Faculty of Medicine

University of Dhaka

SATISFACTION LEVEL OF SPINAL CORD INJURY PATIENTS ABOUT PHYSIOTHERAPY SERVICES AT CRP

Saima Akter

Bachelor of Science in Physiotherapy (B.Sc. in PT)

DU Registration No: 1749

DU Roll No: 119

BHPI, CRP, Savar, Dhaka-1343

Bangladesh Health Professions Institute (BHPI)

Department of Physiotherapy

CRP, Savar, Dhaka-1343

Bangladesh

(October, 2019)

We the undersigned certify that we have carefully read and recommended to the Faculty of Medicine, University of Dhaka, for the acceptance of this dissertation entitled.

"SATISFACTION LEVEL OF SPINAL CORD INJURY PATIENTS ABOUT PHYSIOTHERAPY SERVICES AT CRP"

Submitted by **Saima Akter**, for partial fulfilment of the requirements for the degree of Bachelor of Science in Physiotherapy (B.Sc. PT).

……..
Professor Md. Obaidul Haque
Head of the Department of Physiotherapy
Vice Principal
BHPI, CRP, Savar, Dhaka

……

Mohammad Anwar Hossain
Associate Professor, Physiotherapy, BHPI
Senior Consultant & Head of the Department of Physiotherapy
CRP, Savar, Dhaka

……

Ehsanur Rahman
Assistant Professor
Department of Physiotherapy
BHPI, CRP, Savar, Dhaka

……

Md Shofiqul Islam
Assistant Professor
Department of Physiotherapy
BHPI, CRP, Savar, Dhaka

…….

Professor Md. Obaidul Haque
Head of the Department of Physiotherapy
Vice Principal
BHPI, CRP, Savar, Dhaka

Declaration

I declare that the work presented here is my own. All sources used have been cited appropriately. Any mistakes or inaccuracies are my own**.** I also declare that for any publication, presentation or dissemination of information of the study. I would be bound to take written consent from the Physiotherapy department, Bangladesh Health Professions Institute (BHPI).

Signature: **Date:**

Saima Akter
Bachelor of Science in Physiotherapy (B.Sc. PT)
DU Roll No: 119
Registration No: 1749
BHPI, CRP, Savar, Dhaka -1343. Bangladesh

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Acknowledgement

All the praise must go to Almighty Allah. At first I would like to express my gratitude to my parents who provided me a lot of encouragement to complete this study. I also gratefully acknowledgement the untiring and tolerant supervision and encouragement of my supervisor **Professor Md. Obaidul Haque,** Head of the Department of Physiotherapy & Vice-Principal BHPI, CRP. I remain ever grateful to him for his guidance and support without which I could not have come to this stage. I again would like to pay my gratitude to him, for giving me the permission to start this study and providing me support.

Also, it's my honor to mention **Mohammad Anwar Hossain,** Associate Professor, Physiotherapy, BHPI, Senior Consultant & Head of the Department of Physiotherapy, CRP, Savar, Dhaka and **Md. Shofiqul Islam**, Assistant professor, Department of Physiotherapy for their good advice, support and guide to conduct this research.

I am also grateful to my honorable teacher **Ehsanur Rahman,** Assistant Professor, Department of Physiotherapy and **K M Amran Hossain,** Lecturer, Department of Physiotherapy, BHPI, CRP for their guidance. They helped me various way to conduct research properly.

I wish to thanks to all respectable Physiotherapy staff working at CRP Spinal cord injury unit especially honorable teacher **Muzaffor Hossain**, Junior Consultant & In-charge of SCI Unit, CRP, Savar, Dhaka for helping me in collection of my data.

I would also like to give thanks to BHPI librarian Mrs. Mohosina to her heartily help and library assistant Mr. Anis for their positive help, kind support to find out related books, journals and also access to internet during the project study. I thank all of my friends for their direct and indirect inspiration, suggestion as well as support.

Finally, I would like to thanks those people who eagerly participated as study samples in the conduction of my study and the entire individual who are directly or indirectly involve with this study.

