, whose love has always been unconditional, whose support never ended, and whose encouragement was always there for the taking. They sacrificed, had wisdom, and believed in my abilities. That is who I am today and who made this possible.

Table of Contents

Table of Contents ..... *I*

List of Annexure ..... *III*

List of Acronyms ..... *IV*

Acknowledgement ..... *V*

Abstract..... *VI*

CHAPTER : INTRODUCTION..... 1-12

1.1 Introduction..... 1

1.2 Significance of the Study..... 4

1.3 Research Question 6

1.4 Objectives 6

1.4.1 General Objective 6

1.4.2 Specific Objectives 6

1.5 Literature Review..... 7

1.6 Operational Definitions..... 12

1.6.1 Speech and Language Therapist (SLT)..... 12

1.6.2 Spinal Cord Injury..... 12

1.6.3 Treatment Session..... 12

1.6.4 Complicating Factors..... 12

1.6.5 SLT's Perspective 12

CHAPTER 2 : METHODOLOGY..... 13-20

2.1 Study Design..... 13

2.2 Sampling 14

2.3 Study Place 14

2.3.1 Study Population..... 15

2.3.2 Informed Consent..... 15

2.3.3 Field Test 15

2.3.4 Inclusion Criteria..... 16

2.3.5 Exclusion Criteria..... 16

2.3.6 Participants Overview..... 17

2.4 Data Collection 18

2.4.1 Data-Collecting Instrument....18
2.4.2 Data Collection Method....18
2.4.3 Data Collection Procedure....18
2.4.4 Data Analysis....18
2.4.5 Ethical Considerations....20
CHAPTER 3 : RESULT....21-50
CHAPTER 4 : DISCUSSION....51-52
CHAPTER 5 : LIMITATIONS & RECOMMENDATIONS....53
5.1 Limitations....53
5.2 Recommendations....55
CHAPTER 6 : CONCLUSION....58
CHAPTER 7 : REFERENCES....59-65
ANNEXURES....66-73

List of Annexure

S.N	Annexure	Topics	Page No.
1.	Annexure- 1 (A)	Consent Form (English)	66
2.	Annexure- 1 (B)	Consent Form (Bangla)	67
3.	Annexure- 2 (A)	Self-Developed Questionnaires (English)	68
4.	Annexure- 2 (B)	Self-Developed Questionnaires (Bangla)	69
5.	Annexure- 3 (A)	Permission to conduct the research project	70
6.	Annexure- 3 (B)	Approval Later for IRB	71
7.	Annexure- 3 (C)	Permission letter for conduct data collection	72
8.	Annexure- 3 (D)	Permission letter for conduct data collection	73

List of Acronyms

Abbreviation	Elaboration
BHPI	Bangladesh Health Professions Institute
BRC	Bangladesh Rehabilitation Council
CRP	Centre for the Rehabilitation of the Paralysed
EBP	Evidence-Based Practice
ICT	Information and Communication Technology
MDT	Multidisciplinary Team
SCI	Spinal Cord Injury
SLT	Speech and Language Therapist
SLTs	Speech and Language Therapists

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ABSTRACT

Spinal Cord Injury (SCI) rehabilitation presents unique challenges for Speech and Language Therapists (SLTs), particularly when addressing communication and swallowing disorders. Despite the critical role of SLTs in the rehabilitation process, there is limited research that explores the factors complicating treatment sessions in SCI rehabilitation settings. This research aims to identify and categorize the factors that complicate SCI treatment sessions from the perspective of SLTs, shedding light on both patient-related and environmental challenges

A qualitative phenomenological approach was adopted for this study. Data were collected through semi-structured interviews with SLTs working in SCI rehabilitation settings. Purposive sampling was used to select participants, and thematic analysis was employed to identify recurring patterns and themes in the data.

The analysis revealed several key themes: (1) Patient-Related Challenges, (2) Environmental Factors, (3) Institutional Challenges, (4) Therapist-Related Challenges, (5) Impact on Therapy Outcomes, (6) Strategies and Solutions, and (7) Desired Improvements and Future Needs. These themes encapsulated a range of factors, such as cognitive difficulties, motivational barriers, inadequate therapy spaces, and the lack of adequate institutional support.

The study highlights the multifaceted nature of challenges faced by SLTs in SCI rehabilitation, suggesting the need for targeted interventions. Recommendations include enhancing training opportunities for SLTs, improving institutional support, optimizing therapy spaces, and addressing emotional and cognitive barriers for both patients and therapists. Further research should explore comprehensive strategies to overcome these challenges and improve the effectiveness of SCI rehabilitation services in Bangladesh.

Keywords: *SCI Rehabilitation, SLTs, Treatment Challenges, Patient-Related Factors, Institutional Barriers, Workload, Cognitive Barriers.*

CHAPTER 1 INTRODUCTION

1.1 Introduction

Spinal cord injury (SCI) is a complex neurological condition that often results in a broad range of functional impairments, including respiratory, swallowing, and communication difficulties (Nas et al., 2017). It is a life-altering condition that can result in severe physical, sensory, and autonomic dysfunction. Beyond these physical consequences, SCI often leads to complex impairments in communication and swallowing, particularly when the injury is at or above the cervical level or accompanied by traumatic brain injury (Anderson et al., 2007). These complications necessitate the involvement of Speech and Language Therapists (SLTs) in rehabilitation, especially in managing dysphagia, motor speech disorders, voice changes, and cognitive-communication difficulties (Groher & Crary, 2020).

The rehabilitation process for individuals with SCI is inherently multidisciplinary. However, SLTs face unique challenges that can complicate the planning and execution of effective treatment sessions. For instance, patients with high-level tetraplegia may require ventilator support, which restricts their ability to speak, engage, or even participate actively in therapy (Shem et al., 2011). Additionally, cognitive deficits from co-occurring traumatic brain injury, mental health issues such as depression or anxiety, and fatigue can reduce patient engagement and interfere with therapy outcomes (Nas et al., 2017).

Understanding the unique barriers encountered by SLTs is essential for enhancing the effectiveness of rehabilitation services and optimizing patient outcomes. However, limited research has been conducted focusing specifically on the SLT perspective within SCI rehabilitation. Most existing literature emphasizes the broader multidisciplinary challenges, with insufficient attention to the nuanced difficulties faced by SLTs (Morris et al., 2019). This study aims to fill this gap by exploring the factors that complicate treatment sessions from the perspective of Speech and Language Therapists, thereby contributing to evidence-based improvements in service delivery and interdisciplinary collaboration.

Beyond patient-related factors, environmental and systemic issues also present barriers. These include limited time and staffing, lack of access to assistive communication devices, and poor inter-professional collaboration within inpatient units (Rose et al.,

2021). SLTs may also face difficulties coordinating sessions around medical procedures, transportation, or competing rehabilitation schedules. In some cases, there is also a lack of awareness among team members or even patients' families regarding the scope of SLT services, which can delay timely referrals and limit the perceived importance of communication or swallowing rehabilitation (Morris et al., 2019).

Spinal cord injury (SCI) is a life-altering condition that results in varying degrees of motor, sensory, and autonomic dysfunction. SCI can arise from both traumatic (e.g., road traffic accidents, falls) and non-traumatic causes (e.g., degenerative diseases), each presenting unique challenges for rehabilitation (Gaddour et al., 2018). The rehabilitation process for SCI patients is multifaceted, involving various healthcare professionals, including Speech and Language Therapists (SLTs), who play a critical role in managing communication and swallowing difficulties, as well as cognitive impairments (McKinley et al., 2001). However, SLTs face several barriers that complicate the delivery of effective treatment, including patient-related factors, environmental challenges, institutional issues, and therapist-related constraints (Perrouin-Verbe, 2005).

Patients with SCI often experience complex physical limitations, cognitive deficits, and emotional challenges, all of which can affect their ability to participate in therapy (Osterthun et al., 2009). Cognitive difficulties such as memory deficits, attention issues, and executive dysfunctions can hinder patients' ability to engage in therapeutic activities and follow through with rehabilitation plans (Scivoletto et al., 2014). Furthermore, the environmental context in which therapy takes place, including noise, space, and accessibility issues, may interfere with the therapist's ability to conduct effective sessions (Yang et al., 2014). Additionally, institutional factors such as inadequate resources, high workloads, and administrative barriers often result in delays or interruptions in treatment, further complicating the rehabilitation process (Gaddour et al., 2018).

The SLT's perspective on these challenges is critical, as they are directly involved in managing communication and cognitive impairments in SCI patients. Despite the importance of SLTs in SCI rehabilitation, limited research has been conducted to explore the specific factors that complicate their treatment sessions. Therefore, this study aims to investigate the patient-related, environmental, institutional, and therapist-related factors that make treatment sessions in SCI rehabilitation particularly

challenging for SLTs. Understanding these challenges will contribute to the development of more effective strategies for managing SCI patients and improving rehabilitation outcomes.

In Bangladesh, the field of SCI rehabilitation is still emerging, and there is limited research focused on the specific challenges faced by SLTs in this context. The increasing number of SCI cases due to road traffic accidents and other factors calls for an in-depth exploration of the difficulties faced by SLTs in providing rehabilitation services (Rahman et al., 2019). Effective SCI rehabilitation requires not only clinical expertise but also the capacity to navigate a complex set of challenges, ranging from patient-related factors to environmental constraints (Bodensteiner et al., 2017).

The challenges faced by SLTs in SCI rehabilitation can be categorized into several broad themes. These include cognitive and emotional barriers faced by patients, such as memory impairments, depression, and motivation issues, which complicate the treatment process (Kovindha et al., 2020). Additionally, SLTs often encounter institutional and environmental barriers, such as inadequate therapy spaces, insufficient resources, and a lack of interdisciplinary collaboration (Herman et al., 2017). Moreover, the therapist's own workload, stress, and lack of professional development opportunities can contribute to decreased therapy effectiveness (Duncan et al., 2021).

1.2 Significance of the Study

Spinal Cord Injury (SCI) rehabilitation is globally recognized as one of the most complex and resource-intensive areas of healthcare, requiring coordinated input from multiple professionals, including Speech and Language Therapists (SLTs). Although SCI primarily affects motor and sensory functions, many patients also experience secondary complications such as respiratory difficulties, swallowing problems, cognitive-communication deficits, reduced attention, memory impairment, and emotional or psychological challenges. These issues significantly shape the nature and effectiveness of SLT interventions. However, in many developing countries—including Bangladesh—there is limited empirical evidence documenting what exactly complicates SLT sessions within SCI settings. This research therefore fills an important gap in local and global rehabilitation literature. This study is significant because it systematically identifies the patient-related, environmental, institutional, and therapist-related barriers that influence SLT practice in SCI units. In real clinical environments, SLTs often face challenges such as noisy or overcrowded wards, limited therapy space, lack of assistive devices, high caseloads, insufficient staffing, and inconsistent patient availability due to medical complications. By exploring these factors from the therapists' own perspective, the study reveals how these barriers impact session quality, therapy continuity, treatment planning, and overall patient outcomes. Such insight is crucial for developing context-specific rehabilitation strategies rather than relying on generalized models derived from high-resource settings. The findings of this study will hold practical value for rehabilitation centers, policymakers, and hospital administrators. Understanding the challenges faced by SLTs can support more informed decisions about resource allocation, staff training, workload distribution, and infrastructure development. For example, improving accessibility, reducing noise, ensuring adequate therapy materials, or establishing structured interdisciplinary communication systems can directly enhance therapy effectiveness. Additionally, the research may help guide the design of training programs that prepare SLTs to manage SCI-related complexities more efficiently. This study will contribute to improving the quality of SLT services in SCI rehabilitation by highlighting operational and clinical barriers. The findings can inform hospital management, policy-makers, and educators to address gaps in training, resource allocation, and multidisciplinary collaboration.

Beyond clinical practice, this study contributes to the advancement of rehabilitation sciences by providing evidence that can shape future research, policy frameworks, and service delivery models. By highlighting the barriers that interfere with effective communication rehabilitation for SCI patients, this study advocates for more patient-centered, equitable, and sustainable rehabilitation systems. Ultimately, the insights gained from this research have the potential to improve both patient recovery trajectories and professional satisfaction among SLTs—leading to better overall outcomes in SCI rehabilitation programs.

Despite the importance of understanding these barriers, few studies have specifically examined the treatment challenges from the perspective of SLTs working in SCI settings. Most existing research tends to generalize the rehabilitation experience or focus on other professions such as physical and occupational therapy. As a result, the unique perspectives, experiences, and insights of SLTs remain underrepresented in the literature.

This research aims to address this gap by exploring the factors that complicate treatment sessions in spinal cord injury rehabilitation from the Speech and Language Therapist's perspective. By identifying and analyzing these barriers, the study will contribute to improving service delivery, promoting patient-centered care, and informing future policy and training needs for SLTs working in complex rehabilitation environments.

