LEVEL OF EMOTIONAL WELL BEING AND QUALITY OF LIFE AMONG THE PARAPLEGIC SPINAL CORD INJURY PATIENTS AFTER COMPLETING REHABILITATION FROM CENTRE FOR THE REHABILITATION OF THE PARALYSED

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Bangladesh Health Professions Institute (BHPI)
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STUDENT'S DECLARATION

This work has not previously been accepted in substance for any degree and is not concurrently submitted in candidature for any degree. This dissertation is being submitted in partial fulfillment of the requirements for the degree of MSc in Rehabilitation Science. This dissertation is the result of my own independent work/investigation, except where otherwise stated. Other sources are acknowledged by giving explicitreferences. A Bibliography is appended. I confirm that if anything identified in my work that I have done plagiarism or anyform of cheating that will directly awarded me fail and I am subject to disciplinaryactions of authority.

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We the undersigned certify that we have carefully read and recommended to the Faculty of Medicine, University of Dhaka, for acceptance of this thesis entitled, ""**LEVEL OF EMOTIONAL WELL-BEING AND QUALITY OF LIFE AMONG THE PARAPLEGIC SPINAL CORD INJURY PATIENTS AFTER COMPLETING REHABILITATION FROM CENTRE FOR THE REHABILITATION OF THE PARALYSED"**

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LIST OF ABBREVIATIONS

SCI	Spinal Cord Injury
ISCoS	International Spinal Cord Society
EWB	Emotional Well-Being
QoL	Quality of Life
UK	United Kingdom
LMICs	Low- and Middle-Income Countries (LMICs)
WHO	World Health Organization
PA	Physical Activity
ADL	Activities of Daily Living
UNCRPD	UN Convention on the Rights of Persons with Disabilities
CRP	Centre for the Rehabilitation of thev Paralysed
IRB	Institutional Review Board
ERB	Ethical Review Board
BRC	Bangladesh Rehabilitation Council
CBR	Community-Based Rehabilitation
SPSS	Statistical Package for the Social Science
SE	Standard Error
M	Mean
SD	Standard Deviation
CDC	Centers for Disease Control and Prevention
RCT	Randomized Controlled Trial

ABSTRACT

Background: Spinal cord injury affects an individual's physical, social, environmental and emotional well-being. Most of the survivors may face plenty of challenges after leaving the rehabilitation center and reintegrating into the community. Experts have found that people with paraplegic spinal cord injuries have a worse QoL than those without disabilities. After the spinal cord injury, life changes and mental health issues can cause pain, feeling of helplessness and affect personal growth. **Objective:** To explore the emotional well-being and quality of life of individuals with paraplegic spinal cord injury after completing a comprehensive rehabilitation program at CRP. **Method:** The cross-sectional study comprised community in-depth interviews. The study involved spinal cord injury paraplegics who completed a full rehabilitation program at CRP. Data was obtained via cluster random sampling from the community. Only 80 samples were collected. **Result:** Studies on demographics shows that the sample is mostly young, male and diverse in professional and educational backgrounds. Post-injury psychological and social assessments show helplessness, intrusion, and complex personal growth. Quality of life evaluations show moderate deficits in social, psychological, environmental and physical dimensions. Correlation and regression studies show intricate connections between the variables in question that improve injured patient's quality of life. **Conclusion:** The findings shown how important it is to provide comprehensive support services that address emotional difficulties throughout life. We can promote emotional well-being and quality of life for people who have been injured for various causes.

Key words: *Spinal Cord Injury, Paraplegic, Emotional Well-Being, Quality of Life, Rehabilitation*

CHAPTER-I INTRODUCTION

1.1 Background

An injury to the spinal cord, typically referred to as a spinal cord injury, is a serious neurological impairment that can be categorized as either full or incomplete, according to the region that is impacted and the severity of the damage (Zheng et al., 2020). A spinal cord injury has a detrimental effect on an individual's existence in a multitude of domains like physical, social, psychological and environmental (Simpson et al. 2012). As spinal cord injury is a serious neurological condition so it has great impact on an individual's life. We now understand SCI's physical and physiological processes better than we did a few years ago, enabling us to identify particular pathways that trigger tissue loss and neuronal death (Silva et al., 2014).

It is an unexpected event that significantly affects an individual's capacity to engage in daily activities, resulting in a significant reduction in motor and sensory function, as well as urinary tract infections, pressure ulcers, respiratory complications, and sexual function (Tate et al., 2016). After discharge from the specialized rehabilitation centre and subsequent reintegration into the community, individuals who have sustained spinal cord injuries may encounter a variety of challenges (Aujoulat et al., 2007). These manifestations include the inability to exert control over one's own time and environment, the absence of a sense of integrated security, the inability to control one's own body, and the loss of personal and social identities (Rohatinsky et al., 2017).

Peter et al (2011) assert that individuals with severe physical impairment report that these constraints have a significant impact on the amount of activity and the potential to reduce their overall level of life satisfaction. Spinal cord injury affects 250,000–500,000 people worldwide. In the United States and Canada, vehicle accidents cause most events, while underdeveloped nations have more violence. Young adults, especially males are affected more than female. It may seriously affect one's mental well-being (Quadri et al., 2017).

A global mapping attempt by the International Spinal Cord Society (ISCoS) serves as an intranet for a continuous data collection to notify parties of interest about preventive measure creation and harmonization. The American's SCI incidence rate of 39 per million is comparable to Canada's 35 per million, but it is far higher than the rest of Europe (16 per million) and Australian (15 per million) (Chen et al., 2013). Research has revealed that spinal cord injuries impact a significant portion of the population in developed nations like the United States, ranging from 10 to 40 individuals per million annually. However, it's crucial to understand this statistic within the broader context of SCI's profound effects: many individuals succumb to SCI before receiving medical attention, those who do reach medical facilities often face severe complications leading to increased risks of health issues and death. During the early post-injury period, it is difficult to put into words the psychosocial impacts of spinal cord injury because to the presence of medication, sensory loss, seclusion, and discomfort (Cadotte & Fehlings, 2011).

In the study by Salter et al. (2013), The EWB dimensions encompass various elements, such as levels of anxiety and depression, levels of physical health and performance, and levels of life satisfaction. The individuals with spinal cord injuries who suffer from depression have an enormous impact on their subjective health, life satisfaction, and everyday functioning. In a study conducted by Martin Ginis and coworkers in 2010, it was found that those who suffered from a spinal cord injury generally exhibit a poorer level of emotional well-being compared to those without any impairments. Since 2000, "positive psychology," developed by Martin Seligman and Mihaly Csikszentmihalyi, has increased research on positive psychological factors in spinal cord injury. Positive psychology emphasizes optimism, tenacity, well-being, and positivity, unlike functional psychology (Bertisch et al., 2015). Life alters after spinal cord injury and it's additionally linked to more mental health concerns, which can cause discomfort, sickness, and a dependency on drugs. According to this comprehensive study, 37% of Australian people with spinal cord injuries are depressed. Anxiety appeared in 30% of community-dwelling SCI patients, equivalent to a small Australian research but higher than other small studies in other countries (Migliorini et al., 2008).

A small Australian study showed that 30% of SCI patients had depression or anxiety within two years of injury. Yet, another UK study involving various participation rates revealed that anxiety prevalence varied within the first three years after injury (Migliorini et al., 2008). Experts have discovered that people with spinal cord injuries have a lower standard of life than people who don't have disabilities. Life contentment can be illustrated through quality of life, which is a combination of measurable accomplishments and personal desires that can change over the course of a person's life. Traumatic injuries, like damage to the spine, can cause problems with mobility and emotion that last throughout an individual's life. These issues make life less pleasant and can even cause disability (Frasuńska et al., 2021).

Disability following spinal cord injury have some key aspects like isolation, marriage, education, and employment have also been studied extensively. Dijkers et al. (1997) found that some research focused more on jobs than leisure. These aspects are considered crucial in objective QoL inquiry. A SCI causes severe physical and cognitive challenges. Well-being for persons with disabilities such spinal cord damage is increasingly measured by QoL. Van Leeuwen et al. (2012) found that both psychological and physical endurance treatment needed for the individual with SCI and for their life satisfaction.

Since World War II, healthcare, emergency, and long-term care innovations have boosted spinal cord injury life expectancy. People with spinal cord injuries have a higher death risk than the general population, particularly for SCI-related causes (Dijkers et al., 1997). In Low and Middle Income Countries like Bangladesh make SCI more challenging to cope with. SCI patients may lack mobility support. In LMICs, spinal cord injury patients often have additional complications and poorer quality of life. Higher-income countries are analyzing QoL and SCI complications more than LMICs (Hossain et al., 2016). Traumatic paraplegia impacts a significant portion of the adults of working age population, predominantly young males. The vast majority of its sufferers are young ages under 35 years, which makes it an important problem for society. When contrasted with women, males are more likely to work or participate in activities that elevate their risk of spinal cord injury, while women are more likely to continue working from home (Young et al., 2013).

There is an accepted notion that the health of an individual has a significant impact to that of their family, especially the health of their children. People who have traumatic paraplegia are often pleased with their familial and interpersonal relationships (Kalyani et al., 2015). Those who have gone through a spinal cord injury are more likely to have higher levels of unease and significantly reduced levels of life satisfaction when compared to the general population. This is because SCIs are more severe than other types of injuries. According to Post and Van Leeuwen (2012), the levels of emotional well-being that individuals who have suffered spinal cord injuries find themselves experiencing are greatly affected by an array of social and psychological facets.

As a result of its ability to improve quality of life, regular physical activity is a potential intervention. The World Health Organization provides guidance to disabled individuals concerning the durations and intensities of physical activity. The goal of these guidelines is to encourage individuals who have suffered a spinal cord injury to incorporate aerobic and strength training in order to improve their overall health and quality of life (Frasuńska et al., 2021). Physical activity enhances health and life quality. Despite its health benefits, many people are inactive. This is especially true for SCI patients (Tawashy et al., 2008). Spinal Cord Injury progressively impairs motor, sensory, and autonomic functions. SCI typically causes long-term impairment requiring therapy. Many spinal cord injury patients need physical, psychological, and social support after recovery (Backx et al., 2018).

Comprehensive rehabilitation following traumatic spinal cord injury is necessary to aid in the recovery of or compensation for, functional limitations and impairments. In addition to enhancing patient and caregiver awareness of the injury activities are designed to improve the total well-being of individuals who have suffered a spinal cord injury by facilitating the return to pre-morbid roles in society by encouraging participation (Teeter et al., 2012). People living with spinal cord injury already experience some degree of activity limitations and participation restrictions in everyday life due to reduced functional reserves resulting from the injury and increased physical demands of living with a SCI (Savic et al., 2018).

Medical developments have resulted in an increase in the life expectancies of individuals with Spinal Cord Injuries. Spinal cord injury can result in pain, bowel and bladder dysfunction, muscular spasms, restlessness, indigestion, and bone loss. Numerous studies indicate that spinal cord injury impairs employment engagement, recreational engagement, and connections with others. Patients with spinal cord injuries experience reduced happiness with life, depression and anxiety. According to Post et al., 2012 the treatment of spinal cord injury requires a focus on physical functionality and emotional well-being. In order to gain a comprehensive comprehension of the effects of a disability, it is essential to understand its impact on daily functioning. Activity patterns are substantially altered by spinal cord injury. For instance, folks with spinal cord injuries allocate more time to personal care and less time to work-related activities than their non-SCI equivalents. Even though it has been proven that spinal cord injury impacts participation in activities of daily living, the fact that these factors are known as impacting physical functioning (Hetz et al., 2008).

However, post-discharge education and assistance may be required. This has ended up in the clinical use of a low-cost community-based support plan to prevent their associated consequences (Hossain et al., 2016). The quality of life of SCI patients is improved by their prolonged lifespan. Many physical and psychological issues are the result of a spinal cord injury. Spinal cord injury survivors frequently apply emotional well-being coping mechanisms, despite their apprehensions regarding the potential for prolonged existence to induce sadness (Sezer et al, 2015). Even though, solid beliefs in religion may result in difficulties; therefore, it is advisable to acknowledge the potential disadvantages. Health may be adversely affected by ignoring medical advice (Hajiaghababaei et al., 2018).

Psychological resources are an individual's basic capacities that foster health and emotional well-being, helping them conquer hurdles and achieve goals. These resources include skills, competencies, expertise, incidents, talents, strengths, and attitudes. Leading spinal cord injury adjustment models strain as the interaction of psychological, physiological, and social factors in well-being, mental health, and involvement, mediated by review and coping mechanisms (Peter et al., 2011). Others see their injuries as divine punishment, while others negotiate with or are rejected by a greater power when their prayers are neglected (Geyh et al., 2013).