Acronyms

&	: And
AIS	: American Spinal Injuries Association Impairment Scale
BHPI	: Bangladesh Health Professions Institute
BMRC	: Bangladesh Medical Research Council
CRP	: Centre for the Rehabilitation of the Paralysed
ICU	: Intensive Care Units
IRB	: Institutional Review Board
NSCISC	: The National Spinal Cord Injury Statistical Centre
NTSCI	: Non-Traumatic Spinal Cord Injury
RRH	: Regional Rehabilitation Hospital
SCC	: Satisfaction with Continuum of Care
SCI	: Spinal Cord Injury
WHO	: World Health Organization

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Abstract

Purpose*:** The purpose of the study was to find out the level of satisfaction of spinal cord injury patients regarding physiotherapy services at CRP. ***Objectives: The objectives were to find out the level of satisfaction of spinal cord injury patients receiving physiotherapy services at CRP. ***Methodology:*** This study was a quantitative design where cross sectional study has been chosen. From the admitted SCI patients of CRP, 105 participants were employed in the study from 11th August 2018 to 31th July 2019 on the basis of inclusion criteria. The Satisfaction with Continuum of Care (SCC) survey scale was used to assess the level of satisfaction of spinal cord injury patients. ***Analysis:*** Descriptive statistics has been used to analyze the data**.** ***Results:*** Among the 105 participants of SCI, 90.5% (n=95) was highly satisfied with quality of physiotherapy services and 32.4% (n=34) were good with the physiotherapy services, 38.1% (n=40) were very good with the physiotherapy services and 14.3% (n=15) were excellent with the physiotherapy services. Among 105 participants, 95.2% (n=100) were strongly agree with treated with respect and 87.6% (n=92) were strongly agree with the care took place in a timely and efficient manner. ***Conclusion:*** This study comprehends about the level of satisfaction of spinal cord injury patients about physiotherapy services at CRP. So, finding out the level of satisfaction will help to do further betterment of spinal cord injury people.

***Key words**:* Spinal cord injury; Level of satisfaction; Physiotherapy services.

CHAPTER-I INTRODUCTION

1.1. Background

Spinal Cord Injury is the most complex injury of all catastrophic injuries where patients usually have permanent and devastating neurologic deficits with disability and the injury causes negative effect on the injured person's functional, medical, psychological and economical well-being (Smith et al., 2013). Spinal cord injury (SCI) is a devastating disorder that can cause impairment in physical, psychological, and social functioning (Gurcay et al., 2010; New et al., 2013; Smith et al., 2013). Spinal cord injury (SCI) in the health-related areas is very severe physical disability (Ramakrishnan et al., 2011). The unexpected incidence of spinal cord injury can dramatically alter the individual's job, family and everyday life with spinal cord injury and it needs a wide variety of health-related issues, such as long-term disability, morbidity and death, and spinal cord injury patients with a wide range of medical, social, psychological and financial issues (Razzak et al., 2011). It is a frequent cause of mortality, and is reflected in radical changes in lifestyle and quality of life for both the persons with SCI and their family members (Kawanishi & Greguol, 2013). Spinal cord injury can occur in anyone's life and the patient with Spinal cord injury faces lots of challenges in coping with the injury process as well as rehabilitation; Although some patients recover partial to perform the daily living activities through rehabilitation but many activities are permanently altered (Kumar & Gupta, 2016). In a spinal cord injury induced by trauma, inflammation, tumors or other causes, the structures and functions of the spinal cord are damaged as a result of dysfunction in motion, sensation, sphincters and autonomic nerves below the damaged stage (Yang et al., 2014).

In recent decades the average life expectancy of the people with spinal cord injury has increased (Jensen et al., 2013). Spinal cord injury (SCI) is unexpected which alters dramatically the course of an individual's life; It causes sudden, often devastating damage to the central nervous system, with potential adverse effects in multiple body systems including musculoskeletal, integumentary , digestive, urinary, cardiovascular, reproductive where many of the secondary complications experienced by individuals with SCI are quite unlike those experienced by persons with general health issues or other neurological

disorders (Tulsky et al., 2015). In a developing country like Bangladesh, life expectancy of spinal cord injured persons is much lower than in a developed country (Razzak et al., 2011). SCI continues to be a major cause of disability throughout Asia as well as in Bangladesh (Islam et al., 2011).

The spinal cord is the main channel that travels between the brain and body through motor and sensory data. The spinal cord is made up of longitudinally focused spinal tracts (white matter) surrounding key regions (grey matter) where most neuronal cell bodies are found. The grey matter consist of sensory and motor neurons that are organized into sections. Spinal neuronal axons enter and motor neuronal axons leave the spinal cord via segmental nerves or roots. Cervical spine contain of eight nerve roots. C1-C7 cervical nerve roots are named after the vertebra above which they enter (i.e.C1 exists higher than C1 vertebra slightly below the skull and C6 nerve roots pass between the C5 and C6 vertebra) whereas C8 exists between the C7 and T1 vertebra. There is no sensory component in the C1 nerve root that is verified on the International Standards Examination.