1.3 Research Question

What are the factors that complicate treatment sessions in Spinal Cord Injury (SCI) rehabilitation from the perspective of Speech and Language Therapist's (SLT's)?

1.4 Objectives

1.4.1 General Objective

To find out the factors that complicate Speech and Language Therapy treatment sessions in SCI rehabilitation settings from the therapists' perspective.

1.4.2 Specific Objectives

- To categorize the challenges into patient-related, environmental, institutional, and therapist-related factors.
- To know how these complicating factors impact the quality, frequency, and effectiveness of SLT services.
- To identify strategies currently used by SLTs to overcome these barriers.

1.5 Literature Review

The SCIRehab study, as detailed by Whiteneck and Gassaway (2013), utilizes a practice-based evidence (PBE) methodology to investigate the relationship between spinal cord injury (SCI) rehabilitation treatments and patient outcomes. This prospective observational study, conducted across six SCI rehabilitation centers, enrolled 1,376 patients with traumatic SCI. The study aimed to identify which patient characteristics and treatment interventions are most strongly associated with positive rehabilitation outcomes, such as functional independence, pressure ulcer prevention, work/school participation, and life satisfaction one-year post-injury. A key strength of the study is its ability to control for patient demographic and injury differences, allowing for the identification of treatment elements associated with better outcomes.

The study found that patient characteristics, including injury severity and functional status at admission, explained the majority of the variation in outcomes. However, treatment-related factors, particularly the amount of time spent in specific rehabilitation disciplines (e.g., physical therapy, occupational therapy, and therapeutic recreation), also played a significant role in determining outcomes. For example, more time in physical therapy was linked to better functional independence, while therapeutic recreation time was associated with greater social integration and life satisfaction. Conversely, excessive time spent in specific interventions like range of motion/stretching was correlated with less optimal outcomes. These findings underscore the importance of both the quantity and type of rehabilitation interventions delivered during inpatient care.

The study highlights the utility of PBE methodology in uncovering valuable insights into SCI rehabilitation practices, suggesting that tailored interventions and careful treatment planning are essential for optimizing patient outcomes (Whiteneck & Gassaway, 2013).

The study by Dijkers and Zanca (2013) examines the factors that complicate rehabilitation treatment sessions for individuals with spinal cord injury (SCI) during inpatient rehabilitation. This prospective, observational study, conducted across six U.S. SCI rehabilitation centers, identified that pain, fatigue, and spasticity were the most commonly reported factors disrupting therapy sessions, with 30% of treatment sessions affected by at least one such issue. Medical factors, including complications

like respiratory issues and spasticity, were the most frequent and were correlated with missed therapy time and lower patient participation, as indicated by the modified Pittsburgh Rehabilitation Participation Scale (PRPS). The study revealed that the more factors that impacted a session, the longer the patient's length of stay (LOS) in rehabilitation, suggesting that complications not only interfere with treatment sessions but also extend recovery times. Interestingly, foreseeable factors, such as fatigue, were more commonly reported than unforeseeable ones, highlighting the importance of anticipating potential complications in the rehabilitation process. This study provides crucial insights into the daily challenges faced by SCI patients and their therapists, suggesting that addressing these factors could improve rehabilitation efficiency and outcomes (Dijkers & Zanca, 2013).

DeJong et al. (2013) conducted a prospective cohort study to determine the rehospitalization rates and factors influencing rehospitalization in individuals with traumatic spinal cord injury (SCI) during the first year following discharge from rehabilitation. The study, conducted across six SCI rehabilitation centers in the U.S., revealed that 36.2% of participants were rehospitalized at least once within the 12-month period post-injury. Among those rehospitalized, 12.5% experienced multiple readmissions. The study identified that the most frequent causes of rehospitalization were genitourinary conditions (e.g., urinary tract infections), respiratory conditions (e.g., pneumonia), and skin-related issues (e.g., pressure ulcers). The study also highlighted demographic factors such as being female, having Medicaid as the primary payer, and presenting with a more severe case mix, all of which were associated with higher rates of rehospitalization. Interestingly, patients who participated in more intensive physical therapy during their rehabilitation had lower odds of being rehospitalized.

The study further noted significant variability in rehospitalization rates across the centers, which, after accounting for patient case mix, pointed to unexamined factors such as rehabilitation practices and community resources. The authors concluded that addressing high-risk factors, improving post-discharge care, and understanding community-level resources are crucial in reducing rehospitalization rates among SCI patients (DeJong et al., 2013).

The study by Hsieh et al. (2013) compares the rehabilitation experiences and outcomes between older and younger individuals with spinal cord injury (SCI). This prospective

cohort study included 866 participants across four age groups: 16-29, 30-44, 45-60, and >60 years, examining patient demographics, injury characteristics, rehabilitation services, and outcomes at both discharge and 1-year post-injury. The study found that older adults (>60 years) were more likely to be married, retired, and on Medicare, with injuries primarily resulting from falls and being more severe. These individuals also had lower motor function at both admission and discharge, spent longer in rehabilitation, and received less therapy compared to younger groups. Interestingly, the oldest group spent more time in occupational therapy, particularly on preparatory activities, and less on activities of daily living. Moreover, at 1year post-injury, older patients were more likely to be discharged to a nursing home compared to younger individuals. The study underscores that older SCI patients face different rehabilitation pathways, influenced by age-related comorbidities and functional limitations, which may require longer rehabilitation stays and specialized care. It suggests that rehabilitation programs for older adults should be tailored to address these unique challenges and enhance outcomes (Hsieh et al., 2013).

Backus et al. (2013) explored the association between inpatient and post discharge rehabilitation services and outcomes one year after spinal cord injury (SCI). Using data from the SCI Rehab study, the researchers analyzed the impact of rehabilitation services received both during and after inpatient rehabilitation across six centers. They found that demographic and injury characteristics explained a significant portion of the variance in functional outcomes, life satisfaction, and community participation, with inpatient physical therapy (PT) and therapeutic recreation (TR) being positively associated with improved mobility and life satisfaction. Conversely, some post discharge services, such as psychology and nursing services, were associated with less favorable outcomes, suggesting that these services may reflect more severe patient needs. The study highlighted that while inpatient rehabilitation was more strongly associated with functional outcomes, post discharge services, particularly vocational counseling, had a positive effect on societal participation, such as returning to work or school. The authors concluded that while rehabilitation services play a role in improving outcomes post-SCI, further research is needed to better understand the type and intensity of post discharge services required to optimize long-term outcomes (Backus et al., 2013).

Darwish et al. (2020) provide a comprehensive overview of the rehabilitation process following spinal cord injury (SCI), highlighting the multidisciplinary approach required to optimize patient outcomes. The authors note that SCI patients face a wide range of medical and non-medical challenges, which necessitate a holistic rehabilitation strategy. Rehabilitation, initiated once the patient is medically stable, involves a combination of physical, psychological, and social interventions tailored to the individual's needs. Early rehabilitation has been shown to enhance functional recovery, shorten hospital stays, and improve quality of life, particularly when rehabilitation begins promptly after injury. The study underscores the critical roles of various healthcare professionals—spinal rehabilitation nurses, physiotherapists, occupational therapists, social workers, and psychologists—in fostering independence and promoting physical and emotional well-being. The rehabilitation process also emphasizes the importance of patient and family involvement, goal setting, and addressing the patient's long-term needs such as mobility, self-care, and social integration. Despite the potential for recovery, the level of injury significantly influences functional outcomes, with individuals sustaining cervical injuries facing greater challenges in regaining independence. The authors conclude that SCI rehabilitation requires continuous, individualized care and multidisciplinary collaboration to enhance life satisfaction and community participation (Darwish et al., 2020).

Spinal cord injury (SCI) presents significant challenges in rehabilitation, especially for Speech and Language Therapists (SLTs), who work with patients facing a range of physical, cognitive, and psychological impairments. Traumatic spinal cord injury (TSCI) patients often experience more severe neurological impairments, including higher rates of complete lesions, compared to non-traumatic SCI (NTSCI) patients (Gaddour et al., 2018).

Cognitive deficits, such as memory and attention issues, are prevalent in SCI patients and can complicate therapeutic interventions (McKinley et al., 2001). Environmental factors like noise, inadequate space, and accessibility issues also contribute to difficulties in conducting effective therapy sessions (Osterthun et al., 2009). Additionally, institutional barriers, including insufficient resources and administrative challenges, can delay rehabilitation and reduce therapy efficacy (Yang et al., 2014).

Strategies employed by SLTs, such as multimodal communication and family involvement, have been found to mitigate some of these challenges, improving patient outcomes (Scivoletto et al., 2014). However, a comprehensive, multidisciplinary approach is necessary to address these issues and enhance SCI rehabilitation (Perrouin-Verbe, 2005).

1.6 Operational Definitions

1.6.1 Speech and Language Therapist (SLT)

Speech and Language Therapist (SLT) is a healthcare professional who has been trained to assess, diagnose, and treat speech, language, voice, communication, and swallowing disorders in individuals across the lifespan (World Health Organization [WHO], 2020).

1.6.2 Spinal Cord Injury

The term "spinal cord injury" refers to damage to the spinal cord that can be caused by a variety of factors, including trauma (such as a vehicle accident) or disease or degeneration (such as cancer). An injury to the spinal cord is referred to as a spinal cord injury. This type of injury can result in a loss of function that is either permanent or temporary. Most of the time it is caused by sudden, traumatic blow to the vertebrae. In this study, awareness of caregivers about oral health care of SCI patient is evaluated as SCI patient can't properly maintain their own health care and requires the assistance of others to facilitate their health status.

1.6.3 Treatment Session

A structured therapeutic interaction between an SLT and an SCI patient lasting between 15–60 minutes, focusing on communication, cognitive-communication, or swallowing rehabilitation (Przybyla et al., 2020).

1.6.4 Complicating Factors

Any patient-related, therapist-related, environmental, or system-level issue that interrupts, delays, or reduces the effectiveness of SLT therapy sessions (WHO, 2013).

1.6.5 SLT's Perspective

The subjective experience, insights, and professional observations shared by SLTs regarding what factors complicate SCI therapy sessions, collected through interviews or questionnaires (Creswell & Poth, 2018).

CHAPTER 2 METHODOLOGY

This chapter outlines the study's methodological manner to determine its objectives. This study investigated the factors complicating treatment sessions in Spinal Cord Injury (SCI) rehabilitation: Speech and Language Therapist's (SLT's) perspective. It was designed to address the following topics: the study design, sampling procedure, data acquisition procedure, data analysis, and ethical considerations.

2.1 Study Design

This study's paradigm was qualitative because it was desired to explore the lived experiences of humans (Creswell & Creswell, 2013). Qualitative research concerns the social context in which human beings experience their world (Dew, 2007). In qualitative research, the 'science of numbers' comes after people's words or stories (Liamputtong, 2013; Patton, 2015). Four specific characteristics of qualitative methodology were used in this study: We describe the use of naturalistic setting, inductive reasoning, data triangulation, and narrative inquiry. According to Creswell (2013), the setting is part of the phenomenon being studied in qualitative research. Qualitative research has the characteristic of inductive reasoning. The data is initially specific and generalized at the end (Braun & Clarke, 2013; Creswell & Poth, 2018; Liamputtong, 2013). The student researcher did not have a hypothesis, but data was collected from participants separately and later yielded themes. The student researcher listened to the participants, observed during the interviews, took notes, and reflected critically on the findings. Creswell (2013) and Patton (2015) described qualitative research data triangulation as using multiple data sources in qualitative research. Additional data sources included demographic information, field notes, reflective journals, and in-depth semi-structured interviews. A comprehensive understanding of the studied phenomena was achieved through this approach (Patton, 2015). It is also a qualitative research strategy that allows the researcher to look at the data from different sources and describe the study phenomena richly and in detail (Carter, Bryant Lukosius, DiCenso, Blythe & Neville, 2014). In the same way, according to Clandinin and Connelly (2000), a narrative inquiry can allow participants to talk about their past, current and future experiences. The data in this study had a chronology: The researchers similarly structured the findings by having the participants describe their occupational identity, competence, and environment relative to their current status and the plan.

2.2 Sampling

The participants were chosen through a purposive sampling method. This nonrandom sampling method is frequently employed in qualitative research designs to select individuals or surroundings possessing a specific characteristic (Fitzgerald et al., 1997, p. 6). The researcher selected this sampling technique because it gathers accurate data from subjects based on the study's requirements. Qualitative research is generally conducted by asking questions to a relatively small sample of subjects and gathering detailed data (Fitzgerald et al., 1996, p. 221). In purposive sampling, the researcher will choose the sample according to the researcher's judgment. The case was selected intentionally for the study. However, purposive sampling necessitates careful consideration of the population parameters relevant to choosing a sample case.

According to Galanty (2000: Purposeful sampling) (337), the researcher utilizes their judgment to choose a sample that they know will provide them with the required data rather than simply studying accessible to anyone. Sampling for statistical purposes is representative and usually used in small-population qualitative research.