Spinal cord injury ranks high on the list of the most serious types of injuries. Patients with spinal cord injuries undergo rehabilitation with the hope of enhancing their standard of living. The quality of life of individuals with challenges, especially those with spinal cord injuries, has been the subject of much clinical and healthcare research (Van Leeuwen et al., 2012). People who had suffered a spinal cord injury usually relied on their close family members, such as their spouses and relatives. It was shown that partners of both male and female patients who had suffered a spinal cord injury were particularly involved in family care when the patient was married (Umberson et al., 2010).

Emotional well-being is frequently impaired for people who have suffered a spinal cord injury and endure chronic pain. The interaction among aspects can have a number of negative effects, such as a higher probability of experiencing depression or anxiety and a decline in happiness with one's life. EWB is a profoundly complicated notion that encompasses a wide range of mental and emotional components. The cognitive facet is concerned with an individual's level of contentment with life and key life domains, whilst the emotional facet is focused with both good feelings (such as happiness and enjoyment) and negative emotions (such as anxiety and despair). High EWB is defined by heightened levels of happy emotions and life satisfaction, together with relatively few negative feelings (Todd et al., 2020).

Depression and anxiety impact 30% of SCI patients, research recommend. Psychological issues vary in intensity and onset. After five years, 18% of SCI patients developed severe depression. SCI patients who have severe severity are more likely to develop anxiety or depression after three years. After spinal cord injuries, depression and anxiety are common. Based on multiple studies, mental health concerns are most common in the first year after injury (Hitzig et al., 2019). Nowadays, treatments have helped individuals with incomplete spinal cord damage recover. In patients, spontaneous recovery is less prominent. Neuronal properties, collateral growing above and below the injury site, cortex maps, and spinal connections correlated with the spinal alignment (Sandrow-Feinberg & Houlé, 2015).

A spinal cord injury over ten years ago would have required lifelong medical complications and wheelchair use. Dissatisfaction with spinal cord injury rehabilitation was common due to the healthcare provider's limited tools. Neuroscience advances have boosted spinal cord injury research. Advanced techniques provide hope for functional restoration as well as regeneration. As scientific discoveries grow, hope that spinal cord injuries can be healed and function restored is growing by dealing with emotional well-being and quality of life (McDonald & Sadowsky, 2002). Motor vehicle accidents, violence, recreational activities, and industrial injuries cause 11.5 to 53.4 acute or traumatic spinal cord injuries per million in prosperous countries (Frasuńska et al., 2021). An acute spinal cord injury, also known as a SCI, is a particularly devastating disease that can have lasting effects for both people and society as a whole. In the United States, there are more than one million people who are living with spinal cord injuries, and each year, there are more than twelve thousand cases that arise (Hachem et al., 2017). Spinal cord decompression surgery and rehabilitative therapy are the current treatments available for spinal cord injury. Nevertheless, SCI remains a worrisome condition caused by the lack of a treatment. However, additional research is required to determine whether any of these treatments can reliably improve the health of a patient who has sustained a spinal cord injury (Silva et al., 2014).

The second and third phases of medico-social rehabilitation are the most beneficial for patients with spinal cord injuries. Emotional well-being, society, leisure activities, and activities are all components of social rehabilitation. Enhance lifestyles and assist individuals in adapting to society (Peev et al., 2020). Patients who have suffered a spinal cord injury may get aid both medical professionals and their caretakers in their journey of shifting to new lives through the process of rehabilitation. Some of the aspects that impact one's quality of life are age, gender, health, and the support that one receives from their family. It is possible to have feelings of depression and stress when one is liable for the care of members of their own immediate family. Patients who have suffered a spinal cord injury and their families are evaluated over the first two years of their recovery to determine their quality of life. In the long run, it is expected that patients who have had lesions to their spinal cords would have a great quality of life. When it comes to evaluating the quality of life after a spinal cord injury, the most vital thing to consider is the caregivers within the family due to the fact that they have a more significant influence on the quality of life (Lude et al. 14).

Increased life satisfaction has been linked to a positive effect following spinal cord injury. By integrating the practice of compassion meditation into psychological therapy for individuals with spinal cord injuries, favorable outcomes will be accomplished (Salter et al., 2013). Comprehensive rehabilitation is needed soon after spinal cord injury. At least 30 days after injury, several nations allow patients to engage in specialized SCI rehabilitation services. There is inadequate supervision and treatment of natural and therapeutic-induced motor function acquires to optimize rehabilitation outcomes and merge new techniques into clinical practice (Labruyère et al., 2010).

1.2 Justification

It is of the utmost importance to conduct a psychological assessment of individuals who have been affected by a spinal cord injury that has led to the development of paraplegia on account of the injury. In order to guarantee that these folks are also in excellent mental health and have a high quality of life, this is done. In accordance with the recommendation, this test is something that ought to be carried out after the conclusion of a complete rehabilitation program. For the purpose of developing treatment plans that are effective and achieving the most positive outcomes that are technically attainable, it is necessary to carry out this examination. Without fail, it is of the utmost importance that this review be carried out regardless of the circumstances.

The aims of obtaining a thorough awareness of the psychological repercussions of spinal cord injuries and establishing the efficacy of rehabilitation programs in addressing mental health challenges can be accomplished by having a complete understanding of emotional well-being. It is essential to have this understanding in order to achieve the goals. When it comes to accomplishing the goal of conducting a comprehensive review of the efficacy of rehabilitation programs, it is essential to have both of these components in order to satisfy the requirements. Referring to a number of different aspects when discussing emotional well-being. Some of these aspects include the ability to bounce back quickly from adversity and the characteristics that are connected with happiness and joy.

In addition, it is of the utmost importance to comprehend that the evaluation of Quality of Life offers a full picture of the subjective experiences that an individual has in a variety of facets of life. Regarding this particular matter, it is important to take it into mind. It is impossible to emphasize the magnitude of this additional benefit. Both the identification of areas that require further support and the tailoring of therapies in order to increase general well-being are made feasible as a result of this. Both of these objectives are aimed at improving overall health. The fact that this is the case makes it conceivable for both of these things to occur. As a consequence of this, both of these options are within the domain of prospective possibilities. The fact that both of these things are now within the realm of possibility is due to the fact that both of these things are under consideration.

The improvement of one's health in general is the purpose of both of these goods, which are designed to accomplish this goal. It is possible to accomplish this with either of these two items. In the event that medical professionals continue to analyze the emotional well-being and quality of life of a person on a constant basis, they are able to accomplish a number of different outcomes. One of these outcomes is the capability to accurately evaluate the development of an individual, another is the capability to have an impact on the development of future rehabilitation programs, and a third is the capability to provide continuous support in order to facilitate a successful adjustment to life with a paraplegic spinal cord injury. One of the most significant results that occurred. Because of their ability to provide help on an ongoing basis, each and every one of these tasks is able to be completed. This is because they are able to offer support continually.

There may be a gap in the existing research regarding the specific factors that influence the outcomes, despite the fact that it is important to evaluate the emotional well-being and quality of life of individuals who have suffered a spinal cord injury and are in the process of receiving rehabilitation from a comprehensive rehabilitation program. Although the study emphasizes the significance of understanding emotional well-being and quality of life in order to guide effective care strategies and promote optimal outcomes, it does not address potential factors such as social support, access to resources, or individual coping mechanisms that may play a role in shaping emotional well-being and quality of life after rehabilitation.

Additionally, there may be a gap also in the literature surrounding the longitudinal measurement of emotional well-being and quality of life over an extended length of time. It is possible that this will provide valuable insights on the long-term influence that spinal cord injuries and rehabilitation procedures have on the outcomes of situations like this. If the potential gaps that have been identified are addressed, it is feasible that future research will be able to provide a more comprehensive understanding of the complex factors that influence emotional well-being and quality of life among individuals who have undergone rehabilitation following paraplegic spinal cord injuries.

1.3 Research Question

What are the level of emotional well-being and quality of life among the paraplegic spinal cord injury patients after completing rehabilitation from Centre For The Rehabilitation Of The Paralysed?

1.4 Operational Definition

Emotional well-being

Emotional well-being denotes to an individual's emotional wellness and ability to deal with the hardships of life. The concept covers multiple factors such as happiness, contentment, fulfillment, dealing with stress, control of emotions and positive connections. Individuals who are emotionally balanced possess the ability to fight back from challenges, exhibit an understanding of guidance and adopt successful techniques for managing the difficulties that happen in life.

Quality of life

Quality of life refers to an individual's subjective assessment of their physical, mental, social and environmental well-being. It reflects the level whereby an individual meets their needs and goals and participates in major events and pursuits that fit with their principles and objectives. The quality of life can be influenced by various factors, including physical health, environmental, psychological resilience, social networks, monetary security, having access to healthcare and materials and personal contentment.

Spinal Cord Injury

Damage that occurs to the spinal cord as an effect of trauma (such as that which occurs as a result of falls and injuries experienced in traffic incidents) or non-traumatic causes such as tumors, degeneration and vascular illnesses, infections, toxins or birth defects is known as a spinal cord injury.

Paraplegic SCI

Type of SCI or illness leads to lower extremity motor and sensory impairment or loss, causing paraplegia. Paraplegics may lose feeling, muscle control, and voluntary movement below the injury. Paraplegics need strategies for adaptation, aids and rehabilitation to improve quality of life.

Rehabilitation

Rehabilitation is defined as a set of interventions designed to optimize functioning and reduce disability in individuals with health conditions in interaction with their environment with the ultimate objective of enhancing the quality of life of affected individuals.

1.5 Literature Review

Vertebral injury causes spinal cord compression, rupture, or traversing, resulting SCI. Traffic incidents, slips and falls, injuries from sports, and underlying illnesses like malignancies or infections can trigger it. Preventable events like car accidents and falls cause 250,000 to 500,000 spinal cord injuries yearly. In low- and middle-income countries, spinal cord injury patients experience higher mortality rates. Turkey, which occupies with 80 million people, has 650–1700 new spinal cord injuries per (Richard et al., 2020).

SCI sufferers and their caregivers experience nearly every life transition. Physical SCI has major psychological and social effects. The biopsychosocial model addresses psychological concerns after SCI, starting with disability discrimination and prejudice and then SCI-specific challenges. Psychosocial implications include relationships, finances, employment, living situation, community reintegration, mood, coping variables, self-harm, sexual health, and aging. Understanding SCI's psychosocial impacts can reduce recovery time and enable individualised care (Budd et al., 2022).

A spinal cord injury may hinder plenty physiological processes and personal domains (Anderson et al., 2024). Spinal cord injury patient's lives suffer altered daily activities, intimate relationships, and return to the community, and mental health problems such as depression, anxiety, and mood disorder (Hitzig et al., 2019). Individuals with spinal cord injuries are 30% more likely to have feelings of depression and anxiety, as indicated by research conducted by Williams and Murray in 2015.

Research has indicated that there is a significant range of estimations on the incidence of depression. It is generally accepted that the risk of depressive illnesses following spinal cord injury is higher than what is predicted in the general healthcare community. Individuals who have had a spinal cord injury may experience a range of subsequent physical and psychological symptoms which affect approximately 22.2% of the population. Additionally, there is a decline in quality of life (Lude et al., 2014).

Yet, it is crucial to recognize that most studies on this subject inherently offer a broad range of possible population values. Severe depression affects between 9.8-38% of the population (Bombardier et al., 2012).

SCI enhances the possibility of committing suicide, using drugs, and emotional disorders. Consequently, SCI and related psychological studies have increased in recent years. Quality of life is usually associated with physical functioning, wellness thoughts, symptoms, functional impairment, emotional well-being, and a mix of these (Post & van Leeuwen, 2012).

Middleton et al., 2009 noted that the UN Convention on the Rights of Persons with Disabilities supports full and effective engagement and inclusion for disabled people by resolving discrimination, lack of information, and inaccessibility. Concerns related to disability such social exclusion and community involvement were raised during the Australian National Disability Strategy consultation. Studies on spinal cord injury patients focused on their physical and mental health. According to research, 26% to 96% of spinal cord injury patients experience pain (Williams et al. 2015)

Estimates of the prevalence of depression following spinal cord injuries have been subject to variations, which makes it challenging to figure out the prevalence of this condition as well as the resources required to detect and treat it. A total of sixteen percent of the general medical population in the United States may be suffering from major emotional disorder. The researchers found that patients with spinal cord injuries have higher levels of depression when compared to healthy controls (Craig et al., 2009). Hoffman et al., (2011) discovered that between 9.8% and 63.9% of inpatients and community residents who had suffered a spinal cord injury had probable depression. SCI patients with poor emotional well-being have inferior functional independence, recurring impacts, and less community and social engagement. Depression untreated can decrease quality of life and daily functioning (Lim et al., 2017). Systemic research by Craig et al., 2009 suggests 30% of SCI rehabilitation patients may acquire depression. Their studies showed that 17% to 25% of people had psychological issues, considerably more than in Australia. Healthcare consumption is associated with multiple chronic diseases, which are linked to poor health and decreased quality of life for persons with a spinal cord injury for over a year (Noonan et al., 2014).