The thoracic spine has twelve separate nerve roots. There are 5 distinct nerve roots in the lumbar spine, each of which is named as they leave below the respective vertebra. The sacrum comprises of 5 embryonic segments fusing into a single bony structure with 5 separate nerve roots exiting through the sacral foramina. The spinal cord finishes at nearly the vertebral segment of L1-L2. Conus medullaris is the distal component of the spinal cord. The cauda equine is a cluster of paired (right and left) lumbosacral nerve roots that form in the conus medullaris area and travel below their respective vertebral concentrations through thecal sac and exit via the intervertebral foramen. There may be 0, 1, 2 nerves of the coccygeal. Each root gathers sensory data from regions of the skin called dermatomes. Likewise, each root interferes with a group of muscles called a myotome. While a dermatome generally constitutes a separate and adjacent region of the skin, more than one muscle is inherited by most roots, and more than root is inherited by most muscles. Spinal cord injury (SCI) interferes with the conduction of sensory and motor signals across the site as well as with the autonomous nervous system (Kirshlum S.C et al., 2011).

Spinal cord injury (SCI) is categorized as either traumatic or non-traumatic. Monitoring disabilities are of excellent interest to the medical world, the individual concerned, their

family and society as a whole. Neurological deficits repeatedly produce long-term consequences that persist throughout life and are linked with severe disability and handicap. Spinal cord injury (SCI) is a traumatic event that leads to complaints about ordinal sensory, motor or autonomous function and ultimately affects the physical, psychological and social well-being of a patient. To better understand rates of presence and describe methods of prevention, is vital to assess the incidence and prevalence of SCI. This data helps health care providers to assess the cost and psychological distress of the disease, as well as the resources needed to manage it (Singh et al., 2014).

SCI is a condition with an annual incidence of 12.1–57.8 cases per million worldwide (Munce et al., 2013). According to the Noonan et al., (2012), a number of people living with SCI in the US is approximately 270,000. Every year, an estimated 11,000 SCIs occur in the U.S (American Association of Neurological Surgeons, 2017) and in Europe, the incidence is from 10.4 per million per year to 29.7 per million per year (Moghimian et al., 2015). Lim et al., (2017) stated that the highest prevalence of SCI is 906 per million in the United States. In Asia, the incidence rates of SCI range from 12.06 - 61.6 per million, while the average age range of affected persons is 26.8 - 56.6 years (Ning et al., 2012). In the United States, the annual incidence of traumatic SCI is 40 cases per million or 12000 new cases each year (Rabadi et al., 2013).The causes of SCI may differ from person to person due to different age, sex, race and socio- cultural activities (Hoque et al., 2012). The most frequent cause of traumatic spinal cord injury is motor vehicle accidents. (Chen et al., 2013; Mothe & Tator, 2013; Nwankwo & Uche, 2013).

The annual incidence levels of traumatic SCI vary from 12.1 to 57.8 instances per million, with accidents with motor vehicles (MVC), falling, violence and sport activities. There are relatively few studies on non-traumatic SCI epidemiology, i.e. incidence, demographics and results, as opposed to traumatic SCI. This may be due to diagnostic issues with non-traumatic SCI. A significant percentage of people with SCI admitted to rehabilitation protocols appear to be exemplified by non-traumatic SCI and, as in traumatic SCI, there is a huge socio-economic burden to care for these people. For appropriate heath care planning, an estimate of the incidence of non-traumatic as well as traumatic SCI is needed (Van den Berg et al., 2010).

The incidence and prevalence in the United States of traumatic SCI is higher than in the remainder of the globe. According to an aging general population at risk, the average age increases throughout the injury. The percentage of cervical injuries is increasing day by day, while the percentage of neurologically complete injuries is falling. There is an increase in falling injuries day by day. The SCI population does not reflect the latest accomplishments in general population life expectancy. The incidence of SCI in the United States varies from 25 to 59 new cases per million people per year with an average of 40 per million people per year. SCI incidence rates are lower for the pediatric age group, uppermost for people in their late adolescents and early twenties, and usually consistently deteriorate thereafter, although some studies suggest a secondary increase in incidence rates among elderly people. Prevalence is demarcated as the amount of people currently living with an SCI. Prevalence is determined by both disease incidence and length, or life expectancy in the situation of SCI. At fresher ages, mortality rates are usually small, but rise rapidly with elderly age. If both incidence and life expectancy persist over many years, then it can be estimated that prevalence is the result of incidence and life expectancy. Using this formula, the prevalence of SCI in the United States in 1980 was estimated at 906 people per million population (30 million incidence, an average life expectancy of 30.2 years). This was probably a miscalculation because a present life expectancy estimate was used in the previous 30 years rather than average life expectancy. The incidence of non-traumatic SCI is greater than that of traumatic SCI **(**De vivo, 2012).