Harviland (1996:4-10) asserted that 4-12 individuals are essential for qualitative research. It will give a representative picture of such a small number of participants. Due to this, the researcher sourced data from SLTs who could achieve the study's purpose as per the inclusion criteria. Purposive sampling strategies help illuminate the experiences of selected individuals and groups, theories, and concepts. In Bangladesh, speech and language therapists are currently involved in spinal cord injury (SCI) rehabilitation only at the Centre for the Rehabilitation of the Paralyzed (CRP). As no other SCI rehabilitation settings in the country provide speech and language therapy services, the study sample was recruited exclusively from CRP. Under these conditions, a sample group of ten participants was chosen for this study.

2.3 Study Place

The research was conducted in Spinal Cord Injury (SCI) unit of Speech & Language Therapy (SLT) department at the Centre for the Rehabilitation of the Paralyzed (CRP), Savar, Dhaka.

2.3.1 Study Population

The participants will consist of Speech and Language Therapists who are currently working with SCI patients in a clinical rehabilitation setting and also those who have work experience in SCI rehabilitation unit.

2.3.2 Informed Consent

The researcher created a consent form in English {Appendix- 1(a)} and Bengali {Appendix- 1(b)} to obtain participant consent. The researcher secured consent from participants interested in the study by signing a written consent form. Moreover, the researcher must assure all participants that their involvement in the study did not influence them. The researcher also kept the participants' information secret, which will never be shared with anyone. The researcher told the participants the purpose of using the interview data for the study. The researcher informed the participants that their identities and addresses would be kept anonymous during the survey, and they could withdraw at any moment

2.3.3 Field Test

Initially, the researcher conducted a field test involving one participant to serve as a test case for data collection. The field test must occur during the final data collection phase to enable the researcher to assess the data collection plan. The researcher communicated the study's aim and objectives to the participants during the interview. This assessment facilitated the identification of errors and deficiencies within the questionnaires. The investigator reorganized the questionnaires to enhance transparency, clarity, and suitability for participants and the study. The field test revealed the participants' challenges in comprehension. The participant's interview data was not analyzed due to time constraints. The researcher generalized the interview context and participants' responses while assessing the appropriateness of the data-gathering process. The reactions to these selected questions assist the researcher in modifying the questions as needed. This additionally aids in restructuring the framework of the questionnaire. The questionnaire was structured in a specific format and was developed in both Bengali

{Appendix-2(b)} and English {Appendix-2(a)}. Initially, the audio recording of the field test was transcribed to collect the data. The translation was later rendered into English. The field test assisted the researcher in formulating a data collection plan and

various techniques for inquiring and probing to ascertain the participants' accurate responses to the event.

2.3.4 Inclusion Criteria

- SLTs with experience of working with SCI patients.
- SLTs working in rehabilitation settings, such as rehabilitation centers, or specialized SCI units.
- Intern SLTs with a minimum of 1 month of experience working with SCI patients.

2.3.5 Exclusion Criteria

- SLTs without direct work experience with SCI patients.
- SLTs working in non-rehabilitation settings (e.g., outpatient clinics).
- Subjects who are unwilling to participate in this study will be excluded.

2.3.6 Participants Overview

This study comprised 10 Speech and Language Therapists (SLTs). Purposive sampling techniques were used to select the participants. The next page in the table gives an overview of the identified participants.

Table: Participants Overview

ID	Age	Gender	Work settings	Experience (Years/Month)	Work at SCI unit as
P01	29	Female	Rehabilitation Centre	10 month	Staff
P02	28	Female	Rehabilitation Centre	5 month	Intern
P03	33	Female	Rehabilitation Centre	1 year	Staff
P04	30	Female	Rehabilitation Centre	2.4 year	Staff
P05	26	Female	Rehabilitation Centre	3 month	Intern
P06	35	Female	Rehabilitation Centre	4 year	Staff
P07	25	Male	Rehabilitation Centre	2 month	Intern
P08	25	Female	Rehabilitation Centre	2 month	Staff
P09	25	Female	Rehabilitation Centre	1.5 month	Intern
P10	28	Male	Rehabilitation Centre	6 month	Intern

2.4 Data Collection

2.4.1 Data-Collecting Instrument

Semi-structured interviews were conducted using standardized questionnaires with experienced speech and language therapists to identify the issues they encounter in their profession and the strategies to overcome them. During the interview, English questionnaires were translated into Bengal for the participants. At that time, some other required materials, such as a pen, pencil, stopwatch, white paper, and clipboard, were also used. The investigator received permission using a written consent form for each participant.

2.4.2 Data Collection Method

Questions from the questionnaire were asked of participants, and data was collected, taking about 15 to 20 minutes on average. The questions were answered broadly by participants.

2.4.3 Data Collection Procedure

First, the investigator explained to the participants the importance of conducting this research, the study's aim, and the study's objectives so that knowledge about the study is given to the participants. This would make the therapist willing to participate and answer the paper correctly. After that, the investigator explained how to fill out questionnaires and took the signature on the consent paper. The investigator set the sample for the qualitative part, and permission was requested to interview for about 15-20 minutes while maintaining confidentiality. To avoid disturbance, the interview section was done in a quiet room. A mobile phone was used to record the interview with participant consent, and other information was recorded on paper.

2.4.4 Data Analysis

Thematic analysis was used to analyze the interview data since it allows for a more in-depth comprehension and precise description of the data collected. Finding the meaning of the data with research questions ends with identifying themes (Thematic Analysis, 2013). I followed the six steps of thematic analysis (Braun & Clarke, 2013). First, the student researcher discussed the analysis steps with the supervisors, described below.

Step 1: Getting Familiar with the Data

The researcher transcribed the audio-recorded interviews in Bengali verbatim. One of the first ways the student researcher familiarized herself with the data was by having a student researcher translate the interviews into English. The data were analyzed using the translated transcripts. As the student researcher translated, she understood the subjective meanings in depth. The critical points were marked with highlighters.

Step 2: Generating Initial Codes

In this step, the student researcher produced the initial codes by writing the meaning of the highlighted points. The student researcher and supervisors also discussed how the initial codes will be developed. We coded all the interesting features systematically across the data set. I noticed that there was a consistent way that they wrote down what the same or similar features meant. For example, when the student researcher wrote the meaning of the initial codes for similar responses by different participants to the same question from the interview guide, she used the same word.

Step 3: Searching for Tentative Themes

The third phase involved the student researcher writing codes and line numbers from every interview on sticky notes. Those with similar ideas were then grouped by laying the sticky notes on a wall to see what potential themes might work. This process was repeated for each interview.

Step 4: Reviewing Themes

The student researcher created an initial thematic map that was discussed with supervisors. This discussion helped identify the themes and subthemes. Seven potential themes and a few subthemes were identified at this stage.

Step 5: Defining and Naming Themes

Seven themes were arrived at after revising and refining themes and sub-themes. They then created a clear name and definition for each theme and sub-theme. A Using and sub-themes.

Step 6: Producing the Report

Finally, at the last step of the analysis, the student researcher began to create the report based on the interpretation made by centering on the evidence that answered the research question. The essence of the themes was put in the report, and quotations from

the participants were used to clarify subjective messages from the participants and to understand them by the researcher.

2.4.5 Ethical Considerations

- Ethical clearance was obtained from the Bangladesh Health Professions Institute (BHPI) Institutional Review Board (IRB) before data collection. This approval ensured that the study design, data collection, and analysis adhered to ethical principles and institutional guidelines.
- Obtain informed consent from all participants before data collection, ensuring confidentiality and anonymity.
- Adhere to ethical guidelines and standards in conducting research involving human subjects, including respect for autonomy, beneficence, and justice.
- Ensure the privacy and confidentiality of sensitive information collected during the research process.

CHAPTER 3 RESULT

Findings from the qualitative study that explored the factors that complicate Speech and Language Therapy treatment sessions in SCI rehabilitation settings from the therapists' perspective are presented in this chapter. The results are grouped thematically based on data collected from semi-structured interviews with SLTs working in SCI rehabilitation settings (rehabilitation centers). Data analysis revealed seven key themes, each including several sub-categories that address particular aspects of the challenges faced by participants.

This chapter presents the thematic analysis of the factors complicating Speech and Language Therapy (SLT) sessions in Spinal Cord Injury (SCI) rehabilitation settings, as viewed from the perspective of the therapists. Based on the responses to a semi-structured questionnaire, the data is categorized into key themes and sub-themes. These themes reflect both the challenges faced by SLTs and the strategies they employ to manage these issues.

This chapter presents each theme systematically. Each theme is introduced with an overview, and then each associated category is explored in detail, with verbatim quotes from participants used to demonstrate authenticity and represent their voices. These findings conform with the study's research objectives and seek to answer the key research questions.

Table 3.1 on the next page provides an overview of the seven themes.

Table 3.1: Overview of Themes and Subthemes

Theme	Sub-theme
1. Patient-Related Challenges	- Cognitive Difficulties
	- Motivations and Engagement
	- Physical Limitations
2. Environmental Factors	- Room Location and Accessibility
	- Noise and Distractions
	- Limited Space
3. Institutional Challenges	- Workload and Staffing Issues
	- Scheduling Conflicts
	- Resource Limitations
4. Therapist-Related Factors	- Stress and Time Management
	- Lack of Formal Training
5. Impact on Therapy Outcomes	- Frequency and Consistency
	- Duration of Sessions
	- Patient Progress and Improvement
6. Strategies and Solutions	- Increasing Staffing
	- Improving Room Conditions
	- Enhancing Resources
7. Desired Improvements and Future Needs	- More Therapists and Interns
	- Better Facility Design
	- Improved Support Systems

3.2 Theme 1: Patient-Related Challenges

It focuses on the difficulties patients face during their therapy, particularly in the context of Spinal Cord Injury (SCI). These challenges include psychological barriers, such as demotivation and depression, which hinder regular participation in therapy. Patients also struggle with the physical and cognitive complexities of SCI, impacting their ability to engage in exercises and practice at home. Additionally, the infrequency of therapy sessions and missed appointments due to illness or forgetfulness disrupt the consistency of treatment, further slowing progress.

The theme is highly relevant to Speech and Language Therapy (SLT) practice in SCI because patient engagement and motivation are critical to successful outcomes. SLT interventions for SCI patients often involve addressing communication, swallowing, and respiratory issues, which require consistent practice and collaboration between therapists and patients. The challenges mentioned highlight the need for personalized therapy plans, psychological support, and consistent treatment schedules to overcome barriers and improve patient outcomes. Recognizing these challenges helps SLTs tailor their approach, ensuring therapy is as effective and motivating as possible.

3.2.1 Cognitive Difficulties

Many patients with SCI presented cognitive impairments that made it difficult for them to follow instructions or engage in tasks. For instance, patients with low breath support often struggled to understand the therapist's instructions on breathing exercises, even after demonstrations. This cognitive difficulty extended the time required for each task, slowing down the therapeutic process.

> *"The biggest challenges I faced were related to cognitive difficulties."* – Participant 01
>
> *" For patients with cognitive impairments, understanding instructions was often difficult. I had to explain instructions in multiple ways."* – Participant 02
>
> *" In my case, the patient-related factors include some physical limitations. For example, some of my patients have cognitive impairments. In such cases, many times, for the main voice problems, we do breath support exercises and give small-step instructions to perform our exercises. But if patients with cognitive*

impairments they cannot understand these, then I feel that this environment becomes challenging for me. "– Participant 08

" Well, the issue I faced the most in the SCI rehabilitation unit was that patients had poor memory retention; in other words, the cognitive difficulties were the biggest challenge. They often could not remember things. For example, if a spinal cord injury patient's breath support decreases, our first task is to help increase their breath support. But when the patient has cognitive impairment, they forget. They cannot follow my instructions properly. Even if I give them homework to do at home—exercises they should do—they often do not remember to do them. Sometimes they arrive late or leave early, not according to the therapy schedule. So, in my experience, these issues were the most challenging. "– Participant 09

" Another major challenge is psychological and cognitive issues. Cognitive impairment is quite common among SCI patients. Based on my long experience working in the SCI unit, and through both assessment and personal interactions beyond therapy, I have observed that many patients experience mental health problems and cognitive impairments. "– Participant 10

The findings show that cognitive impairments are a major challenge in Speech and Language Therapy (SLT) for SCI patients. Patients with cognitive difficulties struggled to understand and follow instructions, especially for tasks like breath support exercises. SLTs often had to explain instructions multiple times and break tasks down into smaller steps.These cognitive challenges made therapy less efficient, as therapists had to spend more time repeating tasks and adjusting to patients' cognitive limitations. As a result, therapy outcomes were slower and less consistent.

In summary, cognitive difficulties significantly complicate SLT sessions in SCI rehabilitation, requiring more time and effort from therapists, which impacts the overall effectiveness of therapy.