Quality of life is how people feel about their lives in relation to their hopes, fears, desires, and the society that they live in, according to the World Health Organization (WHO). Marc LaLonde came up with the idea of health fields, which say that an individual's emotional well-being is the most important factor in determining their quality of life. It is thought that lifestyle, which includes all the things people do and how they act that, based on current medical knowledge, usually have likely good (healthy) or bad (unhealthy) effects, is the most important thing which influences the quality of life (Tulchinsky, 2018).

In comparison to the general population, the SCI community frequently has a lower quality of life. A number of variables, including age of injury, length of time since injury, degree of injury, abilities, social support, residence, earnings, convenience, marital status, neurogenic bowel and bladder dysfunction, stiffness, and pain, might contribute to a lower quality of life for SCI patients (Andresen et al., 2016). The United States of America had the highest quality of life, while Brazil had the worst, according to a study that compared the quality of life of persons with spinal cord injuries across developed nations in Europe and other regions of the globe using a number of indicators (Geyh et al., 2013). When comparing the variables linked to health for Chinese and American people with spinal cord injuries, another study discovered some interesting discrepancies.

In a study comparing the health systems and quality of life in 22 nations, researchers revealed that approximately 70 percent of participants in the Netherlands experienced outstanding levels of quality of life. The United States and Norway were both found to have excellent standards of quality of life, closely trailing behind the Netherlands. The estimated median Quality of Life among high-income nations ranged from 53% in South Korea to 66% in the Netherlands. Among upper-middle-income nations, it varied from 51% in China to 60% in Thailand. In lower-middle-income countries, it ranged from 50% in Morocco to 60% in Indonesia (Pacheco et al., 2020). According to the findings of Matheis and coworkers, major number of spinal cord injury individuals who participated in positive psychological rehabilitation, experienced better quality of life and improved emotional well-being.

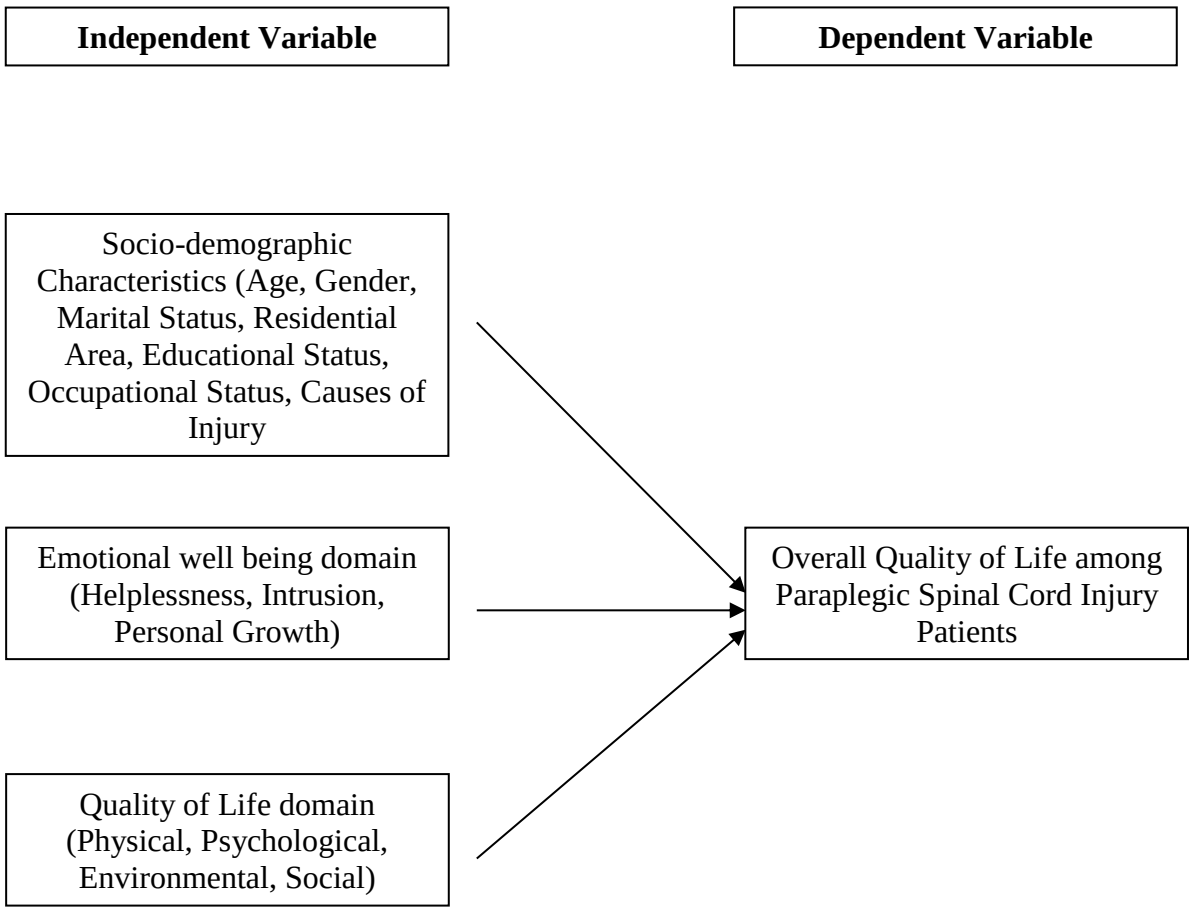
Emotional well-being was found to have a negative correlation with significant depression symptoms, as stated by Wilson et al. Emotional well-being was investigated by Siddall and associates in relation to the effects of spinal cord injury on pain and depression. According to studies, a lower degree of emotional well-being was associated with higher levels of both pain and sadness.

CHAPTER- II RESEARCH METHODOLOGY

A research project's methodology is an essential component that provides guidance on the research's guiding principles and a clear understanding of the kind of processive research that should be conducted, including research design, study area selection, sample procedure, data collection techniques, and data evaluation.

An outline of the methodology is provided in this chapter through the development of a research design, a section on sample size and study area, and the application of data collection techniques.

2.1 Conceptual Framework



2.2 Study Objectives

General Objective

- To explore the emotional well-being and quality of life of individuals with paraplegic spinal cord injury after completing a comprehensive rehabilitation program from CRP.

Specific Objectives

- To evaluate the emotional well-being of individuals with paraplegic SCI, focusing on dimensions such as happiness, intrusion and personal growth subsequent to rehabilitation.

- To assess the QoL of individuals with paraplegic SCI across diverse life domains, encompassing physical, social, environmental and psychological aspects after completing rehabilitation.

- To identify both strengths and areas requiring additional support in the emotional well- being and QoL of individuals with paraplegic SCI following rehabilitation.

- To monitor the progression of emotional well-being and QoL over time post-rehabilitation, facilitating the examination of long-term adjustment and outcomes.

2.3 Study Design

That was a cross sectional study of the paraplegic spinal cord injury patients who admitted for rehabilitation and successfully completed their rehabilitation at Centre for the Rehabilitation of the Paralysed (CRP). Records of all discharged patients with paraplegic spinal cord injuries between January 2020 to June 2023 were collected from Community Based Rehabilitation (CBR) department in details including patient's address, contact and their discharge summary. After that, their willingness to participate in the study was ensured by phone call by sharing the details (part of ethical consideration). Then data was collected through face-to-face interview by the data collector into the community to assess the level of emotional well-being and quality of life among the paraplegic SCI patients.

2.4 Study Population

Admitted and discharged paraplegic spinal cord injury patients who has successfully completed rehabilitation between January 2020 to June 2023 at CRP.

2.5 Study Area

For the study, the area was selected within several communities of Dhaka district including Savar, Dhamrai, Mirpur and Manikganj.

2.6 Study Period

The study was conducted from October 2023 to April 2024, including thesis proposal approval, data collection, data analysis and thesis write-up. In particular, data collection was conducted for five months from October 1st, 2023 to February 29, 2024.

2.7 Sample Size

The study conducted at CRP by Hossain et al., (2016) shows that the CRP admits approximately 390 patients a year with recent spinal cord injury. This makes the CRP one of the largest acute spinal cord injury units in Bangladesh. It receives patient referral from all over Bangladesh's hospital or clinic. Here, the sample size was estimated according to following formula with 95% confidence interval, 5% margin of error and a total population of discharged paraplegic spinal cord injury patient's number 233, from that the total sample size was 146. The investigator collected only 80 patient's data from the selected area. Meanwhile, that was an academic research and had time limitation. Besides, there was unwillingness from the participants to give consent to conduct the study and few didn't respond to phone call.

2.8 Inclusion & Exclusion Criteria:

2.8.1 Inclusion Criteria:

- Patients who were willing and able to provide informed consent for participation in the study.
- Patient aged 18 years or older
- Paraplegic patients with a confirmed spinal cord injury who have completed the full rehabilitation program at the Centre for the Rehabilitation of the Paralysed.
- Patients who were not currently undergoing any other major medical treatments that could significantly impact their emotional well-being and quality of life assessments.

2.8.2 Exclusion Criteria:

- Patient who has shown unwillingness to participate in the study.
- Patients with cognitive impairments that may affect their ability to self-report emotional well-being and quality of life.
- Patients who were undergoing any other major medical treatments that could significantly impact their emotional well-being and quality of life assessments.
- Participant with substance or drug user that may impact on result.

2.9 Sampling Technique

Cluster random sampling technique was used to collect data from the community.

2.10 Data Collection Tool

- Spinal cord lesion emotional well-being questionnaire (Domain: Helplessness, Intrusion, Personal growth (Elfström et al., 2006). The questionnaire was finalized through linguistic validation process.

- WHOQoL brief questionnaire (Domain: Physical, Psychological, Environmental, Social) (Izutsu et al., 2005).

2.11 Data Management & Analysis

This research was carried out following the ethical standards that were established by the Institutional Review Board (IRB), the Centre for the Rehabilitation of the Paralysed (CRP) and the Ethical Review Board (ERB). These principles were developed in accordance with the research that was carried out. Furthermore, in order to avoid any potential difficulties, it made certain that it followed with the regulations that were developed by the Bangladesh Rehabilitation Council (BRC).

This was done in order to circumvent any potential obstacles. To ensure that the participant's right to privacy was protected, the investigator made certain that all applicable rules and regulations were followed in the appropriate manner. This was done in order to protect the participant's right to privacy. For the purpose of gathering information, the questionnaire included both semi-structured and structured formats from the beginning. There was information gathered through the usage of this questionnaire. The individual who was undertaking the responsibility of conducting the research had to cope with the task of producing a permission form that highlighted the idea that participation was entirely voluntary. Only the investigator had access to the folder that contained the information that was related to the participants. This folder contained the information from the participants. In addition to that, it was ensured that the information would be maintained under strict confidence.

In order to provide assistance with the process of data monitoring, the Community-Based Rehabilitation (CBR) department offered help. Additionally, four students who were chosen as representatives of the BHPI were trained to assist in the collection of data. During the face-to-face interviews that were carried out for the purpose of data collection, participants were provided with the opportunity to query about any words that they found to be unclear. Interviews were carried out in person for these purposes.

To analyze the data, descriptive statistics were utilized. According to Hicks (2009), descriptive statistics refers to techniques for describing a group of findings in terms of its most interesting aspects. Statistical Package for the Social Science (SPSS) version 20 was used to analyze the data. The investigator created a computer-based data definition record file that contains a list of the variables. The investigator defined the types, values, decimal, label alignment, and measurement level of the data and entered the names of the variables in the variable view of SPSS.

The next step was to organize up new data files and verify that all data had been appropriately entered from the questionnaire sheet into the SPSS data view before examining the inputted data set. The raw data were then prepared for SPSS analysis. On frequency and sensitivity tables, data were gathered. The mean plus Standard Error (SE) for each variable was used to calculate central tendency.