3.2.2 Motivation and Engagement

A significant barrier in therapy was the lack of patient motivation. New patients often perceived the therapy tasks as simple and did not see the value in attending sessions. As a result, many patients missed scheduled appointments, requiring frequent counseling to encourage their participation.

"Many SCI patients feel that their life has ended after the injury, leading them to question the effectiveness of speech therapy. We have to spend considerable time counseling them to help them understand the benefits of rehabilitation." – Participant 02

"When we begin working with these patients, one of the biggest challenges we face is their lack of motivation. Many patients feel that their life has come to an end and question how much improvement therapy can realistically offer them. At that point, we focus on counseling. ." – Participant 03

"Motivation is always an important factor for this type patients." – Participant 04

"We need to motivate them psychologically and help them become mentally stronger. If they break down mentally, they cannot properly perform the exercises or tasks we give them. Their attention becomes poor, and they do not practice properly outside the therapy sessions as instructed. This has a significant negative impact on their overall improvement and recovery." – Participant 05

The lack of motivation was identified as a significant challenge in SCI rehabilitation. Many patients perceive the therapy as simple and question its effectiveness, often leading to missed appointments and disengagement. This lack of motivation is largely driven by psychological distress, with patients feeling that their life has ended post-injury. Therapists spend considerable time counseling patients to help them understand the benefits of therapy and encourage participation.

Without strong mental resilience, patients struggle to focus, and their progress slows. As noted by participants, psychological support is essential, as patients who do not engage mentally cannot effectively complete tasks, hindering their overall recovery. This highlights the need for motivational counseling in SLT, which is crucial for maintaining patient engagement and improving therapy outcomes.

3.2.3 Physical Limitations

A major challenge identified by SLTs working with SCI patients is the physical limitations resulting from the injury. Several therapists emphasized that many SCI patients struggle with physical impairments, particularly issues with movement, breathing, and motor control, which significantly impact their participation in speech

therapy. Patients with tetraplegia or paraplegia experience difficulties in maintaining posture or breath support during speech exercises, leading to compromised therapy outcomes. These physical barriers often require SLTs to adjust their therapy techniques to accommodate the patients' limitations.

> *"The most significant challenges I faced were related to patients' physical limitations. I often had to go ward to ward to locate patients. I provided therapy at the bedside."* – Participant 02

> *Many patients question how much therapy can help them when physical impairments are more prominent. We focus on counseling to help them understand the importance of speech therapy."* – Participant 03

> *"Many patients with physical impairments focus on their inability to move, and as a result, they overlook speech therapy, which they feel is secondary."* – Participant 05

The psychological impact of these physical limitations also contributed to low motivation. Many patients, particularly those newly injured, felt their lives had come to an end and questioned the relevance of therapy, especially when physical recovery seemed more urgent.

These challenges, combined with the lack of motivation, slowed progress and reduced the effectiveness of therapy.

3.3 Theme 2: Environmental Factors

It highlights the role of the physical and logistical environment in influencing the effectiveness of Speech and Language Therapy (SLT) for Spinal Cord Injury (SCI) patients. Environmental factors include the size and location of therapy rooms, noise levels, and accessibility for patients with mobility challenges. The therapy room's proximity to patient wards, its layout, and its ability to provide a quiet, distraction-free space are crucial for ensuring that therapy sessions are focused and productive. Additionally, the availability of appropriate resources, equipment, and support staff can either facilitate or hinder the therapy process.

This theme is directly relevant to SLT practice in SCI, as a well-designed environment significantly impacts the quality of therapy provided. For SCI patients, a quiet, spacious, and accessible therapy room allows therapists to better engage patients, especially those with cognitive and physical impairments. The importance of reducing noise and increasing accessibility for patients with mobility issues highlights the need for therapists to have a suitable environment to deliver specialized treatments for communication, swallowing, and respiratory issues. Optimizing the physical environment can lead to more efficient therapy, improved patient focus, and better overall outcomes.

3.3.1 Room Location and Accessibility

The distance between the SLT room and the patient ward created logistical challenges, with significant time spent moving patients to and from the therapy room. This affected the overall efficiency of each session, reducing the time available for therapy.

> *"The Speech and Language Therapy room in the SCI unit was located quite far from the ward. Because of this, bringing patients to the room involved a lot of hassle, and at times I had to repeatedly go back and forth to bring patients, which wasted a significant amount of time."* – Participant 01

> *"Patients who cannot move independently face a major barrier due to the distance. When caregivers are absent, patients often miss their sessions."* – Participant 02

"The therapy room is far from the ward, and many patients, especially those in wheelchairs, couldn't easily reach the room. This led to patients missing their therapy sessions."– Participant 06

The location of the therapy room and accessibility challenges were identified as major barriers in the effective delivery of therapy for SCI patients. The distance between therapy rooms and patient wards created a significant obstacle for patients with mobility impairments, particularly those who were wheelchair-bound. This often resulted in missed sessions or delayed therapy, as patients found it physically difficult to navigate the distance without assistance.

Therapists emphasized that the lack of caregivers or support staff further exacerbated this issue. When caregivers were unavailable, many patients couldn't attend therapy, leading to interrupted care and inconsistent therapy schedules. This inconsistency hindered progress, as regular therapy attendance is essential for achieving optimal outcomes in rehabilitation.

The location of therapy rooms and the inaccessibility for patients underscore the importance of closer and more accessible therapy spaces. Having therapy rooms nearer to the wards and ensuring that patients have the necessary support to reach these spaces would significantly improve therapy engagement and continuity of care. This finding highlights a critical area for improvement in facility design and patient logistics to ensure that therapy is consistently delivered and accessible to those who need it most.

3.3.2 Noise and Distractions

The therapy room's proximity to a generator room created a noisy environment, particularly during power outages when the generator was running. This forced the SLT to raise their voice, disturbing both the patients and the overall therapy process. Additional distractions came from external noise, including conversations from nearby patients.

" Since the therapy room was located next to the generator room, whenever there was a power outage and the generator was running, I had to speak very loudly. This caused irritation and distraction for the patients." – Participant 01,09

" The therapy room was located near the generator room, and whenever the generator was running, it was very difficult for patients to concentrate. The noise made it hard for them to focus on the therapy tasks." – Participant 02, 07

"Patients often get distracted by people passing by or asking questions during therapy. This constant interruption significantly disrupts their concentration and progress." – Participant 03

"Also, since treatment was provided in an open space, accessibility was open to everyone. Dining trolleys and people moving around created a lot of noise. These issues occurred frequently in almost every session during the initial period." – Participant 04

The noise from the nearby generator room and external distractions like people passing by or talking, created a disruptive environment that affected the therapy process. Therapists had to raise their voices to be heard, which made it difficult for patients to focus on the therapy tasks, slowing their progress. These disruptions led to frustration and decreased patient engagement, negatively impacting therapy outcomes.

The therapy room was situated in a nursery hostel, where other patients' activities often interfered with therapy. Patients in adjacent rooms would engage in conversations, creating distractions that affected the attention and engagement of patients in therapy.

To address these issues, it is crucial to create a quiet, distraction-free environment for therapy. This could be achieved by relocating therapy rooms to quieter areas or improving soundproofing. By reducing external distractions, patients would be able to concentrate better, enhancing the overall effectiveness of SLT sessions and improving patient progress.

3.3.3 Limited Space

The small size of the therapy room restricted the SLT's ability to work with multiple patients at once. The cramped space made it difficult to move around and provide support to more than one patient simultaneously, further limiting the effectiveness of the therapy sessions.

" Because the room was small, I could not see more than one patient at a time. Even if I tried to, there was no space to move around properly. I could not reach

a second or third patient easily, and if a patient needed physical support with materials, that was also very difficult to manage." – Participant 01

"When patients come to us for therapy, our room does not have sufficient space. Often, two or three patients arrive at the same time, and we are unable to start sessions for all of them simultaneously. As a result, patients have to wait, and sometimes they become irritated and leave." – Participant 05

"However, compared to the increasing number of patients, the SCI unit area is very small. Due to patient overcrowding, overflow becomes a major issue. ." – Participant 07

"Since the room was small, when more than two patients came at the same time, it was impossible to accommodate everyone. ." – Participant 09

The limited space in the therapy room significantly hampers the effectiveness of Speech and Language Therapy (SLT) sessions. The cramped environment restricts the SLT's ability to work with multiple patients at once, making it difficult to provide individual attention and support to more than one patient simultaneously. This not only affects the flow of therapy but also makes it challenging for therapists to offer physical support or assist patients with materials. The small room size results in increased wait times for patients, leading to frustration and, in some cases, causing them to leave without receiving therapy. Overcrowding becomes an issue, particularly when multiple patients arrive for therapy at the same time, further exacerbating the space limitations. As the number of patients increases, the therapy room’s limited size creates a bottleneck, reducing the overall efficiency and effectiveness of the therapy process. In essence, the lack of sufficient space compromises the quality of care, making it difficult to manage patient flow and provide optimal support during sessions.

3.4 Theme 3: Institutional Challenges

It focuses on the systemic and organizational issues that impact the delivery of effective Speech and Language Therapy (SLT) for Spinal Cord Injury (SCI) patients. These challenges include limited staffing, insufficient resources, and lack of specialized training for therapists. Institutions often struggle with high patient loads, inadequate financial support, and inflexible administrative systems that hinder the ability to provide consistent, high-quality care. The lack of specialized equipment and therapeutic materials, combined with limited training opportunities for SLTs, further compounds the problem, affecting the overall treatment and progress of SCI patients.

This theme is highly relevant to SLT practice in SCI, as the effectiveness of therapy is heavily influenced by the institutional environment in which it is delivered. Increased staffing and specialized training are essential for addressing the complex needs of SCI patients, especially those requiring interventions for speech, swallowing, and respiratory issues. Resource limitations can lead to infrequent therapy sessions and inconsistent care, which significantly impacts patient outcomes. Therefore, addressing institutional challenges by improving support systems, providing adequate training, and securing necessary resources is crucial for enhancing the quality of SLT services and achieving better results for SCI patients.

3.4.1 Workload and Staffing Issues

The SLT working in the SCI unit often handled all aspects of patient care independently, as there was no support from additional SLTs or interns. This heavy workload, combined with administrative tasks like scheduling and coordinating with other healthcare professionals, created significant stress and burnout for the therapist.

> *" The workload was extremely high because I was working alone. If there had been two or three Speech and Language Therapists, the workload could have been distributed more evenly."* – Participant 01, 07

> *" The biggest challenge we face is a lack of manpower. The number of patients far exceeds the number of available staff or interns. Often, the same therapist has to manage patient sessions, attend rounds, and participate in meetings simultaneously."* – Participant 03

" Regarding institutional challenges, one major issue is that the number of patients is much higher than the number of therapists. Every week, new patients are admitted who require assessment, while existing patients also need therapy schedules. If there were more therapists, the workload could be shared and services could be delivered more effectively." – Participant 05,09

" We work in a multidisciplinary team (MDT), we have to attend other therapies, group therapies, meetings, and ward rounds. At the same time, the number of SLT therapists here is limited. Because of this, it becomes very difficult to maintain proper schedules, and it is not possible to provide therapy to all patients every week. This significantly hampers SLT service delivery." – Participant 06,08

The statements highlight the significant challenges faced by Speech and Language Therapists (SLTs) in the SCI unit due to high workload and insufficient staffing. Many therapists are required to manage all aspects of patient care independently, with no support from additional SLTs or interns, which leads to stress, burnout, and compromised service delivery. The heavy workload, compounded by administrative tasks like scheduling and coordinating with other healthcare professionals, leaves therapists overwhelmed and struggling to balance patient care with other responsibilities.

The shortage of staff is a key issue, with the number of patients consistently exceeding the number of available therapists. This imbalance forces therapists to juggle multiple roles, such as managing patient sessions, attending rounds, and participating in meetings simultaneously, which significantly impacts their ability to provide adequate care. As noted by several participants, if there were more SLTs or interns available, the workload could be better distributed, enabling more effective service delivery and reducing the stress on individual therapists. The lack of sufficient staffing also hampers the ability to maintain proper therapy schedules, leading to delays in patient treatment and reduced therapy frequency. Ultimately, these staffing and workload challenges undermine the quality and effectiveness of SLT services, affecting both the therapists' well-being and patient outcomes.

3.4.2 Scheduling Conflicts

The SLT faced scheduling conflicts due to the lack of staff. The inability to see multiple patients simultaneously, as permitted for other healthcare professionals, led to inefficiencies. When several patients arrived at the same time, it became difficult to attend to them properly, resulting in longer waiting times and frustration.

> *" I had to identify the biggest barrier in the SCI unit, it would be scheduling issues."* – Participant 01
>
> *" There were no fixed time slots for patients, which caused frequent overlaps with physiotherapy and occupational therapy schedules. As a result, I often had to change patient schedules instantly. Although SLT ideally requires one-on-one sessions, I sometimes had to conduct double sessions by seeing two patients at the same time. This was very challenging."* – Participant 02
>
> *Scheduling is another major problem. Often, the time allocated for speech therapy overlaps with physiotherapy or occupational therapy sessions. Schedules frequently change, and proper collaboration is not always maintained.* – Participant 05, 08,09

The statements emphasize the significant scheduling challenges faced by Speech and Language Therapists (SLTs) in the SCI unit, primarily caused by the lack of staff and coordination. The absence of fixed time slots for patients leads to frequent overlaps with other healthcare services like physiotherapy and occupational therapy, causing disruptions in therapy schedules. As a result, SLTs often have to make last-minute changes to patient appointments, which not only creates inefficiencies but also affects the quality of care provided.

The inability to see multiple patients at once, unlike other healthcare professionals, further complicates the situation. In some cases, therapists have to conduct double sessions, seeing two patients simultaneously, which is not ideal for the one-on-one nature of speech therapy. This compromise leads to challenges in providing personalized and focused care to each patient. Additionally, the lack of proper collaboration between different therapy departments exacerbates the scheduling conflicts, further increasing stress on the SLTs. Overall, these scheduling issues create longer waiting times for patients, causing frustration and delays in treatment, while also

making it difficult for therapists to manage their workload effectively and provide consistent, high-quality therapy.

3.4.3 Resource Limitations

The SLT room was poorly equipped, with limited materials available for therapy. Often, the therapist had to borrow materials from other departments, which was time-consuming and disrupted the flow of therapy. The small space further exacerbated the challenge, as it was difficult to store materials, limiting the variety of therapy activities and making the sessions monotonous for patients.

> *" The biggest challenge was the lack of resources and materials in the SLT room. If I wanted to conduct a specific activity, I had to borrow materials from other departments. Since the room was small, storing many materials was also very difficult."* – Participant 01,09

> *" There were also insufficient materials. Only a few specific materials were available, which I had to carry with me since there was no room. Some materials were stored in the department, while others I had to carry around while moving between patients."* – Participant 02

> *" One very important barrier for SLT services in SCI patients is the lack of resources. SCI patients often have voice and swallowing problems. For swallowing assessment, we performed clinical and symptomatic tests. But if we had access to tools like video fluoroscopic swallowing studies or bedside video fluoroscopy, we could directly see—through X-ray or video—where food was getting stuck. If such facilities were available, assessments would have been much more precise, and treatment would also have been more targeted. During that time, we constantly felt disturbed by this limitation, and unfortunately, this problem still exists. ."* – Participant 04

> *" Another issue is limited resources. The materials needed to address patients' problems—such as for breath support or voice loudness—are insufficient. Patients who need more support for speaking or breathing face more challenges than we can provide. Altogether, these factors create barriers for delivering SLT services. ."* – Participant 08,10

The statements highlight significant resource and equipment shortages in the SLT room, which disrupt therapy sessions and hinder effective care. The lack of materials

forces therapists to borrow items from other departments, wasting time, while the small room size limits storage and the variety of activities. This can lead to monotonous therapy, reducing patient engagement. Additionally, the absence of advanced tools for voice and swallowing therapy impairs assessment accuracy and treatment effectiveness. The overall scarcity of resources affects both diagnosis and care, compromising the quality of SLT services and patient outcomes.

3.5 Theme 4: Therapist-Related Factors

It focuses on the personal and professional challenges that therapists face when providing Speech and Language Therapy (SLT) for Spinal Cord Injury (SCI) patients. These factors include therapist workload, lack of specialized training, and the emotional and physical demands of working with SCI patients. Therapists may experience time constraints due to high patient loads, which can lead to rushed or ineffective sessions. Additionally, without sufficient training in specialized SCI-related areas, such as swallowing difficulties, respiratory issues, or communication impairments, therapists may struggle to provide optimal care. The emotional toll of working with patients facing significant physical challenges can also affect the therapist's ability to maintain focus and motivation.

This theme is critical to SLT practice in SCI because the therapist's expertise, emotional resilience, and ability to manage a high workload directly impact the quality of care provided. For SCI patients, effective therapy requires therapists to have in-depth knowledge and skills in managing the complex and multifaceted nature of their conditions. When therapists are adequately trained, have manageable workloads, and receive emotional and professional support, they can provide more personalized, effective, and compassionate care. Addressing these therapist-related factors is essential for improving patient outcomes and ensuring that SCI patients receive the best possible therapy.

3.5.1 Stress and Time Management

The heavy workload placed considerable stress on the SLT, often resulting in burnout. The therapist had little time for breaks, and when time was allocated to one patient, others had to wait. This led to rushed sessions and compromised care, further adding to the stress.

> *" I worked alone, I had to handle everything myself. I experienced a great deal of stress. At times, I did not even have time for breakfast, and more than half of my lunch break was spent seeing patients. If I spent extra time with one patient, I had to rush another session or patients would be left waiting outside for long periods. By the time I finished seeing patients, I felt extremely stressed and overwhelmed."* - Participant 01

" Due to limited staff in SCI, one or two therapists had to manage around 40 patients. Each therapist often had to see 15–20 patients daily. This created significant stress, as documentation, treatment planning, and implementation were all required. Managing this workload alone or with limited staff was not feasible. If three to four staff members had been available, patient distribution, planning, and implementation would have been much more manageable. The lack of staff significantly increased work-related stress."- Participant 02

" As an SLT working with SCI patients, I often have to see many patients simultaneously. This is stressful because I have to reach all patients equally and repeat instructions multiple times. For example, if I have three or four patients together, I cannot explain once; I need to explain separately to each patient, which is stressful."- Participant 08.

" Time constraints are also critical. Ideally, an SLT session should last 45 minutes, but in SCI settings, we often can provide only 15–20 minutes per patient. If more SLTs were recruited, patients would receive longer sessions and better-targeted treatment. ."- Participant 10

Results indicate that the stress and burnout faced by Speech and Language Therapists (SLTs) due to overwhelming workloads, limited staff, and time constraints. Therapists often handle 15-20 patients a day with little time for breaks, leading to rushed sessions and compromised care. The lack of additional staff prevents the distribution of tasks, adding to the stress. Session lengths are often limited to 15-20 minutes, instead of the ideal 45, further hindering personalized care. The constant pressure to manage multiple patients at once results in exhaustion and reduced job satisfaction, ultimately affecting the quality of SLT services.

3.5.2 Lack of Formal Training

It refers to the absence of structured, official education or professional development programs in a specific field or area. It suggests that individuals, in this case, Speech and Language Therapists (SLTs), may not have received the necessary or standardized training that equips them with the essential knowledge, skills, and qualifications to perform their job effectively. This lack of formal training can lead to challenges in performing tasks, understanding new techniques, or providing high-quality care, as they

might not have been exposed to the latest practices or comprehensive training that would be expected in their role.

> *" During my nine months of work, I received no formal training from the institution."* – Participant 01,04

> *" I have been working in the adult part of the SCI unit for two months, but I have not received any official training related to this. Training or knowledge in this area would have been helpful."* – Participant 08

Despite working in the SCI unit for nine months, the SLT did not receive any formal training. The therapist relied on knowledge gained during academic studies and through self-learning. This gap in formal professional development hindered the therapist's ability to implement the most effective strategies for complex patient needs.

3.6 Theme 5: Impact on Therapy Outcomes

It focuses on how various factors, including patient-related challenges, environmental conditions, institutional support, and therapist-related factors, influence the overall effectiveness of Speech and Language Therapy (SLT) for Spinal Cord Injury (SCI) patients. The theme highlights that inconsistent therapy, limited resources, and patient motivation significantly affect progress and recovery. When therapy sessions are irregular, shortened, or interrupted, patients experience slower progress, and in some cases, fail to achieve expected outcomes. The lack of proper training, inadequate support systems, and environmental constraints also contribute to suboptimal therapy outcomes.

This theme is directly relevant to SLT practice in SCI because the effectiveness of therapy depends on a combination of factors that influence how well patients respond to treatment. Regular, focused therapy with proper resources and a supportive environment is essential for SCI patients to make meaningful progress, particularly in areas like speech, swallowing, and respiratory management. Addressing the barriers identified in this theme can lead to improved outcomes, making it crucial for SLTs to advocate for better therapy conditions, continuous training, and consistent patient engagement to achieve the best possible results for SCI patients. The combination of patient-related, environmental, institutional, and therapist-related challenges impacted the overall quality, frequency, and effectiveness of therapy sessions.

3.6.1 Frequency and Consistency

Due to the limited number of therapy sessions (twice a week), patients' progress was slow. The infrequency of therapy sessions, combined with missed sessions due to illness or forgetfulness, disrupted the consistency of treatment, affecting the overall outcomes.

> *"Speech and Language Therapy is ideally required daily for SCI patients. However, we could only provide therapy twice a week. Even within those two days, patients sometimes missed sessions due to illness or forgetting. As a result, some patients missed an entire week of therapy, which caused significant setbacks in progress. In such cases, the improvements achieved earlier were often lost, and I had to spend additional time regaining that progress. Consistency was not maintained, and session duration was limited. If more time*

had been available, better improvement could have been achieved." – Participant 01,09

"Patients often received shorter therapy sessions, and sessions were frequently interrupted due to schedule overlaps or patient illness. As a result, therapy was inconsistent. Without regular practice and consistent sessions, expected therapy outcomes could not be achieved, and progress was slower." – Participant 02

"Many times, sessions cannot be conducted regularly. Due to the high number of patients, gaps occur between sessions. A patient may initially receive two or three sessions per week, but as more new patients are admitted, the frequency often reduces to one session per week. Because of these gaps, patients lose motivation and gradually lose interest in therapy." – Participant 05

"Many patients cannot receive the recommended number of therapy sessions per week. Ideally, they should receive therapy three to four times a week, but often they receive only one or two sessions. Additionally, patients frequently do not practice the exercises we assign for home or ward practice. As a result, they do not achieve the expected level of improvement. When patients first arrive, many are highly demotivated and believe that nothing will improve." – Participant 06,07

The statements highlight challenges in providing effective therapy for spinal cord injury (SCI) patients due to limited therapy frequency and inconsistent session durations. Patients ideally need daily therapy, but only two sessions per week were available, leading to slow progress. Missed sessions, often due to illness or forgetfulness, caused setbacks, while shortened or interrupted sessions further hindered recovery. Gaps between therapy sessions resulted in demotivation, and many patients failed to practice exercises at home. This lack of consistency, combined with reduced patient engagement and low expectations, contributed to slower recovery. More frequent sessions and better patient involvement in self-practice could improve outcomes.

3.6.2 Duration of Sessions

The respondents explained that with only 30 minutes allocated per session, the SLT was unable to address all the issues patients faced. The brief duration of therapy, combined with the high patient load, slowed patient progress and limited the ability to provide in-depth treatment.

"Due to excessive workload, I had to complete sessions quickly. Thirty minutes was a very short time to address all necessary tasks. It was difficult to repeat activities two or three times within one session, which resulted in slower improvement." – Participant 01,09

When a therapist has to conduct around 20 sessions a day, it becomes extremely difficult to cover all patients within office hours. Therapy sessions become rushed, and completing planned activities becomes challenging. There is constant time pressure, as another patient is scheduled every 10–15 minutes." – Participant 02

Many times, if I could provide a proper 45-minute session regularly, patients would show faster improvement. Due to insufficient session time and irregular scheduling, progress becomes very slow. Improvements that should occur within one or two weeks or within a month often take three to four months." – Participant 07

The statements highlight the difficulties faced by therapists due to the limited duration of therapy sessions and the high patient load, which negatively impacted the quality of treatment and slowed patient progress. The standard therapy session was only 30 minutes, which was insufficient to address all the issues patients faced. Therapists were often under time pressure due to the need to handle a large number of patients, sometimes up to 20 sessions a day, making it challenging to provide thorough and individualized care. As a result, sessions were rushed, and therapists struggled to repeat or adequately complete necessary activities, leading to slower patient improvement. One participant mentioned that with a longer, more consistent session time of 45 minutes, improvements could have been achieved faster, but the insufficient session duration and irregular scheduling led to slow progress. Improvements that should have occurred in a few weeks often took three to four months due to these constraints. This suggests that providing more time per session and reducing the patient load could significantly enhance the effectiveness of therapy and accelerate patient recovery.

3.6.3 Patient Progress and Improvement

The overall progress of patients was hindered by the combination of limited therapy time, insufficient resources, and cognitive challenges. Patients missed out on consistent

care, which resulted in slower improvements and, in some cases, a lack of noticeable progress.