After, completing the initial data collection, every answer was cross checked to find out mistakes or unclear information. Then Microsoft word 10 was used to create most of the graphs and charts. Then data was analyzed through descriptive and interferential statistics. In descriptive part in case of parametric data the central tendency and the measure of dispersion was presented through mean and standard deviation. The categorical data was presented as frequency and percentage of proportion through different visualization tool such as pie chart, bar chart. To find out the relationship among sociodemographic, physical parameters chi- square test for independence and Pearson's co-relation test was applied. In case of two categorical variable chi- square test and for two continuous variable Pearson correlation test was applied. The significance level was set at ($p < 0.05$)

2.12 Quality Control & Quality Assurance

All data collection process was done accurately and interpret carefully according to the guideline from the supervisor. Linguistic validation of the questionnaire (spinal cord lesion-emotional well-being) was carried out followed by pilot study was conducted for the ten number of participants and questionnaire was finalized. Before starting, the data collection, investigator arranged a training session for the data collector and immediately after the collection of the data it was put on the SPSS.

2.13 Ethical Consideration

Throughout the study, the investigator followed the ethical standards set forth in the 2014 World Medical Association Declaration of Helsinki. This involved obtaining informed consent, safeguarding participant confidentiality and minimizing possible risks. All participants provided informed consent by signing a detailed form that stressed the voluntary nature of their involvement and their right to withdraw at any time without facing any repercussions.

IRB approval

The investigator got ethical approval from the Institutional Ethical Review Board through the Rehabilitation Science Department, BHPI.

IRB clearance number: CRP/BHPI/IRB/10/2023/782

Informed consent

The investigator provided adequate information to the participants through an information sheet and confirmed the written consent for the research participation.

Confidentiality

The investigator was able to view the recorded data, with participant identities only being disclosed to the supervisor as outlined in the information sheet. Participants were promised that their identities would remain confidential for any future purposes, including report writing, publication, conferences, discussions, and presentations. All data was securely stored in a locked folder on the student researcher's computer.

Risk and Beneficence

Participating in this research carried no risks or monetary benefits, as clearly outlined in the information sheet. Confidentiality was strictly maintained in all aspects. The investigator ensured that all information remained confidential. Following relevant academic and clinical guidelines, the researcher was qualified to conduct the study. Participant rights were safeguarded and the investigator was responsible for addressing any questions. This was purely observational study with minimal ethical concerns due to the lack of intervention.

CHAPTER- III RESULTS

3.1 Socio-Demographic Analysis

The sample's age distribution analysis shows that, of the participants, the majority (n = 32, 40%) between the age range of (18-27) years, second majority (n=23, 28.8%) between the age range of (28-37) years. Therefore, it can be said that most of the participants were under 40 years old, and the remaining participants (n = 25, 31.3%) were 40 years of age or over.

Table 1: Frequency of Age Range

Age Range (years)	Frequency	Percent
18-27	32	40.0
28-37	23	28.8
38-47	11	13.8
48-57	12	15.0
58-67	2	2.5
Total	80	100.0

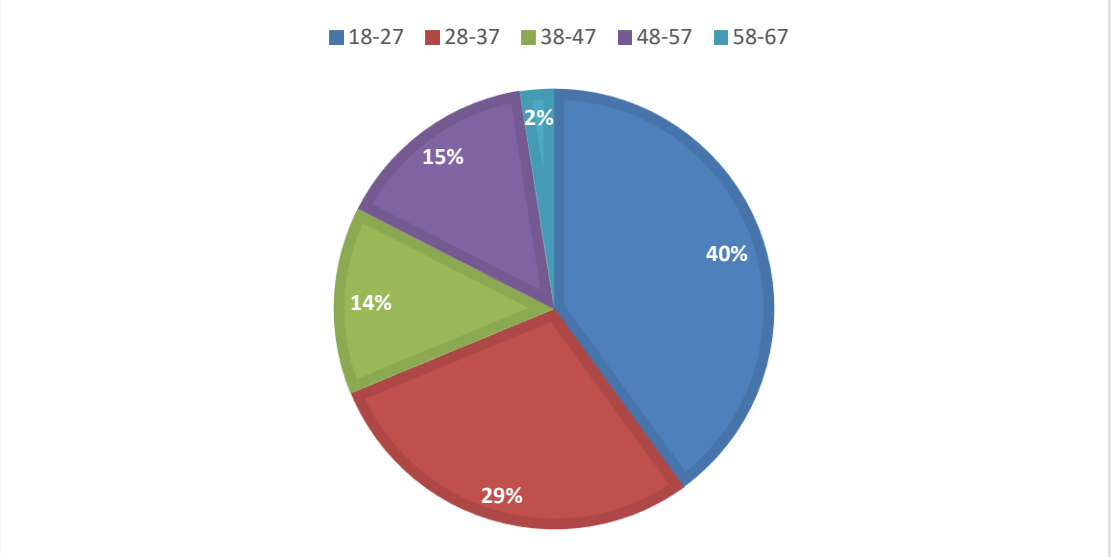


Figure-1: Age Range of the Participants

The gender distribution of the sample reveals that the majority of participants were male (n = 72, 90.0%), while a smaller proportion were female (n = 8, 10.0%).

Table 2: Frequency of Gender.

	Frequency	Percent
Male	72	90.0
Female	8	10.0
Total	80	100.0

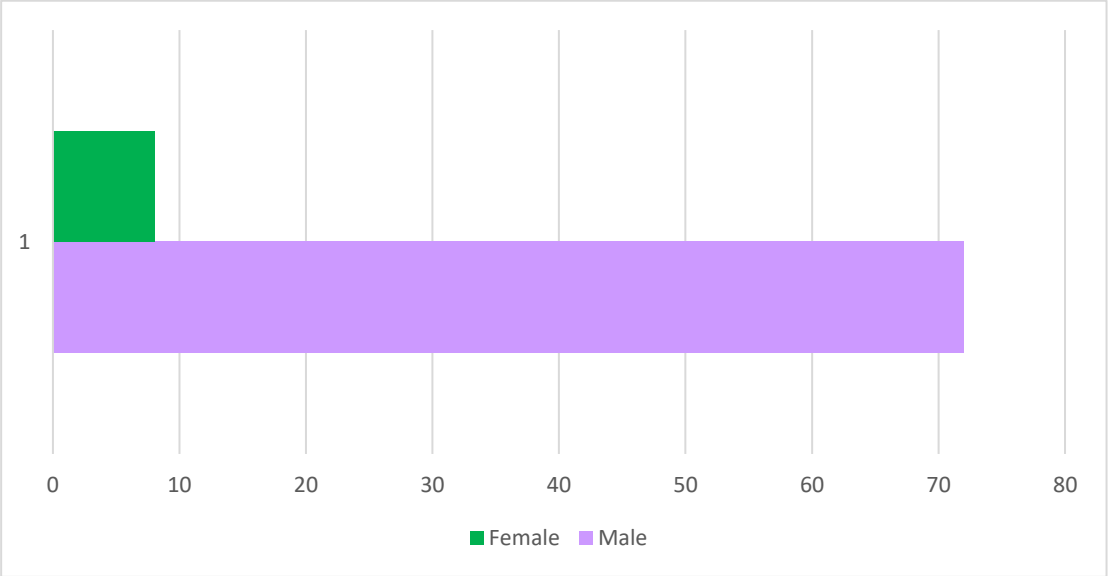


Figure-2: Gender of the Participants

The sample's marital status distribution showed that most individuals (n = 46, 57.5%) were married, a sizable chunk (n = 31, 38.8%) were single, and a little percentage (n = 3, 3.8%) were divorced.

Table 3: Frequency of Marital Status.

	Frequency	Percent
Married	46	57.5
Unmarried	31	38.8
Divorced	3	3.8
Total	80	100.0

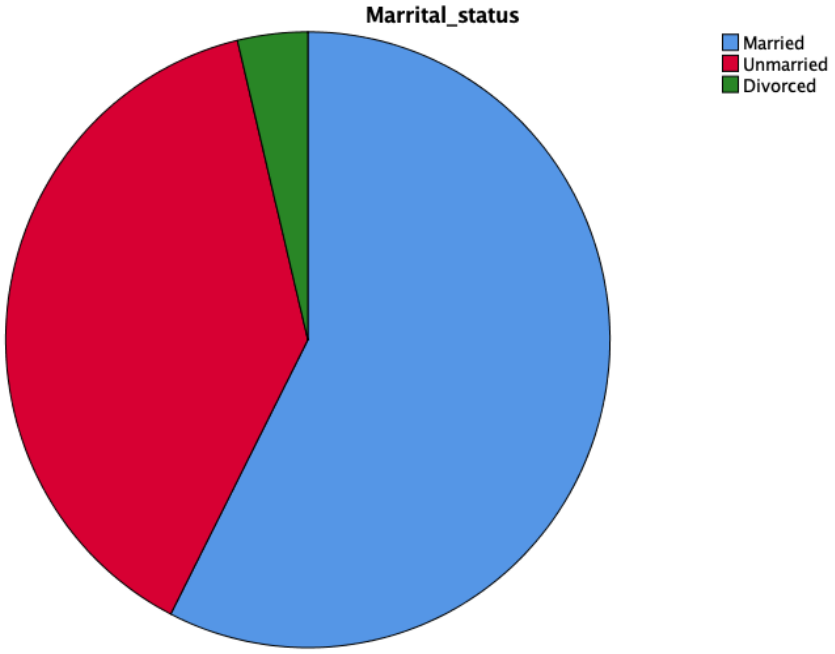


Figure-3: Marital Status of the Participants

The examination of residential locations revealed that the majority of participants lived in rural areas (n = 61, 76.3%), with a smaller minority living in urban areas (n = 19, 23.8%).

Table 4: Frequency of Residential Area.

	Frequency	Percent
Rural	61	76.3
Urban	19	23.8
Total	80	100.0

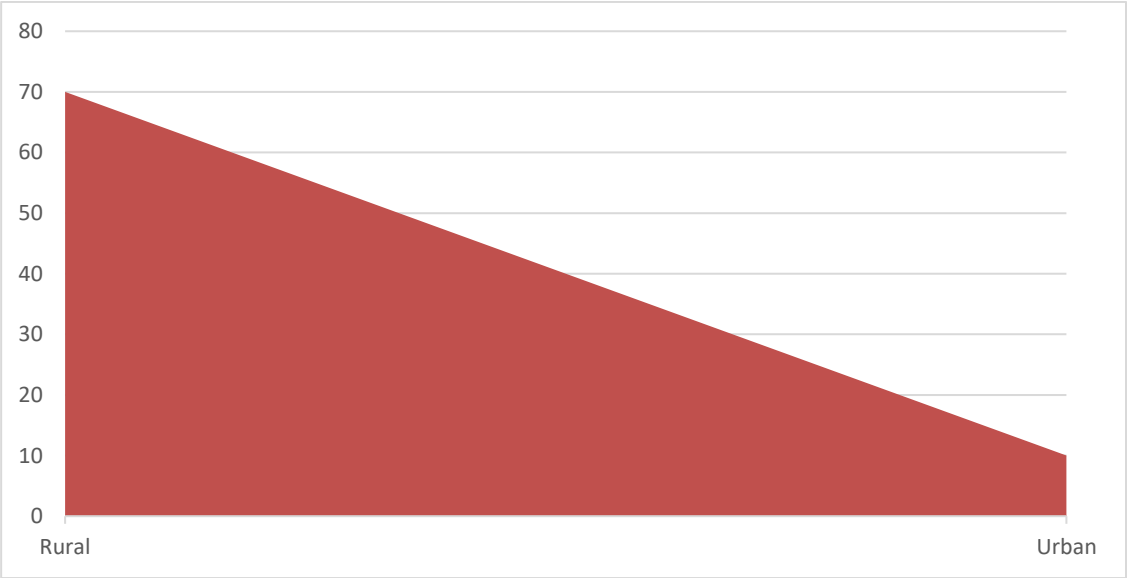


Figure-4: Residential Area of the Participants

Following an examination of the participant's educational backgrounds, it was determined that (n = 18, 22.5%) were illiterate, (n = 24, 30.0%) had finished primary school, (n = 19, 23.8%) had finished the SSC, (n = 10, 12.5%) had finished the HSC, and (n = 9, 11.3%) had graduated.

Table 5: Frequency of Education Status.