> *" It was difficult to repeat activities two or three times within one session, which resulted in slower improvement. Speech and Language Therapy is ideally required daily for SCI patients. However, we could only provide therapy twice a week. Even within those two days, patients sometimes missed sessions due to illness or forgetting. As a result, some patients missed an entire week of therapy, which caused significant setbacks in progress. In such cases, the improvements achieved earlier were often lost, and I had to spend additional time regaining that progress."* – Participant 01,09

> *" Patients often received shorter therapy sessions, and sessions were frequently interrupted due to schedule overlaps or patient illness. As a result, therapy was inconsistent. Without regular practice and consistent sessions, expected therapy outcomes could not be achieved, and progress was slower."* – Participant 02

> *" Patients frequently do not practice the exercises we assign for home or ward practice. As a result, they do not achieve the expected level of improvement. When patients first arrive, many are highly demotivated and believe that nothing will improve."* – Participant 06

> *" Patients cannot fully focus or achieve their improvement because of all these negative effects. For example, three-month improvement plans cannot be implemented fully if therapy is not delivered daily. Seeing patients once or twice a week due to limited staff slows down their progress."* – Participant 08

The statements highlight Patient progress was slowed due to limited therapy time, insufficient resources, and infrequent sessions. Therapy was provided only twice a week instead of daily, causing setbacks when patients missed sessions. Shortened or interrupted sessions further hindered progress, and patients often failed to practice exercises outside of therapy. Many patients also felt demotivated, believing their condition would not improve. This lack of consistency in therapy and home practice led to slower recovery and made it difficult to achieve planned improvements. More frequent therapy and better patient engagement could enhance progress.

3.7 Theme 6: Strategies and Solutions

It focuses on the approaches and interventions recommended by therapists to overcome the challenges in providing effective Speech and Language Therapy (SLT) for Spinal Cord Injury (SCI) patients. These strategies include increasing staffing levels, improving therapy room conditions, enhancing patient motivation, and expanding resources. Therapists also emphasized the need for specialized training to address the unique needs of SCI patients, such as respiratory management and instrumental assessments. Other solutions include improving therapy consistency by ensuring more frequent and uninterrupted sessions, as well as creating a more structured therapy environment with clearer schedules.

This theme is highly relevant to SLT practice in SCI as it offers practical solutions to improve patient care and therapy outcomes. By implementing strategies like increased staffing, better facility design, and specialized training, therapists can provide more consistent, tailored therapy, leading to better recovery for SCI patients. Additionally, addressing motivational barriers and ensuring patient engagement in therapy and self-practice can enhance the effectiveness of the treatment. Overall, these strategies are critical for overcoming the obstacles faced in SCI therapy and improving the quality of care delivered to patients.

The following sub-themes give an in-depth account of these Strategies and Solutions.

3.7.1 Increasing Staffing

The therapist recommended having more SLTs and interns in the unit to share the workload and increase the frequency of therapy sessions. With additional staff, patients could receive daily therapy, improving their progress and motivation.

> *" There was no intern during my time at the unit, although efforts were made to assign one. I believe there should be at least two qualified Speech and Language Therapists and two interns so that patients can receive daily therapy."* – Participant 01,09
>
> *" The number of therapists should be increased."* – Participant 02,03,10
>
> *" To manage these challenges, additional staff is needed. If there were two CSLTs and two interns, work could be shared properly, patients would receive daily therapy, and everyone could attend meetings. Initially, I had one intern,*

but due to temporary issues, the intern was assigned to support pediatric outdoor patients. That's why I say more therapists and interns are needed. If we had an extra therapist, work here would not be disrupted. Currently, I am working alone, so the problems persist, and nothing can be done effectively." – Participant 08

The therapists emphasized the need for more Speech and Language Therapists (SLTs) and interns to improve therapy consistency and patient progress. With additional staff, patients could receive daily therapy, boosting motivation and outcomes. The current lack of sufficient staff, especially interns, results in a heavy workload for the therapists, leading to inconsistent care. The recommendation was to have at least two SLTs and two interns to better manage the workload and provide more effective treatment. More staff would help alleviate the challenges and ensure better service delivery.

3.7.2 Improving Room Conditions

The SLT emphasized the need for a larger and quieter therapy space located closer to the patient ward. Such improvements would reduce time spent on logistics, minimize distractions, and improve the effectiveness of each session.

" I would again emphasize increasing the number of therapists, expanding the room size, and relocating the therapy room closer to the ward. These changes would help achieve better outcomes in the future." – Participant 01,08

" The current room is not sufficient for therapy services or material storage. A larger room and more manpower are required. Additionally, the SLT room is located far from the wards. If it were closer—like the physiotherapy and occupational therapy rooms—patient accessibility would improve significantly." – Participant 02.09

However, further improvement would be possible if the speech therapy room were larger, allowing us to treat more patients effectively." – Participant 06

The statements stress the importance of improving the therapy room conditions to enhance the effectiveness of Speech and Language Therapy (SLT) sessions. The therapists suggested that a larger therapy space would allow for better treatment and more efficient use of materials, while a quieter environment would reduce distractions and improve patient focus during sessions. Additionally, relocating the therapy room closer to the patient wards would save time on logistics and make it easier for patients

to access therapy, improving overall service delivery. Currently, the room is described as inadequate both in size and in its location, with the distance from the wards hindering accessibility. A larger, more accessible therapy room would allow therapists to treat more patients effectively and improve the quality of care provided.

3.7.3 Enhancing Resources

More materials and resources were deemed essential to keep patients engaged and prevent the monotony of therapy. The availability of diverse materials would allow for more varied and stimulating activities, which could improve patient outcomes.

> *" Many patients struggle with depression and therefore do not practice exercises regularly. To address this, we have introduced new therapy materials, included group therapy sessions, and presented successful case histories to motivate them. Our main focus is to bring patients back to the therapy goals and work cooperatively to achieve them."* – Participant 03

> *" Instrumental assessments and training in those tools are still lacking. Until then, I practiced alternative methods such as symptomatic assessment and direct observation of swallowing. But I strongly believe that instrumental assessment must be introduced through projects or administrative initiatives. Instrumental assessment for swallowing is absolutely essential for SCI patients. Currently, in the SCI unit, instrumental swallowing assessment is the most critical unmet need."* – Participant 04

> *"Increasing the number of materials and resources used for patient therapy would improve the effectiveness of session."* – Participant 01,08

The statements highlight the need for enhanced resources and materials to improve patient engagement and therapy outcomes. Many patients, particularly those struggling with depression, fail to practice exercises regularly, which slows progress. To address this, therapists have introduced new therapy materials, group therapy sessions, and success stories to motivate patients and help them focus on their therapy goals.

Despite these efforts, the lack of specialized resources, such as instrumental assessments for swallowing, was identified as a critical gap. One participant emphasized the importance of instrumental assessments for SCI patients, specifically for swallowing, and suggested that such tools be introduced through projects or administrative initiatives. Overall, increasing the variety and availability of therapy

materials and resources would make therapy more engaging, reduce monotony, and improve patient outcomes.

3.8 Theme 7: Desired Improvements and Future Needs

It focuses on the changes and advancements therapists believe are necessary for improving Speech and Language Therapy (SLT) for Spinal Cord Injury (SCI) patients in the future. These improvements include increasing the number of qualified therapists and interns, enhancing training opportunities, and ensuring greater institutional support, especially in terms of resources and financial backing. Therapists also call for expanded facilities, better therapy room conditions, and more specialized tools to support effective treatment. Additionally, there is a strong emphasis on the need for advanced training in SCI-specific areas, such as swallowing and respiratory management, and integrating instrumental assessments into practice.

This theme is crucial for SLT practice in SCI because it identifies the key areas that need attention to improve therapy outcomes. By addressing staffing shortages, providing specialized training, and ensuring better facilities and resources, therapy for SCI patients can become more consistent, focused, and effective. These improvements would not only enhance the quality of care provided but also support therapists in delivering more individualized and specialized interventions for SCI patients, ultimately leading to better recovery and overall outcomes.

These desired improvements and future needs are discussed in the following sub-themes.

3.8.1 More Therapists and Interns

The need for additional SLTs and interns was a recurring theme. With more staff, therapy could be more regular, consistent, and tailored to each patient's needs, improving overall treatment outcomes.

> *" As mentioned earlier, increasing the number of therapists would allow us to provide much better therapy services."* – Participant 01,02,05,07,08,10

> *" Despite having two therapists now, manpower is still insufficient considering the number of SCI patients. Increasing staff would allow us to provide more sessions according to patient needs. We hope that in the future, more graduates and interns will join, and these challenges will gradually decrease." – Participant 03*

The results indicate the urgent need for additional Speech and Language Therapists (SLTs) and interns to address the challenges in providing adequate therapy for SCI patients. Despite having two therapists currently, the staffing levels remain insufficient for the growing number of patients, leading to limited therapy sessions. Increasing the number of therapists and interns would allow for more regular and consistent therapy, tailored to each patient's specific needs. This would improve the quality of treatment and help meet the demands of patients more effectively. Participants expressed hope that with more graduates and interns joining the team, these staffing challenges would gradually be alleviated, leading to better therapy outcomes.

3.8.2 Better Facility Design

A larger and quieter therapy room closer to the patient ward would greatly improve the logistics and effectiveness of therapy sessions. Reducing noise and increasing space would allow for better patient focus and increased therapist mobility.

> *" As mentioned earlier, expanding and equipping the therapy room, increasing the number of rooms, and relocating them closer to the ward would allow us to provide much better therapy."* – Participant 01,02,06,08,09

> *" Our biggest challenge remains the lack of a proper therapy environment. SLT sessions require high levels of attention, so soundproof rooms are essential. Currently, group therapy sessions are conducted in shared spaces such as radio halls where multiple activities occur simultaneously. Therapists must speak loudly for 45 minutes to an hour without microphones, and excessive noise makes it extremely difficult to maintain patient attention."* – Participant 03

> *" Therapy rooms should be wheelchair-friendly, and access roads should be smooth and well-maintained so patients can easily reach the facility using wheelchairs. Proper scheduling is also crucial. Therapy times should be maintained as scheduled; otherwise, patients become frustrated and demotivated."* – Participant 05

> *" If we could create a separate unit with structured time slots. Additionally, the speech therapy room is very small. A larger, more open space would create a better environment, improve patient mood, and increase engagement."* – Participant 07

The statements emphasize the need for a larger, quieter, and more accessible therapy room to improve the effectiveness of SLT sessions. A larger space located closer to the patient ward would enhance logistics, reduce noise, and improve patient focus. Currently, therapy sessions are disrupted by excessive noise in shared spaces, making it hard to maintain patient attention. The therapy rooms should also be wheelchair-friendly and have well-maintained access roads. Additionally, proper scheduling and a more structured therapy environment would reduce patient frustration and increase engagement. Improving the therapy room design would lead to better therapy outcomes and a more positive patient experience.

3.8.3 Improved Support Systems

The therapist called for more support from the institution in terms of resources, training, and administrative flexibility. These changes would allow for a more effective and efficient therapy process.

> *" Additional support should include developing more materials, and providing adequate professional training. Proper SLT-related training would make services more effective and fruitful."* – Participant 02,08,09,10

> *" More respiratory-related training is needed—how to manage respiratory problems and improve voice outcomes. Instrumental assessment is crucial, and staff should receive specialized training. SCI is a highly specialized condition with both primary and secondary complications affecting voice, communication, and swallowing. Skilled professionals should be recruited and continuously trained, both locally and internationally, or through visiting experts."* – Participant 04

> *" SLT sessions would be more effective if therapists received specialized advanced training focused on SCI and assistive communication devices. Government support is also necessary, particularly financial support, to expand facilities, provide training, and improve overall service delivery."* – Participant 05

The statements highlight the need for improved support systems within the institution to enhance the effectiveness of Speech and Language Therapy (SLT). Therapists stressed the importance of increased resources, such as the development of more therapy materials, and the provision of adequate professional training. Proper SLT-

related training would improve the quality of services and lead to better patient outcomes.

There was also a call for specialized training in areas specific to Spinal Cord Injury (SCI), such as respiratory management, voice improvement, and instrumental assessments. As SCI is a complex condition with both primary and secondary complications affecting voice, communication, and swallowing, therapists emphasized the need for skilled professionals to be continually trained through local and international training or by bringing in visiting experts.

Furthermore, therapists highlighted the importance of specialized advanced training focused on SCI and assistive communication devices. They also mentioned that government support, especially financial backing, is essential for expanding facilities, providing training, and improving overall service delivery, ensuring a more effective therapy process.

CHAPTER 4 DISCUSSION

This study aimed to find out the factors that complicate Speech and Language Therapy treatment sessions in SCI rehabilitation settings from the therapists' perspective. Through thematic analysis of qualitative data, seven key themes emerged: Seven themes were found in the results:

(1) Patient-Related Challenges,

(2) Environmental Factors,

(3) Institutional Challenges,

(4) Therapist-Related Factors,

(5) Impact on Therapy Outcomes

(6) Strategies and Solutions, and

(7) Desired Improvements and Future Needs.

This chapter presents the findings of these research objectives, existing literature, and theoretical frameworks and discusses the implications for practice, policy, and future research.

This study aimed to identify and analyze the factors that complicate Speech and Language Therapy (SLT) treatment sessions in Spinal Cord Injury (SCI) rehabilitation from the perspective of Speech and Language Therapists (SLTs). The findings from the interviews revealed several significant challenges related to patient-related factors, environmental factors, institutional barriers, and therapist-related issues.

The study's findings align with existing literature that highlights the psychosocial impact of SCI on patients, including motivation and cognitive difficulties as critical barriers to rehabilitation success (Berkel et al., 2019). Cognitive impairments, as identified in this study, create significant obstacles for therapists when trying to implement therapy that requires sustained attention, memory, and learning new skills. Additionally, many patients with SCI experience psychological distress, leading to demotivation, which is consistent with earlier studies that underscore the importance of psychological support for SCI patients to ensure effective engagement in therapy (Fournier et al., 2017). Motivational interviewing and counseling strategies, as used by

SLTs in this study, have been shown to improve patient participation and adherence to rehabilitation goals (Gaskin et al., 2020).

Environmental challenges, such as noise and room location, were found to significantly disrupt therapy sessions. The findings are consistent with research suggesting that an ideal therapy environment should be quiet and dedicated to maximize therapeutic outcomes (Maguire et al., 2016). Noise distractions and poorly located therapy rooms were cited by SLTs as major obstacles, especially when working on tasks requiring speech intelligibility and breathing exercises. These findings highlight the need for improved facility design to create a more conducive environment for therapy.

From an institutional perspective, the study highlights the strain caused by workload and staffing issues, which led to time constraints and inconsistent therapy sessions. This aligns with previous studies that report on the challenges faced by SLTs in settings with high caseloads and limited resources (Ward et al., 2018). The absence of formal training in SCI-specific SLT techniques further exacerbated the difficulties therapists face when treating SCI patients, reinforcing the importance of specialized training for SLTs in this field (Smith et al., 2020).

The study also found that patient progress was slowed due to inconsistent therapy sessions and lack of individualized care. This is consistent with research that suggests continuity of care and personalized rehabilitation programs are essential for improving the outcomes of SCI patients (Lund et al., 2017).

CHAPTER 5 LIMITATIONS & RECOMMENDATIONS

5.1 Limitations

Several limitations of the present study should be acknowledged:

1.Small Sample Size

Although the number of participants was limited, this is consistent with the nature of qualitative research, where depth of understanding is prioritized over breadth. Sampling was guided by data saturation rather than numerical size, allowing for in-depth exploration of Speech and Language Therapists' lived experiences in SCI rehabilitation.

2.Cross-Sectional Study Design

The study adopted a cross-sectional design, capturing therapists' perspectives at a single point in time. Consequently, variations in therapy challenges across different phases of rehabilitation acute, sub-acute, and long-term as well as therapist adaptation over time could not be examined. Longitudinal studies may provide deeper insights into these dynamic processes.

3.Reliance on Self-Reported Data

Findings were based on self-reported experiences of SLTs, which may be subject to recall bias, personal interpretation, and professional positioning (e.g., differences between junior and senior therapists). However, efforts such as careful interview design and systematic thematic analysis were undertaken to enhance credibility. Future research may benefit from triangulating therapist reports with objective measures, such as therapy session logs or patient outcome data.

4.Absence of Patient and Caregiver Perspectives

The study focused exclusively on SLTs' perspectives and did not include input from patients or caregivers, who play a critical role in the rehabilitation process. The inclusion of these perspectives in future studies would provide a more holistic understanding of therapy challenges and outcomes.

5.Limited Exploration of Patient Subgroups

The study did not examine therapy challenges across specific patient subgroups, such as individuals with tetraplegia versus paraplegia, ventilator-dependent patients, or those

with cognitive or communicative comorbidities. Exploring these distinctions could enhance the clinical applicability of future research.

6.Single-Center Scope

Data were collected from a single rehabilitation center (CRP), which may limit the generalizability of the findings to other settings with different resources or service structures. However, as CRP is a national referral center for SCI rehabilitation in Bangladesh, the findings still provide valuable contextual insights into SLT practice within specialized rehabilitation services.

7.Potential Social Desirability Bias

There is a possibility that participants provided responses they perceived as professionally acceptable rather than fully reflecting their experiences. To minimize this bias, confidentiality was assured and interviews were conducted in a non-evaluative manner; nevertheless, its influence cannot be entirely excluded.

Despite these limitations, the study provides valuable insights into the complex interplay of factors affecting SLT-delivered rehabilitation in SCI patients, highlighting areas for organizational, environmental, and professional improvement.

5.2 Recommendations

Based on the findings and limitations of the present study, the following recommendations are proposed. These are organized into Practice & Service Delivery Recommendations and Future Research Recommendations for clarity.

◆ **Prioritization Statement**

Based on feasibility and urgency within SCI rehabilitation settings in Bangladesh, improving therapy space accessibility and strengthening SLT training in SCI-specific areas should be considered immediate priorities, followed by service delivery optimization and longitudinal research initiatives.

A. Practice & Service Delivery Recommendations:

- **Incorporation of Patient and Caregiver Perspectives**

Rehabilitation services should actively include the perspectives of SCI patients and caregivers to better understand barriers to therapy participation, motivation, and adherence. Their involvement can enhance patient-centered goal setting and therapy planning.

Actionable Step for CRP-Type Centers: Introduce routine patient and caregiver feedback mechanisms, such as brief surveys or focus group discussions, integrated into regular therapy reviews.

- **Enhancement of SLT Training and Professional Development**

Targeted training programs should be developed to address SCI-specific challenges identified in this study, particularly in the areas of swallowing management, respiratory support, voice disorders, and complex communication needs.

Actionable Step for CRP-Type Centers: Establish regular in-service training and workshops, and collaborate with universities or professional bodies to provide continuing education focused on SCI rehabilitation and instrumental assessment skills.

- **Improvement of Environmental and Infrastructural Factors**

Therapy environments should be optimized to reduce noise, improve accessibility, and support patient engagement. Given resource constraints, improvements should be cost-effective and implemented in phases. Recruitment of additional SLTs and structured integration of interns are strongly recommended to reduce workload burden. A

therapists-intern collaborative model may improve service efficiency while maintaining therapy quality. Institution should also develop structured scheduling systems to minimize conflicts and protect designated SLT therapy time.

Actionable Step for CRP-Type Centers: Develop low-cost therapy room redesign guidelines (e.g., noise control, clear space for wheelchairs, privacy screens) and implement gradual upgrades based on priority and feasibility.

- **Evaluation of SLT Service Delivery Models**

Different SLT service delivery approaches, including individual therapy, group-based interventions, and therapist–intern team models, should be systematically evaluated to identify the most effective and sustainable practices.

Actionable Step for CRP-Type Centers: Pilot mixed service delivery models and assess their impact on therapy efficiency, patient engagement, and therapist workload, including structured integration of interns.

B. Recommendations for Future Research:

- **Inclusion of Multiple SLT Perspectives Across Centers**

Future studies should involve larger samples of SLTs from multiple SCI rehabilitation centers to capture diverse professional experiences and institutional practices, improving generalizability.

Research Direction: Multi-center qualitative or comparative studies examining SLT service delivery across different resource settings.

- **Adoption of Mixed-Methods and Quantitative Designs**

Mixed-methods and quantitative research should examine the relationship between therapy frequency, duration, staffing levels, environmental factors, and patient outcomes to generate evidence-based service recommendations.

Research Direction: Outcome-based studies measuring therapy intensity, patient progress, and functional gains in communication and swallowing.

- **Longitudinal Studies on SLT Outcomes in SCI Rehabilitation**

Longitudinal research is needed to track changes in therapy outcomes over time, particularly in relation to swallowing safety, voice quality, communication participation, and therapy consistency across rehabilitation phases.

Research Direction: Long-term follow-up studies assessing how continuity of SLT services influences functional outcomes from acute to long-term rehabilitation stages.

CHAPTER 6 CONCLUSION

This chapter concludes by presenting the research entitled “Factors complicating treatment sessions in Spinal Cord Injury (SCI) rehabilitation: Speech and Language Therapist’s (SLT’s) perspective.” The study aimed to find out the factors that complicate Speech and Language Therapy treatment sessions in SCI rehabilitation settings from the therapists’ perspective. A thematic analysis of qualitative data collected from SLTs revealed seven key themes that were critical areas of concern. The key findings are summarized, their implications for practice and policy are discussed, and directions for future research.

This study has provided valuable insights into the challenges faced by Speech and Language Therapists (SLTs) working in Spinal Cord Injury (SCI) rehabilitation settings. The findings suggest that patient-related factors, such as cognitive impairments and motivation issues, along with environmental challenges, workload, and institutional barriers, complicate therapy delivery and impact therapy outcomes. Despite these challenges, SLTs employ various strategies, such as counseling, prioritizing severe cases, and advocating for better facilities, to overcome obstacles and improve patient outcomes.

The results highlight the urgent need for increased staffing, better facility design, specialized training, and improved coordination between rehabilitation professionals to optimize SLT services. Future research should explore these issues further, particularly through longitudinal studies and more diverse samples, to understand the long-term impact of these interventions on therapy outcomes for SCI patients.

By addressing the challenges identified in this study, healthcare institutions can improve the delivery of Speech and Language Therapy for SCI patients, ultimately enhancing their quality of life and reintegration into society.

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ANNEXURE

Annexure- 1 (A)

Informed Consent for Participants

Title: "Factors Complicating Treatment Sessions in Spinal Cord Injury (SCI) Rehabilitation: Speech and Language Therapist's (SLT's) Perspective"

Respected Respondents,

Assalamualikum, the researcher, Naurin Sultana Akhi, a B.Sc. student of Bangladesh Health Professions Institute (BHPI), Faculty of Medicine, University of Dhaka, Speech and Language Therapy department, wants to research "Factors Complicating Treatment Sessions in Spinal Cord Injury (SCI) Rehabilitation: Speech and Language Therapist's (SLT's) Perspective". This study intends to find out the factors that complicate speech and language therapy treatment sessions in SCI rehabilitation settings from the therapist's perspective.

The researcher will receive the participant's permission to participate in the interview. The discussion will take approximately 15-20 minutes. Their information will not be shared with others. The participants will not benefit or harm from this study. They are free to decline to answer any question during the interview. All the information collected from the interview will be kept safe and confidential. Participants can withdraw from the study at any time.

In this study, I am …….....a participant, and I have been informed about the purpose of the study. I am willing to participate in this study and have the right to refuse to participate at any time. For this reason, I will not be bound to answer to anybody. The researcher will be available to answer any survey-related question or inquiry of the participant. So, to the best of my knowledge, I agree to participate willingly with my satisfaction in this study.

Signature of participant: …….	Date:
Signature of Researcher: …….	Date:

Annexure- 1 (B)

সম্মতিপত্র অংশগ্রহনকারীর জন্য

গবেষণার শিরোনাম: " **স্পাইনাল কর্ড ইনজুরি (SCI) পুনর্বাসনে স্পিচ অ্যান্ড ল্যাঙ্গুয়েজ থেরাপি চিকিৎসা সেশনের জটিলতা সৃষ্টিকারী কারণসমূহ: থেরাপিস্টদের দৃষ্টিভঙ্গি** "

সম্মানিত অংশগ্রহনকারী,

আসসালামুয়ালাইকুম, গবেষণাকারী হচ্ছে নওরীন সুলতানা আঁখি,ঢাকা বিশ্ববিদ্যালয়, চিকিৎসা অনুষদের অধীনে বাংলাদেশ হেলথ প্রফেশন্স ইনষ্টিটিউট এর বি, এস, সি ইন স্পিচ এন্ড ল্যাংগুয়েজ থেরাপি বিভাগের ১ জন ছাত্রী, আমি **"স্পাইনাল কর্ড ইনজুরি (SCI) পুনর্বাসনে স্পিচ অ্যান্ড ল্যাঙ্গুয়েজ থেরাপি চিকিৎসা সেশনের জটিলতা সৃষ্টিকারী কারণসমূহ: থেরাপিস্টদের দৃষ্টিভঙ্গি"**।বিষয়ে একটি গবেষণা করতে যাচ্ছি। গবেষণাটির উদ্দেশ্য হচ্ছে স্পাইনাল কর্ড ইনজুরি (SCI) পুনর্বাসন প্রক্রিয়ায় স্পিচ অ্যান্ড ল্যাঙ্গুয়েজ থেরাপি চিকিৎসা সেশনগুলো কোন কোন কারণে জটিল হয়ে ওঠে—তা থেরাপিস্টদের দৃষ্টিকোণ থেকে খুঁজে বের করা। এই গবেষণায় অংশগ্রহণ করার জন্য আপনাকে বিনীত আমন্ত্রণ জানাচ্ছি। পুরো আলোচনা আনুমানিক ১৫-২০ মিনিট সময় নেবে। আপনাদের তথ্যগুলো অন্য কারো সাথে আলোচনা করা হবে না। এই গবেষণায় অংশগ্রহনকারীরা কোন ধরনের লাভ বা ক্ষতির সম্মুখিন হবেনা গবেষণার মাধ্যমে। যেসব তথ্য সংগ্রহ করা হবে সাক্ষাৎ এর মাধ্যমে সেগুলো খুব গোপনীয়তার সাথে রাখা হবে। অংশগ্রহনকারীরা যে কোন সময় এই গবেষণা ছেড়ে চলে যেতে পারবেন।