	Frequency	Percent
Illeterate	18	22.5
Primary	24	30.0
SSC	19	23.8
HSC	10	12.5
Graduate	9	11.3
Total	80	100.0

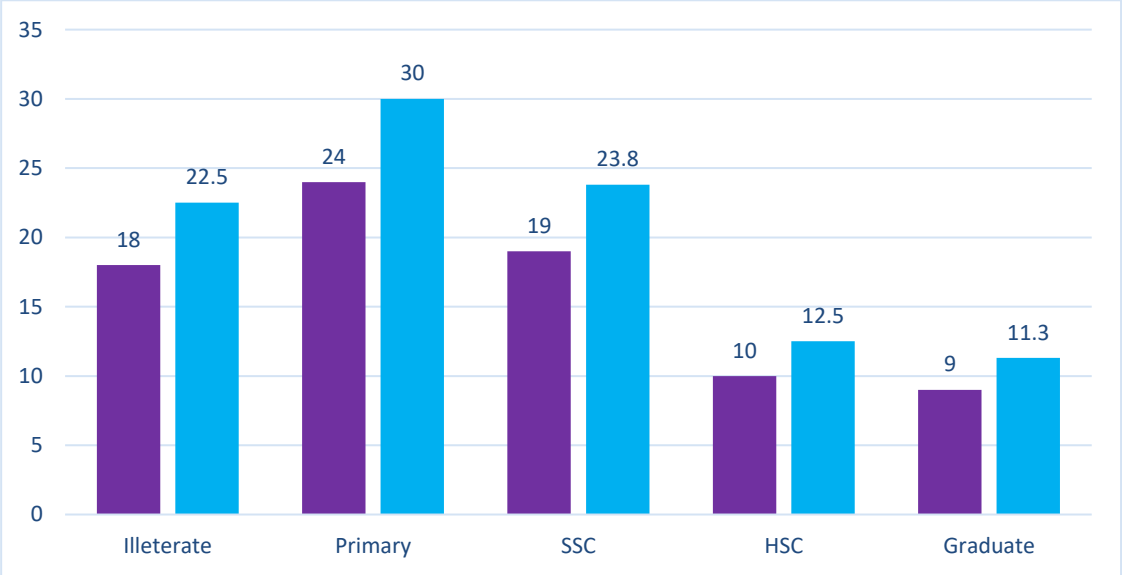


Figure-5: Educational Status of the Participants

The analysis of occupational status revealed that among the participants, (n = 16, 20.0%) were involved in business, (n = 5, 6.3%) were garment workers, (n = 1, 1.3%) were housewives, (n = 16, 20.0%) were students, (n = 6, 7.5%) were government employees, and (n = 36, 45.0%) were unemployed.

Table 6: Frequency of Occupational Status.

	Frequency	Percent
Business	16	20.0
Garment's worker	5	6.3
Housewife	1	1.3
Student	16	20.0
Government employee	6	7.5
Unemployed	36	45.0
Total	80	100.0

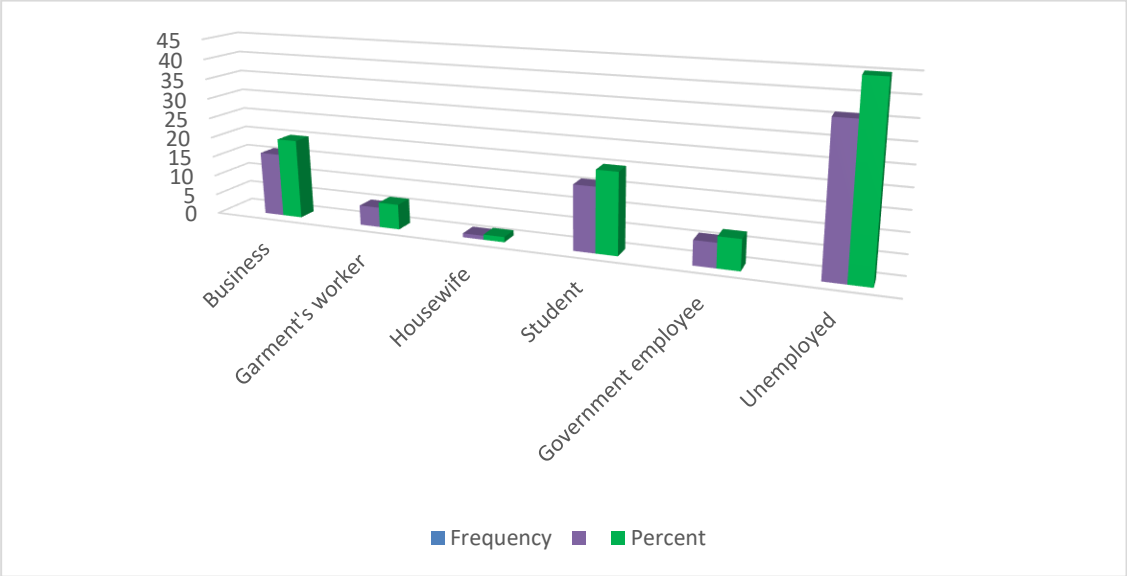


Figure-6: Occupational Status of the Participants

Analysis of the causes of injuries revealed that road accidents wounded (n = 29, 36.3%) of the participants, falls from heights hurt (n = 35, 43.8%), falling with large bundles or sacks behind injured (n = 14, 17.5%), and transverse myelitis injured (n = 2, 2.5%).

Table 7: Frequency of Cause of Injury.

	Frequency	Percent
Road accident	29	36.3
Fall from height	35	43.8
Falling down with heavy bags or sacks behind	14	17.5
Transverse myelitis	2	2.5
Total	80	100.0

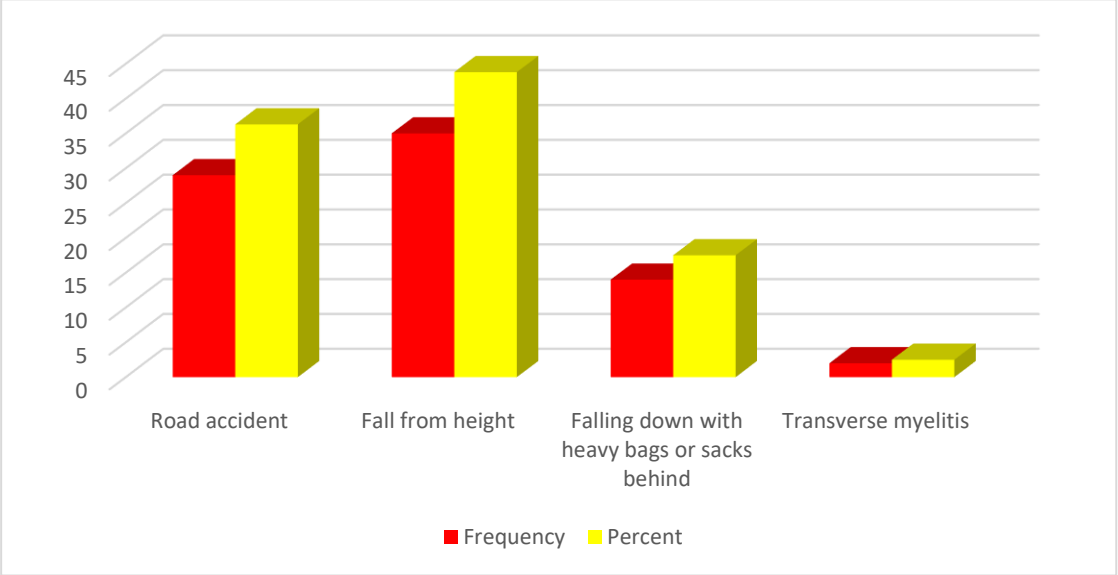


Figure-7: Causes of the Injury of the Participants

3.2 Descriptive Analysis of Emotional Well-Being Domains

According to the descriptive statistics, participant's reports of their injury-related psychological experiences were on the moderate side. They expressed, on average, feeling lost and unsure about what to do (M = 2.45, SD = 0.884), helplessness over their life (M = 2.44, SD = 0.824), and isolation from others due to their situation's lack of understanding (M = 2.42, SD = 0.823). They also mentioned worrying about how their injuries would affect their life (M = 2.30, SD = 0.818) and feeling inferior to those who are not ill (M = 2.53, SD = 0.795). Additionally, they said that they occasionally felt guilty about their lesion (M = 2.84, SD = 0.934).

Table 8: Descriptive of Helplessness.

	N	Minimum	Maximum	Mean	Std. Deviation
Often_feel_loss_without_knowing_what_to_do	80	1	4	2.45	.884
Often_feels_like_I_have_no_control_over_my_life	80	1	4	2.44	.824
Often_feels_isolated_others_do_not_understand_my_situation	80	1	4	2.42	.823
Often_feel_inferior_to_people_who_are_not_injured	80	1	4	2.53	.795
Often_feel_anxious_about_injury_might_influence_my_life	80	1	4	2.30	.818
Sometimes_feel_like_I_am_ashamed_about_my_lesion	80	1	4	2.84	.934

The descriptive data indicate participant's perspectives on their injury experiences. On average, participants expressed a moderate inclination to be resentful about their condition, with a mean score of 2.43 (SD = 0.759). Similarly, participants frequently wondered why they had been harmed, as evidenced by a mean score of 2.28 (SD = 0.811). Furthermore, participants believed their accident was an undeserved punishment, as evidenced by a mean score of (M = 2.82, SD = 0.952).

Table 9: Descriptive of Intrusion.

	N	Minimum	Maximum	Mean	Std. Deviation
Probably_never_get_over_feeling_bitter	80	1	4	2.43	.759
Often_ask_myself_why_I_was_injured	80	1	4	2.28	.811
My_accident_feels_like_an_undeserved_punishment	80	1	4	2.82	.952

The way that participants thought back on the effects of their injury experiences points to complex psychological reactions. Participants generally supported the idea that their personal development and maturity have been aided by the accident, as indicated by their mean score of (M = 2.04, SD = 0.702). Additionally, a mean score of (M = 2.30, SD = 0.848) indicated that participants felt better about themselves after their injury. These results highlight how complicated people's perspectives and coping strategies can be after experiencing traumatic events.

Table 10: Descriptive of Personal Growth.

	N	Minimum	Maximum	Mean	Std. Deviation
I_believe_the_accident_has_made_me_more_mature	80	1	4	2.04	.702
Since_my_injury_I_feel_better_about_myself	80	1	4	2.30	.848

3.3 Descriptive Analysis of Quality of Life Domains

Participant's self-reported assessments of their physical condition and daily functioning reveal diverse experiences following injury. On average, participants rated the extent to which their physical condition prevents work at (M = 3.09, SD = 1.171), indicating moderate impairment. The need for medical treatment to facilitate daily life activities received a higher average rating of (M = 3.84, SD = 0.863), suggesting a more pronounced dependency on medical intervention. Participants reported relatively lower scores for energy levels to perform daily activities (M = 2.94, SD = 0.985) and mobility (M = 2.54, SD = 0.913). Sleep quality was rated at (M = 2.73, SD = 1.043), reflecting moderate satisfaction. Lastly, participants' ability to perform activities of daily living (ADL) and job-related tasks were moderately assessed, with mean scores of (M = 2.84, SD = 0.863) and (M = 2.88, SD = 0.905), respectively. These findings underscore the multifaceted impact of injury on various aspects of individuals' daily lives.

Table 11: Descriptive of Physical Quality of Life.

	N	Minimum	Maximum	Mean	Std. Deviation
Physical_condition_prevents_Work	80	1	5	3.09	1.171
Need_of_medical_treatment_for_daily_life	80	2	5	3.84	.863
Enough_energy_to_perform_daily_activity	80	1	5	2.94	.985
How_well_can_move	80	1	4	2.54	.913
Sleep	80	1	5	2.73	1.043
ADL_Ability	80	1	4	2.84	.863
Job	80	1	5	2.88	.905

The participant's subjective assessments of their psychological and emotional well-being are indicative of different levels of experience after injury. Participants generally expressed a moderate degree of satisfaction with life (M = 2.80, SD = 0.973) and a moderate level of sense of purpose in life (M = 2.80, SD = 0.906). The average assessment for concentration was marginally higher (M = 3.09, SD = 1.070), indicating that participants had moderate to high levels of concentration. Additionally, participant's modest levels of self-satisfaction (M = 3.11, SD = 0.886) showed that they generally thought well of themselves. On the other hand, individual's experiences with negative emotions were a little more variable, with an average value of (M = 2.75, SD = 1.268), indicating a spectrum of emotional experiences. These results demonstrate the intricate relationship that exists between psychological resilience and emotional well-being following an accident.

Table 12: Descriptive of Psychological Quality of Life.