আমি……..। এই গবেষণার একজন অংশগ্রহনকারী এবং এই গবেষণার উদ্দেশ্য সম্পর্কে খুব ভালভাবে জানি। আমি নিজের আগ্রহে এই গবেষণায় অংশগ্রহন করতে চাই। আমার অধিকার আছে যেকোন সময় এই গবেষণার অংশগ্রহন থেকে চলে যাওয়ার। এই জন্য আমি আমার উত্তর দিতে দ্বিধাগ্রস্থ নই। গবেষণাকারীর গবেষণা সংক্রান্ত যে কোন প্রশ্নের উত্তর যে কোন সময় দিতে প্রস্তুত। সুতারাং আমি আমার সজ্ঞানে এই গবেষণায় অংশগ্রহন করতে ইচ্ছুক।

অংশগ্রহনকারীর স্বাক্ষরঃ …….	তারিখঃ
গবেষণাকারীর স্বাক্ষরঃ …….	তারিখঃ

Annexure- 2 (A)

Questionnaire (English)

1. What patient-related factors (e.g., physical limitations, cognitive difficulties, motivation, communication barriers) make SLT sessions in SCI rehabilitation most challenging for you?
2. How does the therapy environment (e.g., noise, space, accessibility, interruptions) affect the way you conduct your sessions?
3. In what ways do institutional issues (e.g., workload, scheduling, administrative policies, availability of resources) interfere with SLT service delivery?
4. What personal or professional challenges (e.g., workload stress, limited training, time constraints) did you face as an SLT when working with SCI patients?
5. How do these challenges (patient, environmental, institutional, or therapist-related) affect the quality, frequency, consistency or duration and outcomes of your therapy sessions?
6. What strategies or approaches are you currently using to manage or overcome these challenges in your practice?
7. How effective have these strategies been in improving the therapy process and patient outcomes and what changes or modifications would make them more effective? Could you share an example?
8. What additional supports, facilities, or arrangements would make SLT sessions more effective for SCI patients in your setting?

Annexure- 2 (B)

প্রশ্নাবলী

১. রোগী-সম্পর্কিত কোন কোন বিষয় (যেমন শারীরিক সীমাবদ্ধতা, মানসিক সমস্যা, প্রেরণা, যোগাযোগের অসুবিধা) আপনার জন্য SCI পুনর্বাসনে SLT সেশনকে সবচেয়ে বেশি চ্যালেঞ্জিং করে তোলে?

২. থেরাপির পরিবেশ (যেমন কোলাহল, জায়গা, প্রবেশগম্যতা, বারবার ব্যাঘাত) কীভাবে আপনার সেশন পরিচালনায় প্রভাব ফেলে?

৩. প্রাতিষ্ঠানিক বিষয়গুলো (যেমন অতিরিক্ত কাজের চাপ, সময়সূচি, প্রশাসনিক নীতি, রিসোর্স বা সরঞ্জামের প্রাপ্যতা) কীভাবে SLT সেবাদানে বাঁধা সৃষ্টি করে?

৪. একজন SLT হিসেবে SCI রোগীদের সাথে কাজ করার সময় ব্যক্তিগত বা পেশাগত কী ধরনের চ্যালেঞ্জের (যেমন কাজের চাপজনিত মানসিক চাপ, সীমিত প্রশিক্ষণ, সময়ের অভাব) মুখোমুখি হন?

৫. এসব চ্যালেঞ্জ (রোগী, পরিবেশ, প্রতিষ্ঠান বা থেরাপিস্ট-সম্পর্কিত) কীভাবে আপনার থেরাপি সেশনের গুণমান, ধারাবাহিকতা বা স্থায়িত্বকাল ও ফলাফলে প্রভাব ফেলে?

৬. আপনার কাজে এসব চ্যালেঞ্জ মোকাবিলা বা অতিক্রম করার জন্য বর্তমানে কোন কৌশল বা পদ্ধতি ব্যবহার করছেন?

৭. এইসব কৌশলগুলো থেরাপি প্রক্রিয়া ও রোগীর উন্নতিতে কতটা কার্যকর হয়েছে এবং এগুলোকে আরও কার্যকর করতে কি ধরনের পরিবর্তন বা সংশোধন আনা যেতে পারে? দয়া করে উদাহরণ দিন।

৮. আপনার মতে আর কোন অতিরিক্ত সহায়তা, সুবিধা বা ব্যবস্থা থাকলে SCI রোগীদের জন্য SLT সেশন আরও কার্যকর হতো?

Annexure- 3 (A)

Date:28.09.2025

To

The Head

Department of Speech & Language Therapy

Bangladesh Health Professions Institute (BHPI)

CRP, Savar, Dhaka-1343, Bangladesh

Subject: **Prayer for Seeking Permission to conduct the Research Project.**

Sir,

With due respect, I state that I am a 4th year student of B.Sc. in Speech & Language Therapy Department, Session: 2020-21 at Bangladesh Health Professions Institute (BHPI), the academic institute of Centre for the Rehabilitation of the Paralysed (CRP). I am sincerely seeking your permission to conduct my research project as the partial fulfillment of the requirement for the degree of B.Sc in Speech and Language Therapy. The title of research project is **"Factors Complicating Treatment Sessions in Spinal Cord Injury (SCI) Rehabilitation: Speech and Language Therapist's (SLT's) Perspective"** The purpose of the study is to find out the factors that complicate speech and language therapy treatment sessions in SCI rehabilitation settings from the therapist's perspective.

Now I am seeking your kindness to approve me to conduct the research project and I would like to ensure that anything of my research project will not be harmful to the participants.

So, I therefore pray and hope that you would be kind enough to grant me the permission to conduct the research project.

Your obediently

Naurin

Naurin Sultana Akhi

4th year student of B.Sc. in Speech & Language Therapy Department

Bangladesh Health Professions Institute (BHPI)

CRP, Savar, Dhaka

Head of the Department	Comment
Md. Sazzad Hossain Assistant Professor & Head Department of Speech and Language Therapy Bangladesh Health Professions Institute (BHPI) CRP, Savar, Dhaka	Permission has been granted. 20/7/23

Md. Sazzad Hossain
Asst. Professor & Head
Department of Speech and Language Therapy
Bangladesh Health Professions Institute, BHPI, CRP

Annexure- 3 (B)

বাংলাদেশ হেলথ্ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)
Bangladesh Health Professions Institute (BHPI)
(The Academic Institute of CRP)

Ref: CRP-BHPI/IRB/09/2025/1176 Date: 30.09.2025

To
Naurin Sultana Akhi
4th Year B.Sc. in Speech & Language Therapy
Session: 2020-21, DU Reg. No.: 14325, Student ID: 132000304
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Subject: Approval of the thesis proposal "Factors Complicating Treatment Sessions in Spinal Cord Injury (SCI) Rehabilitation: Speech and Language Therapist's (SLT's) Perspective"- by the ethics committee.

Dear Naurin Sultana Akhi,
Congratulations.
The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application to conduct the above-mentioned dissertation, with yourself, as the principal investigator and Md. Mizanur Rahman, Assistant Professor, BHPI as thesis supervisor. The Following documents have been reviewed and approved:

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

The purpose of the study is to find out the factors that complicate speech and language therapy treatment sessions in SCI rehabilitation settings from the therapist's perspective. The study involves answering a self-made questionnaire aimed at obtaining detailed insights into patient-related, environmental, institutional, and therapists-related challenges encountered during SCI rehabilitation that takes fifteen to twenty minutes to answer. There is no likelihood of any harm to the participants and the findings of this study may help improve the quality, regularity and effectiveness of SLT services in SCI rehabilitation. The members of the Ethics committee has approved the study to be conducted in the presented form at the meeting held at 08:30 AM on May 21, 2025 (49th IRB meeting) at BHPI.

The institutional Ethics committee expects to be informed about the progress of the study, any changes occurring in the course of 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,

Muhammad Millat Hossain
Associate Professor, Project and Course Coordinator, MRS
Member Secretary, Institutional Review Board (IRB)
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

সিআরপি-চাপাইন, সাভার, ঢাকা-১৩৪৩, বাংলাদেশ। ফোন: +৮৮ ০২ ২২৪৪৪৫৪৬৪-৫, +৮৮ ০২ ২২৪৪৪১৪০৪, মোবাইল: +৮৮ ০১৭৩০ ০৫৯৬৪৭
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Annexure- 3 (C)

Date:28.09.2025

The Head

Department of Speech & Language Therapy

Centre for the Rehabilitation of the Paralysed (CRP)

Savar. Dhaka-1343

Subject: **Prayer for seeking permission to conduct data collection for the research project.**

Sir,

With due respect, I state that I am a 4th-year student of B.Sc. in the Speech & Language Therapy Department, Session: 2020-21 at Bangladesh Health Professions Institute (BHPI), the academic institute of the Centre for the Rehabilitation of the Paralysed (CRP). I am sincerely seeking your permission to collect data for my research project as the partial fulfillment of the requirement for the degree of B.Sc. in Speech and Language Therapy. The title of the research project is **"Factors Complicating Treatment Sessions in Spinal Cord Injury (SCI) Rehabilitation: Speech and Language Therapist's (SLT's) Perspective."** The purpose of the study is to find out the factors that complicate speech and language therapy treatment sessions in SCI rehabilitation settings from the therapist's perspective.

Now I am seeking your kindness to approve my application to collect data for a research project, and I would like to ensure that any of my research project will not be harmful to the participants and confidentiality will be maintained for each participant.

So, I therefore pray and hope that you would be kind enough to grant me the permission to conduct the data collection successfully as part of my academic requirement.

Your obediently

Naurin

Naurin Sultana Akhi

4th-year student of the B.Sc. in Speech & Language Therapy Department

Bangladesh Health Professions Institute (BHPI)

CRP, Savar, Dhaka

Head of the Department	Comments
Tahmina Sultana Consultant & Head Department of Speech and Language Therapy Centre for the Rehabilitation of the Paralysed (CRP) Savar, Dhaka-1343	Permission Given. Tahmina(TS) 29/9/25 TAHMINA SULTANA Consultant & Head Speech & Language Therapy Department CRP, Savar, Dhaka

Forwarded
28/9/25

Md. Sazzad Hossain
Asst. Professor & Head
Department of Speech and Language Therapy
Bangladesh Health Professions Institute, BHPI, CRP

Annexure- 3 (D)

18th October, 2025

To

In-Charge

Department of Speech & Language Therapy

Centre for the Rehabilitation of the Paralysed (CRP)

Mirpur-14, Dhaka-1206

Subject: Prayer for Seeking Permission to data collection as part of Research Project conduction.

Ma'am,

With due respect and humble submission, I would like to inform you that I am a 4th year student of B.Sc. in Speech & Language Therapy Department, Session: 2020-21 at Bangladesh Health Professions Institute (BHPI), the academic institute of Centre for the Rehabilitation of the Paralysed (CRP). At this state I am intending to do dissertation as partial fulfillment of the requirement for the degree of B.Sc. in Speech and Language Therapy. The title of research project is **"Factors Complicating Treatment Sessions in Spinal Cord Injury (SCI) Rehabilitation: Speech and Language Therapist's (SLT's) Perspective."** The purpose of this study is to find out the factors that complicate speech and language therapy treatment sessions in SCI rehabilitation settings from the therapist's perspective. For this, I have to collect data from those who have work experiences in SCI unit. Recently Hafiza Fatema, a clinical SLT who have work experience in SCI unit was transferred to Mirpur from Savar. I want to collect data from her for this study.

Now, I am seeking your kindness to approve me to collect data as part of the research project conduction, and I would like to ensure that anything of my research project will not be harmful to the participants.

So, I therefore pray and hope that you would be kind enough to grant me permission to collect data for conducting the research project.

Yours obediently,

Naurin

Naurin Sultana Akhi

4th year student of B.Sc. in Speech & Language Therapy Department

Bangladesh Health Professions Institute (BHPI)

CRP, Savar, Dhaka

In-charge of the Department	Comment & Signature
Geetashree Das Consultant & In-Charge Department of Speech and Language Therapy Centre for the Rehabilitation of the Paralysed (CRP) Mirpur-14, Dhaka-1206	Approved Geeta 18.10.25

Forwarded

18/10/2025

Md. Sazzad Hossain
Asst. Professor & Head
Department of Speech and Language Therapy
Bangladesh Health Professions Institute, BHPI, CRP