	N	Minimum	Maximum	Mean	Std. Deviation
Enjoy_life	80	1	5	2.80	.973
Life_meaningful	80	1	5	2.80	.906
Able_to_concentration	80	1	5	3.09	1.070
Satisfaction_with_herself	80	1	5	3.11	.886
Negative_feelings	80	1	5	2.75	1.268

The participant's perceptions of numerous aspects of their everyday life and environment after injury were evaluated. On average, participants felt reasonably safe in their daily lives (M = 2.84, SD = 0.878) and thought their physical surroundings was relatively healthy (M = 3.39, SD = 0.834). However, views of financial sufficiency were more variable, with individuals expressing a moderate level of adequacy in meeting their demands (M = 2.16, SD = 0.999). Similarly, participants reported moderate availability of knowledge needed in daily life (M = 2.84, SD = 0.892) and leisure activities (M = 2.72, SD = 1.006). Perceptions of living conditions were slightly higher, indicating a moderately satisfactory environment (M = 3.21, SD = 1.002), whereas perceptions of transit alternatives were moderate (M = 2.70, SD = 0.947). These findings reflect the multifaceted nature of individual's experiences and perceptions in their post-injury daily lives.

Table 13: Descriptive of Environmental Quality of Life.

	N	Minimum	Maximum	Mean	Std. Deviation
Feel_safe_in_daily_life	80	1	5	2.84	.878
Healthy_physical_environment	80	1	5	3.39	.834
Enough_money_to_meet_your_needs	80	1	5	2.16	.999
Available_information_need_in_your_day_to_day_life	80	1	5	2.84	.892
Opportunity_for_leisure_activities	80	1	5	2.72	1.006
Living_place_condition	80	1	5	3.21	1.002
Transport	80	1	5	2.70	.947

We looked explored how the participants perceived different facets of their social and personal interactions. Participant's views of their personal connections were generally positive (M = 3.46, SD = 0.871), indicating a moderate to high degree of happiness in this domain. The participant's mean score for their sex life was slightly lower (M = 2.46, SD = 0.728), indicating a modest level of satisfaction or concerns in this area. Furthermore, participants said that they had moderate levels of support from friends (M = 2.88, SD = 1.011), indicating that participant's perceptions of social support varied. These results provide insight into the complex ways that people experience and perceive their social and personal interactions after an accident.

Table 14: Descriptive of Social Quality of Life.

	N	Minimum	Maximum	Mean	Std. Deviation
personal_relationship	80	1	5	3.46	.871
Sex_Life	80	1	4	2.46	.728
support_from_friends	80	1	4	2.88	1.011

3.4 Correlation

The examination of correlations showed many important connections between the variables studied. Feelings of helplessness showed a significant positive relationship with intrusion, suggesting that experiencing helplessness was linked to intrusive thoughts or memories about the injury ($r = .634$, $p < .001$). Furthermore, a strong positive relationship was found between feelings of helplessness and both social quality of life ($r = .542$, $p < .001$) and overall quality of life ($r = .505$, $p < .001$), indicating that increased levels of helplessness were associated with lower social and overall quality of life measures. Likewise, intrusion demonstrated a strong association with mental well-being ($r = .388$, $p < .001$) and general well-being ($r = .439$, $p < .001$). Furthermore, there were significant positive connections between environmental quality of life and social quality of life ($r = .600$, $p < .001$) as well as overall quality of life ($r = .773$, $p < .001$). These results emphasize how psychological, social, and environmental elements are all intertwined with individuals' quality of life after an injury.

Table 15: Correlation.

		Helplessness	Intrusion	Personal Growth	Physical Quality of Life	Psychological Quality of Life	Environmental Quality of Life	Social Quality of Life	Overall Quality of Life
Helplessness	Pearson Correlation	1	.634**	-.052	.216	.254*	.380**	.542**	.505**
	Sig. (2-tailed)		.000	.644	.055	.023	.001	.000	.000
	N	80	80	80	80	80	80	80	80
Intrusion	Pearson Correlation	.634**	1	.155	.218	.388**	.285*	.356**	.439**
	Sig. (2-tailed)	.000		.169	.052	.000	.010	.001	.000
	N	80	80	80	80	80	80	80	80
Personal Growth	Pearson Correlation	-.052	.155	1	.030	-.147	-.111	-.210	-.165
	Sig. (2-tailed)	.644	.169		.793	.192	.325	.061	.144
	N	80	80	80	80	80	80	80	80
Physical Quality of Life	Pearson Correlation	.216	.218	.030	1	.369**	.307**	.360**	.675**
	Sig. (2-tailed)	.055	.052	.793		.001	.006	.001	.000
	N	80	80	80	80	80	80	80	80
Psychological Quality of Life	Pearson Correlation	.254*	.388**	-.147	.369**	1	.222*	.203	.593**
	Sig. (2-tailed)	.023	.000	.192	.001		.048	.071	.000
	N	80	80	80	80	80	80	80	80
Environ	Pearso	.380**	.285	-	.307	.222*	1	.600	.773

mental Quality of Life	n Correlation		*	.111	**			**	**
	Sig. (2-tailed)	.001	.010	.325	.006	.048		.000	.000
	N	80	80	80	80	80	80	80	80
Social Quality of Life	Pearson Correlation	.542**	.356**	-.210	.360**	.203	.600**	1	.800**
	Sig. (2-tailed)	.000	.001	.061	.001	.071	.000		.000
	N	80	80	80	80	80	80	80	80
Overall Quality of Life	Pearson Correlation	.505**	.439**	-.165	.675**	.593**	.773**	.800**	1
	Sig. (2-tailed)	.000	.000	.144	.000	.000	.000	.000	
	N	80	80	80	80	80	80	80	80

3.5 Multiple Linear Regression

The overall model was found to be significant in the multiple linear regression analysis, indicating an explanation of 31.2% of the variance in overall quality of life, with $F(3, 76) = 11.473$, $p < .001$. On their own, the indicators of helplessness ($\beta = .333$, $p = .010$) and intrusion ($\beta = .257$, $p = .047$) had notable positive standardized coefficients, meaning that increased levels of helplessness and intrusion were linked to better quality of life in general. Nevertheless, there was not a strong indication that personal development had a notable impact on the overall satisfaction with life ($\beta = -.187$, $p = .060$). The tolerance values fell between 0.938 and 0.993, suggesting that there were no problems with multicollinearity among the predictors.

Table 16: Model Summary.

R Square	df	F	Sig.
.321	3	11.473	.000

Table 17: Coefficients.

	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95% CI Lower	95% CI Upper
(Constant)	9.195	.820		11.207	.000	7.561	10.829
Helplessness	.834	.315	.333	2.651	.010	.207	1.461
Intrusion	.555	.274	.257	2.022	.047	.008	1.101
Personal Growth	-.480	.252	-.187	-1.906	.060	-.983	.022

CHAPTER- IV DISCUSSION AND CONCLUSION

4.1 Discussion

The study's findings provide in-depth understandings of the emotional well-being, quality of life and demographic characteristics of the individuals who have had spinal cord injury and who were living in the community. According to the demographic analysis, the sample is predominantly young, male, and from a variety of professional and educational backgrounds. The psychological and social assessments indicate significant degrees of helplessness, intrusion, and complex feelings of personal growth following injury. Furthermore, the quality of life rating indicates a moderate worsening in the social, psychological, environmental, and physical domains. The correlation and regression studies reveal the complicated linkages between these variables that improve the overall quality of life for individuals who have been injured. A comprehensive overview of these findings is given in this discussion, along with an analysis of their possible applications, implications, and usefulness to the literature as it stands right now. The demographic profile of the sample shows that most of the participants are male, under 40, and from rural areas. This demographic makeup is consistent with findings from other studies indicating that younger people especially male are more likely to participate in risky activities like physical labor or jobs involving transportation in rural areas (Haagsma et al., 2016).

The gender gap observed, with 90% of the participants being men, highlights a crucial area for focused interventions because men are frequently less inclined to seek medical attention and mental health support after being injured (CDC, 2020). This discrepancy suggests a need for gender-specific strategies that address the reluctance of men to seek help and emphasize the importance of early medical and psychological intervention. An analysis of emotional well-being experiences indicates that individuals commonly face moderate levels of intrusion, helplessness, and complex emotions associated with personal growth. The findings line up with previous studies on the emotional consequences of serious injuries, which often encompass feelings of guilt, anxiety, isolation, grief, and a sense of helplessness (Khan et al., 2017).

Notably, the average ratings for shame (M = 2.84) and feelings of inferiority (M = 2.53) emphasize the significant psychological burden carried by these individuals. These feelings might hinder the process of recovery and rehabilitation, highlighting the importance of having comprehensive psychological support services to deal with these concerns. Participant's thoughts on their injury experiences, such as their perceptions that their pain has matured them or that they feel better about themselves now that they have been hurt, indicate a complex psychological reaction. Some people may believe that their experience has enhanced their self-perception and allowed them to grow personally, while others may suffer from resentment and thoughts of unjust punishment. This contradiction implies that the process of psychological adjustment after an accident is greatly influenced by an individual's resilience and coping strategies (Tedeschi & Calhoun, 2004).

The quality of life score present a contradictory representation. Participants experience moderate limitations in their energy, mobility, and sleep quality, along with considerable impairments in their physical well-being and significant requirements for medical intervention. The findings align with research that highlights the various impact of physical injuries on daily functioning and the crucial role of medical treatment in assisting individuals in coping with these challenges (Kumar et al., 2018). These findings underscore the necessity of comprehensive rehabilitation programs that address not only physical recovery but also the improvement of overall well-being through consistent medical support. The psychological quality of life is characterized by a combination of moderate to high levels of concentration and self-satisfaction, together with a sense of purpose and moderate life satisfaction. The range of negative emotions (M = 2.75, SD = 1.268) suggests a wide variety of emotional responses that occur after an injury, ranging from sensitivity to resilience. The moderate evaluations for environmental quality of life, particularly in terms of information accessibility and financial adequacy, highlight the socioeconomic challenges that frequently correlate with physical injuries. These challenges can worsen the physical and psychological costs experienced by the individuals with spinal cord injury (Gabbe et al., 2014).

The social quality of life assessment indicates the existence of moderate levels of friend support and generally favorable personal relationships. However, the discrepancies in social assistance and reduced happiness with sexual experiences (M = 2.46) underscore the societal adjustments and potential isolation that individuals may encounter following an injury. The findings align with research indicating that intimate connections and social assistance play a crucial role in the improvement of recovery outcomes and overall state of emotional well-being (Holt-Lunstad et al., 2010). These findings emphasize the importance of developing strong social networks and support systems to assist in the emotional well-being of the individuals with spinal cord injury.

The demographic analysis presents helpful insight into the participant's characteristics and their possible impact on the study's results. Approximately 68.8% of the participants were below the age of 40, indicating a very juvenile group. The age distribution observed may indicate an increased vulnerability or participation in activities that make younger individuals more susceptible to injuries (Smith et al., 2019).

The gender distribution, with 90% male participants, reflects to global patterns where males generally have greater injury rates as a result of their participation in risky jobs and activities (CDC, 2020). The imbalanced gender representation highlights the necessity for remedies and support mechanisms that are specifically designed to meet the particular experiences and difficulties experienced by the participant's after sustaining an injury. The statistics on marital status showed that the majority of participants were married, accounting for 57.5% of the sample. This understanding might affect the psychological and social aspects of injury rehabilitation. Married individuals may have access to broader social support networks, which play a crucial role in promoting emotional well-being and facilitating rehabilitation (Umberson & Montez, 2010). On the other hand, the significant proportion of individuals who are not married (38.8%) and have gone through divorce (3.8%) may suggest that they could be more susceptible to possible weaknesses because they lack immediate social assistance, which could affect their overall well-being.

Moreover, the substantial proportion of individuals from rural regions (76.3%) emphasizes the difference in injury rates and perhaps in the availability of healthcare services between rural and urban locations. Rural inhabitants frequently encounter obstacles such as restricted availability of sophisticated healthcare services, which can impact their progress in rehabilitation (Arcury et al., 2005).

The educational background of individuals has a significant impact on their health outcomes and ability to cope with challenges. The diverse educational backgrounds of the participants, including 22.5% who are unable to read and write and 30% who have completed just primary education, indicate possible obstacles in comprehending medical advice and obtaining the essential information for rehabilitation (Ross & Wu, 1995). This highlights the necessity of individualized educational programs to improve health literacy among those who have been injured. The occupational status provides more insight on the socio-economic aspects of the sample, revealing that nearly half (45%) of individuals are without occupation. The significant unemployment rate following an injury highlights the economic consequences of injuries and emphasizes the significance of vocational rehabilitation programs in facilitating the reintegration of individuals into the workforce (WHO, 2011).

The analysis of the variables contributing to injuries indicates that falls from high places (43.8%) and traffic collisions (36.3%) are the primary causes, with falling while carrying heavy objects (17.5%) ranking third. The results align with global injury statistics, which indicate that falls and road traffic accidents are significant contributors to morbidity and mortality caused by injuries (WHO, 2018). Analyze the specific variables that lead to injuries in this particular population in order to develop specific preventative measures and customized interventions to reduce these risks. For example, by improving road safety measures and enforcing safety standards at work, the occurrence of such injuries can be greatly diminished (Peden et al., 2004).

The analysis of individual's emotional well-being indicates that there are moderate levels of distress, with prevalent feelings of feeling helplessness, isolation, and anxiety. The results align with previous research that emphasizes the significant psychological consequences of injuries, frequently resulting in illnesses such as sadness, anxiety (Khan et al., 2017). The prevalence of feelings of inadequacy and guilt underscores the necessity of psychological help and counseling services to tackle these emotional burdens and promote more effective coping strategies. Incorporating psychological treatment into the rehabilitation process can greatly improve the overall quality of life for spinal cord injured patients (Richmond et al., 2003).

Interestingly, participants also indicated experiences of growth as individuals and the ability to recover from challenges, such as increased maturity and improved self-image after the injury. This is in line with the idea of post-traumatic growth, which refers to the positive psychological adaptations that individuals undergo after facing adversity (Tedeschi & Calhoun, 2004). The coexistence of bitterness and a sense of unjust punishment, combined with documented growth as an individual, indicates a complex relationship between negative and positive psychological reactions to injury. The importance of promoting resilience and encouraging effective coping mechanisms is emphasized by these observations. These factors aid individuals in overcoming the difficulties of recovering from injuries and taking chances for personal growth (Linley & Joseph, 2004).

The participant's self-reported physical quality of life suggests significant limitations in their ability to carry out everyday activities and a notable dependency on health care. The mean scores for energy levels, mobility, and capacity to carry out activities of daily living (ADL) emphasize the significant impact of injuries on physical health and functionality. The results align with prior studies that highlight the enduring physical effects of serious injuries and underscore the need of comprehensive rehabilitation programs in restoring physical capabilities (Kumar et al., 2018).

Enhancing access to rehabilitation services is crucial for improving the physical quality of life and enabling injured individuals to regain independence. The psychological quality of life score indicates a moderate level of life satisfaction and a sense of purpose, accompanied by variability in the experience of unpleasant emotions. These findings emphasize the complex and diverse aspects of emotional well-being after an injury, where individuals may continuously experience both positive and negative emotions. The modest degrees of self-contentment and focus indicate that while certain individuals are able to sustain psychological balance, others may encounter persistent emotional instability. Prior research has demonstrated that psychological approaches, such as cognitive behavioral counseling and mindfulness-based strategies, are beneficial in addressing these problems and improving psychological resilience (Simpson et al., 2011).

The evaluation of the environmental quality of life indicates a reasonable level of contentment with the physical environment and safety in daily life. However, there is variance in terms of financial stability and availability of leisure activities. These findings highlight the wider socio-economic difficulties experienced by injured individuals, notably in terms of fulfilling their financial requirements and participating in recreational activities. The moderate level of contentment regarding living conditions and transportation choices indicates that the environmental support systems are only partially effective in aiding rehabilitation. By implementing policy reforms and community support programs, we may greatly improve the overall well-being of injured individuals by addressing these socio-economic aspects. Measures including providing financial aid, ensuring convenient transportation, and creating leisure and recreational options are essential for enhancing the environmental quality of life (World Health Organization, 2011).

Social quality of life test reveals a modest level of support from friends and generally favorable personal relationships. However, there is decreased satisfaction reported with social activities and sexual life. These findings indicate the social adaptations and possible isolation that individuals may experience following an injury. Research has shown that strong social networks have a positive impact on mental health outcomes, highlighting the crucial importance of social support in emotional well-being (Holt-Lunstad et al., 2010).

The lower happiness with one's sexual life is a frequently overlooked aspect of the overall quality of life following an injury. By providing counseling and support groups, the social well-being of injured individuals can be greatly enhanced by addressing their social and intimate aspects. The correlation analysis reveals strong associations between different psychological experiences and distinct aspects of quality of life. Feelings of helplessness and interference have a negative correlation with the quality of life in terms of physical, psychological, and social aspects. The previously mentioned associations highlight the harmful influence of negative psychological states on one's general well-being and emphasize the significance of addressing these emotions through specific interventions (Khan et al., 2017).

The presence of favorable connections between self-reported personal growth and enhanced psychological and social quality of life indicates that promoting adaptability and good coping techniques can increase overall well-being (Tedeschi & Calhoun, 2004). Regression studies provide additional clarity on the factors that predict different aspects of quality of life. Psychological variables such as guilt and helplessness, in addition to socio-demographic variables like age and employment position, are strong predictors of physical well-being. The data suggest that psychological and socio-economic factors are both important in influencing physical health outcomes after an injury. Individualized methods that target these complex factors are crucial for enhancing the physical well-being (Richmond et al., 2003).

Feelings of personal growth, fulfillment in life, and negative emotions like bitterness and anxiety have a substantial impact on psychological quality of life. This implies that by improving life satisfaction and promoting pleasant psychological experiences, the negative effects of emotions can be reduced and overall psychological well-being can be enhanced. The environmental quality of life is impacted by variables such as economic adequacy, accessibility to information, and perceptions of security. These findings emphasize the significance of socio-economic stability and information accessibility in influencing environmental well-being. The social quality of life is determined by the extent of social support and the level of satisfaction with personal connections, highlighting the crucial importance of social networks in the process of rehabilitation (Holt-Lunstad et al., 2010).

The findings have significant implications for the development of comprehensive rehabilitation programs that can effectively address the complex requirements of impaired individuals. Psychological support services, such as therapy and resilience training, are crucial for resolving emotions of feeling helpless, guilt, and worry. Additionally, these services have the potential to foster favorable psychological experiences, such as self-improvement and contentment, thereby boosting one's overall quality of life (Simpson et al., 2011).

Providing socio-economic support, such as financial aid and vocational rehabilitation, is essential for resolving the economic consequences of injuries and aiding the process of reintroducing individuals into employment. Implementing educational interventions aimed at enhancing health literacy and facilitating access to information can empower individuals to effectively manage their health and navigate the healthcare system (Ross & Wu, 1995). Improving the availability of physical rehabilitation services and ensuring comprehensive medical treatment can enhance physical health outcomes and overall well-being (Kumar et al., 2018).

Community-based assistance initiatives that promote social connections and offer leisure and recreational activities can greatly improve the overall social and environmental well-being. These programs should also focus on addressing intimate components of well-being, such as sexual health and satisfaction, which are sometimes disregarded in rehabilitation (Holt-Lunstad et al., 2010).

Policy measures that aim to reduce the differences in healthcare access and support services between rural and urban areas are crucial for achieving fair outcomes for all individuals who are wounded (Arcury et al., 2005). The study’s findings also have consequences for future research. Longitudinal studies are necessary to monitor the enduring psychological and quality of life consequences of damaged individuals and to determine the most efficient therapies for facilitating recovery. Further research should investigate the distinct experiences of other demographic cohorts, including women, older individuals, and urban dwellers, in order to create customized interventions that effectively target their specific requirements (Smith et al., 2019).

Multiple studies have examined the psychological consequences of injuries, emphasizing the varied emotional reactions and difficulties encountered by individuals. A good example of this may be seen in the study conducted by Bryant et al. (2011), which highlights the high occurrence of symptoms related to post-injury among individuals who have experienced trauma. These symptoms include intrusive thoughts, excessive alertness, and avoidance behaviors. Their longitudinal study emphasized that traumatic injuries might result in enduring psychological suffering, which has a significant impact on persons' overall quality of life and recovery paths.
O'Donnell et al. (2004) conducted a meta-analysis that investigated the psychological effects of severe injuries, such as emotions of helplessness, remorse, and emotional detachment. Their research indicated that psychological distress is prevalent after injuries and can have a substantial impact on person's psychological well-being and ability to adapt. Studies on the social dynamics and support systems after injuries have emphasized the vital importance of social support in the process of recovery and rehabilitation.

In their study, Holt-Lunstad et al. (2010) conducted a thorough examination which revealed that robust social networks play a significant role in enhancing psychological outcomes and overall well-being for those who have experienced trauma. Their research highlighted the significance of family, friends, and community support in promoting emotional resilience and effective coping mechanisms. In addition, research conducted by Cacioppo et al. (2011) investigated the beneficial impact of social ties on health outcomes, indicating that persons with more robust social connections have a higher likelihood of experiencing improved recovery and quality of life after an injury. These findings suggest that treatments aimed at promoting social support and fostering community participation can improve the social quality of life for injured individuals. Study analyzing the quality of life in individuals who have been injured has revealed that there are various dimensions that affect their physical, psychological, and social well-being. Kumar et al. (2018) undertook a longitudinal study to investigate the enduring physical and psychological consequences of severe injuries. Their study brought attention to the enduring physical disabilities and functional restrictions encountered by those who have suffered injuries, underscoring the significance of all-encompassing rehabilitation programs and medical treatment.

Furthermore, Richmond et al. (2003) investigated the various aspects that affect the emotional well-being after an injury, such as personal growth, resilience, and overall life satisfaction. Their research indicated that creating good psychological experiences and resilience may minimize the adverse effects of injuries on mental health and general well-being. Studies on socioeconomic factors and recovery outcomes have demonstrated that economic stability, healthcare accessibility, and vocational rehabilitation are crucial in facilitating post-injury recovery. Arcury et al. (2005) did a study analyzing the differences in healthcare access and quality of life between rural and urban areas. The study emphasized the difficulties rural residents have in receiving specialized medical care and rehabilitation services. Their research emphasized the necessity of implementing policy measures to tackle healthcare disparities and enhance the results for individuals in rural areas who have experienced injuries.

In addition, Ross and Wu (1995) investigated the impact of educational and occupational characteristics on health literacy and vocational outcomes in individuals who were injured. According to their findings, increased levels of education and occupational training are linked to improved recovery outcomes and successful reintegration into the workforce. These findings have consequences for creating educational treatments and occupational rehabilitation programs to assist injured individuals in attaining maximum recovery and quality of life. Various research have examined intervention options that aim to improve the psychological, social, and quality of life outcomes of injured individuals.

In addition, the World Health Organization (2011) has highlighted the significance of comprehensive rehabilitation programs that integrate mental health assistance, vocational rehabilitation, and community-based interventions. These programs strive to meet the diverse needs of damaged individuals and foster comprehensive healing and overall well-being. Tedeschi and Calhoun (2004) conducted research that developed the term of post-traumatic growth. This concept emphasizes the possibility of experiencing beneficial psychological transformations after facing adversity, such as injuries. Their research underscored that although trauma can result in pain, it can also cultivate resilience and personal development. People may encounter heightened gratitude for life, more profound connections with others, and an increased sense of inner resilience.

On top of that, Linley and Joseph (2004) further developed the idea of post-traumatic growth by examining the elements that support resilience and positive adjustment after an injury. Their research highlighted coping techniques such as mental appraisal, finding meaning in adversity, and seeking social support as essential mechanisms for enhancing psychological well-being. These findings highlight the need of promoting interventions that focus on building resilience, enabling individuals to effectively manage challenges and take advantage of chances for personal growth after experiencing catastrophic injuries.

Research has also investigated gender differences in injury outcomes, emphasizing unique psychological and social experiences among males and females. Iverson et al. (2011) examined the recovery paths after an injury to determine if there were any variations based on gender. Their research revealed that women frequently encounter more severe mental distress and social difficulties in comparison to men, such as elevated rates of depression and anxiety following an injury. The existence of gender-specific vulnerabilities highlights the importance of implementing gender-sensitive strategies in rehabilitation and support services to successfully serve a wide range of recovery requirements.

In addition, Clarke and Bennett (2013) investigated differences in coping techniques among individuals who have experienced injuries, highlighting that men and women may utilize distinct coping processes to effectively handle stress and psychological discomfort. According to their research, women seem to be more oriented towards seeking emotional support and using effective coping tactics, while males tend to prioritize problem-solving methods and self-reliance. Gaining a comprehensive understanding of these gender dynamics is essential in order to design methods that foster balanced recovery outcomes and serve to the distinct requirements of both male and female individuals who have experienced injuries. Injury and rehabilitation are also influenced by culture and ethnicity. Salami et al. (2018) studied how culture affects ethnically diverse injury coping and rehabilitation. Their study found that cultural values, beliefs, and social norms affect how people perceive and respond to injuries, altering psychological adjustment and recovery. Culturally competent interventions that respect and integrate cultural variety can improve rehabilitation and support services.

Kirmayer et al. (2011) examined culture, identity, and healing in indigenous injury recovery societies. Their studies stressed the necessity of incorporating traditional healing, spirituality, and community-based support into rehabilitation programs. Healthcare practitioners can build trust, resilience, and better results for injured people from varied cultures by recognizing cultural diversity. Ponsford et al. (2013) examined cognitive and psychosocial outcomes after traumatic injury across recovery stages. Their research showed that cognitive deficits, emotional disorder, and social issues can hinder survivors' ability to work and participate in meaningful activities. Understanding the dynamic nature of rehabilitation and devising focused therapies to meet changing needs requires longitudinal studies. Social support is essential for aiding the recovery process and enhancing the overall well-being of individuals who have had injuries. Holt-Lunstad et al. (2010) conducted research that emphasized the beneficial impact of social ties on health outcomes, such as the recovery from injuries. Their meta-analysis revealed that persons who have stronger social connections had a lower chance of death and have better overall health.

Within the context of recovering from an injury, having strong social support networks can help protect against psychological discomfort, strengthen coping strategies, and boost overall quality of life. Gaining insight into the mechanisms by which social support impacts recovery outcomes is crucial for developing therapies that enhance social connections and optimize assistance for individuals who are injured. In addition, Cohen and Wills (1985) conducted studies regarding the various aspects of social support, including emotional, instrumental, informational, and appraisal support, and how these affect coping and adjustment after an injury. Their study highlighted the importance of various types of social support in enhancing resilience and adaptive functioning in individuals who have experienced injuries. Emotional help offers solace and encouragement during challenging periods, while instrumental support aids in practical matters like transportation and home chores. Injuries have economic consequences that go beyond only the immediate medical expenses, and include long-term financial difficulties and inequities in social status.

A study conducted by Gabbe et al. (2014) investigated the financial impact of injuries on both individuals and society, emphasizing the significant expenses related to medical care, rehabilitation, and reduced productivity. Their discoveries emphasized the necessity of extensive insurance coverage, vocational rehabilitation programs, and workplace adjustments to assist wounded individuals in resuming productive jobs. Addressing economic obstacles is essential for mitigating financial burden, facilitating recuperation, and enhancing the general well-being of individuals who have experienced injuries.

In further studies, those conducted by Waddell and Burton (2006) examined the relationship of injury, unemployment, and disability compensation, emphasizing the complex relationships between well-being, workplace engagement, and socioeconomic position. Their study highlighted the significance of vocational rehabilitation services in aiding disabled individuals in transitioning back to work and fostering financial self-sufficiency. Rehabilitation programs should effectively tackle obstacles to employment, offer training in necessary skills, and push for workplace adjustments to maximize functional results and socioeconomic welfare after an injury.

4.2 Conclusion

A complete analysis into the social, psychological, and demographic characteristics of individuals who have been harmed is going to be carried out in order to facilitate the achievement of the purpose of this study. The objective of this study will be accomplished by the results of this investigation, which will be carried out. The findings shed light on how crucial it is to provide comprehensive support services that taken into an account the psychological obstacles that individuals go through with their lives. Additionally, with the support of these activities, the immensely detrimental effect that feelings of intrusion and impotence have on the quality of life of an individual need to be brought to the forefront as well. This is something that would be beneficial. When one takes into consideration the low levels of satisfaction in a range of dimensions of quality of life, it becomes clearly clear that the process of recovering from an accident is a complicated and multi-faceted one. An accident can have a significant impact on this. Considering that the levels of satisfaction are rather low, this is made abundantly evident by the fact that. If a person has been hurt for a variety of reasons, it is possible for us to improve their overall emotional well-being as well as their quality of life. This is something that we are able to do. This is something that can be accomplished through the construction of social and environmental settings that are supportive, as well as by the customization of therapies to match the specific requirements of various demographic groups. Both of these methods are able to accomplish this goal. In order to achieve the objectives of expanding upon these findings and acquiring a deeper comprehension of the healing process, it is recommended that future research will make use of larger samples and designs that are longitudinal. This will make it possible to accomplish the goals that have been set. This will make it possible to get a more profound and profoundly comprehensive understanding of the healing process, which will be possible as a consequence of this.

CHAPTER- V LIMITATION & RECOMMENDATIONS

5.1 Limitation

This study has limitations even though it offers insightful information about the social, psychological, and demographic aspects influencing injury survivors' quality of life. An important constraint is the 80-person sample size. While this amount offers a good foundation for initial research, a larger sample might improve the finding's generalizability. Future research ought to strive for a larger and more diverse participant pool to validate the findings across a broader range of demographics and provide a more accurate representation of various communities.

Furthermore, a significant portion of the study's measurements are self-reported, making them vulnerable to bias. Participants may overreport or underreport their experiences due to recollection bias or social desirability. Future studies should combine self-reported data with objective measures, such as clinical examinations, for a more accurate assessment of participant's psychological and physical states. Additionally, incorporating qualitative techniques, such as in-depth interviews, could provide a more complex picture of participants' experiences and enhance the quantitative data. While the study emphasizes psychological elements like intrusion, helplessness, and personal development, it does not fully account for other possible factors affecting quality of life after an injury. For example, the influence of social determinants of health, such as socioeconomic status, access to healthcare, and social support networks, remains underexplored. Future research should incorporate these variables to better understand how they interact with psychological aspects to impact recovery outcomes. A more comprehensive approach might reveal more opportunities for intervention. Finally, intervention studies testing the effectiveness of different psychological and environmental therapies should be a focus of future research. Empirical designs that assess specific treatment modalities, aftercare plans, and environmental adjustments could yield evidence-based recommendations for optimal rehabilitation strategies.

Randomized controlled trials (RCTs) are particularly useful in demonstrating the causal links between interventions and outcomes. Although this study provides significant new information, it also opens several new research directions. Addressing the limitations and broadening the study's focus will enhance our understanding of the factors influencing injury survivor's quality of life and lead to more effective interventions and better outcomes for those recovering from injuries. Personalizing rehabilitation interventions to address individual's specific needs is essential for maximizing their effectiveness. The study found that different aspects of quality of life, such as physical, psychological, and social dimensions, are interconnected yet distinct in their impacts. This suggests that a one-size-fits-all approach may not be sufficient. Instead, rehabilitation programs should conduct thorough assessments to identify the unique challenges and strengths of each individual. This personalized approach can help tailor interventions that address specific areas of need, whether it be physical therapy, psychological counseling, or social support, thereby enhancing the overall effectiveness of the program (Ryff & Singer, 2008).

Implementing a continuous monitoring and evaluation system is vital to ensure the effectiveness of rehabilitation programs. Regular assessments can help track individual's progress and identify areas where adjustments may be needed. This ongoing evaluation allows for timely modifications to intervention strategies, ensuring they remain responsive to individuals' evolving needs. Studies have shown that continuous feedback and adaptation in rehabilitation programs can lead to better outcomes and higher satisfaction among participants (Gustafson et al., 2014). By maintaining a dynamic and responsive approach, rehabilitation programs can achieve sustained improvements in the quality of life for injury survivors. The discovery that individuals felt moderate to high degrees of intrusion and helplessness points to the critical need for early intervention techniques to stop these emotions from developing into long-term illnesses like anxiety and depression. Healthcare personnel should be educated to spot early indicators of psychological distress and offer prompt assistance. This could take the form of initial counseling sessions, peer support groups, or even online mental health services that provide immediate resources and help. Early intervention can enhance recovery outcomes and lessen the long-term effects of psychological distress connected to injuries.

Furthermore, the study's findings show that personal development following an accident still contributes to rehabilitation even though it has no discernible effect on overall quality of life. Rehabilitation programs should thus include components that encourage resilience and personal development. Workshops on goal-setting, peer mentorship, and other initiatives that promote introspection and personal growth might all fall under this category. Rehabilitation programs can help individuals grow more resilient psychologically and have a more positive outlook on life by creating an environment that encourages personal development. The report also recommends that interventions be customized to the unique circumstances and demographics of each individual rather than being one-size-fits-all. For example, the significant proportion of participants from rural areas suggests that rural healthcare facilities should have the resources necessary to provide both psychological and physical rehabilitation. Here, telemedicine may be crucial in giving patients in remote areas access to mental health specialists who can provide help over the internet. Furthermore, community-based rehabilitation initiatives that make use of nearby resources and support systems have been shown to be very successful in rural areas.

Last but not least, the close ties among the many quality of life areas emphasize the need for an all-encompassing strategy in rehabilitation. In addition to focusing on the physical aspects of recovery, rehabilitation should also be taken into an account the psychological, social, and environmental elements that all affect a person's overall quality of life. In order to develop a thorough treatment plan using this method, a multidisciplinary team of healthcare professionals including physicians, psychologists, social workers, and community health workers must collaborate. By addressing all facets of a person's well-being, an integrative model like this one promotes a more thorough and long-lasting recovery. Leveraging technology can further enhance the effectiveness of rehabilitation programs. Digital health interventions, such as mobile health (mHealth) applications and telehealth services, can provide continuous support and resources to individuals, regardless of their location. These technologies can offer personalized exercise programs, mental health support, and reminders for medication and appointments, facilitating a more comprehensive and accessible rehabilitation process. Research shows that mHealth interventions can significantly improve health outcomes by promoting adherence to treatment plans and providing real-time support (Free et al., 2013).

Additionally, telehealth can bridge the gap for those in rural areas, who constituted a

significant portion of the study's sample (76.3%), ensuring they receive timely and consistent care. By incorporating these technological solutions, rehabilitation programs can become more adaptive and accessible, ultimately improving the quality of life for individuals recovering from injuries. The study's results, taken as a whole, highlight the significance of comprehensive, multifaceted approaches to the rehabilitation of injured individuals. Healthcare providers can improve patients' overall quality of life and recovery outcomes by addressing psychological, social, and environmental issues in addition to physical rehabilitation. This calls for cross-sector cooperation, ongoing research, and a dedication to holistic care approaches that prioritize the health of the whole person.

5.2 Recommendation

Moreover, future research should continue exploring and validating new methods and approaches to rehabilitation. Addressing the identified limitations and expanding the study's focus will provide a deeper understanding of the complex factors influencing injury survivor's quality of life. In turn, this will inform the development of more effective interventions tailored to meet the diverse needs of individuals, ultimately leading to better health outcomes and enhanced well-being.

An additional key factor that emerged from this study is the vital role of community and social support systems in the rehabilitation and quality of life of injury survivors. The findings indicate that social support, whether from family, friends, or community resources, significantly influences psychological well-being and overall recovery. Social support acts as a buffer against the stress and emotional turmoil that often accompany severe injuries, thereby facilitating better mental health outcomes (Cohen & Wills, 1985). Effective social support systems can provide emotional comfort, practical assistance, and a sense of belonging, all of which are crucial for injury survivors navigating the challenges of recovery.

Integrating social support into rehabilitation programs can be achieved through various means. For instance, creating support groups specifically for injury survivors can foster a sense of community and shared understanding. These groups can provide a platform for individuals to share their experiences, offer mutual support, and learn from each other's coping strategies. Additionally, involving family members in the rehabilitation process can enhance the support network available to the survivor. Family-focused interventions can educate relatives on how to best support their loved ones, thereby improving the home environment and reducing the burden on professional healthcare services.

Moreover, community-based initiatives can play a pivotal role in supporting injury survivors, particularly those in rural or underserved areas. Local organizations, community centers, and non-profits can offer resources such as transportation to medical appointments, home care services, and recreational activities designed to promote social engagement and physical activity. These community resources can bridge gaps in formal healthcare provision and ensure that individuals receive comprehensive support tailored to their specific needs.

Technological advancements can also enhance social support networks. Online platforms and mobile applications can connect injury survivors with virtual support

groups, telehealth services, and mental health resources. These digital tools can provide continuous, easily accessible support, which is especially beneficial for those living in remote areas. For example, virtual peer support groups can offer real-time interaction and emotional support, reducing feelings of isolation and promoting mental well-being. In conclusion, while this study has provided valuable insights into the factors affecting injury survivors' quality of life, it also highlights the need for ongoing research and improvement in rehabilitation practices. By addressing the study's limitations and incorporating a broader range of variables, future research can build on these findings to develop more effective, personalized, and comprehensive rehabilitation strategies. Such efforts will not only improve the immediate recovery outcomes for injury survivors but also contribute to their long-term health and well-being.

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