The estimated lifetime financial burden for an individual with incomplete paraplegia in combination with SCI in Canada varies from $1.47 million to $3.03 million for an individual with full tetraplegia. These estimates include early surgical difficulties such as wound diseases and displaced devices; emergency readmissions; and long-term complications, including pressure ulcers, dysfunction of the bladder and intestine, neuropathic pain, and respiratory issues. The financial burden connected with SCI in Canada is estimated at $2.67 billion annually ($1.57 billion in direct costs and $1.10 billion in indirect costs) and consisting of costs associated with hospitalizations ($0.17 billion, or 6.5% of total costs), health care visits ($0.18 billion, or 6.7%, equipment and home modifications ($0.31 billion, or 11.6%) and caregivers ($0.87 billion, or 32.7%) (Singh et al., 2014).

Incidence rates reflect the amount of SCI control and the potential need for better prevention. Prevalence levels, on the other side, affect health care and social and personal assets. The life expectancy of SCI patients continues to rise. The median survival time of SCI patients between the ages of 25 and 34 years, with 43 percent surviving for at least 40 years, was estimated to be 38 years after injury. The incidence of SCI ranged from 13 to 33 instances per million per year, while the prevalence of SCI ranged from 110 to 1120 per million people (Wyndaele & Wyndaele, 2010).

The range of traumatic spinal cord injury prevalence ranged from 12.06 to 61.6 per million. On the other side, the incidence in Europe ranged from 10.4 to 29.7 per million and in North America ranged from 27.1 to 83 per million (Ning et al., 2012).

Paralysis is the most noticeable meaning of spinal cord injury (SCI). However, for many body functions, SCI also has comprehensive values, including bladder, respiratory, cardiovascular and sexual function. It also has social, financial and psychological implications and improves people's responsibility for late-life kidney complications, musculoskeletal injuries, pain, osteoporosis and other issues. Managing induvial with SCI is complicated, involving many heath care experts, organizations, and facilities from government. Physiotherapists treat various SCI-related issues, involving many body systems, although the underlying pathology is neurological in nature. The focus of acute medical management of individuals with SCI is to reduce further neurological impairment of the spinal cord and improve recovery. Clearly, spine stability is a concern. Either conservatively with bed rest (with or without traction) or surgically (usually with decompression and fusion) this is acknowledged. While surgical leadership is more prevalent now than conservative leadership, there is still much discussion about each approach's superiority. Spine management, however, is only one element of acute medical care. Maintaining blood pressure, circulation, breathing, bladder drainage, bowel care, nutrition and body temperature and decreasing psychological distress for patients their families are associated with many other elements. Physiotherapy during this phase is mainly concentrated on treating complications of the respiratory system and inhibiting secondary musculoskeletal issues linked to continuous bed rest.

Rehabilitation involves a strategy centered on the team and the patient. Rehabilitation's general aim is to empower the individual to return to a vibrant and fulfilling life (Harvey,

2016). People with SCI must relearn basic skills such as eating, bathing, dressing, driving and in addition, individuals with SCI must often cope with an increased incidence of many health problems, such as neurogenic bowel and bladder, respiratory symptoms and complications, cardiovascular complications, pressure ulcers, altered sexual functioning, urinary tract infections, autonomic dysreflexia, neuropathic pain, osteoporosis and fractures and often have to cope with altered social roles and psychiatric comorbidities including reactive depression and anxiety disorders; These issues represent major challenges to living with SCI all of which greatly affect quality of life (Tulsky et al., 2015).

1.2 Rationale

The spinal cord injury (SCI) patients and their rehabilitation system proceeds concern in objective, policies and in handling the major demand of care (Amit et al., 2009).

The one and only organization in Bangladesh, CRP confirms the maximum promising facilities that comprise treatment and rehabilitation. This study is the first time of its kind of Bangladesh as previous studies aren't available. This study benefit physiotherapy professions to forecast any modification in their treatment approach and may support them to modify the current practice.

It is generally approved that excellence service are those, whose satisfy the consumer. Finding the satisfaction of the patient to the Physiotherapy services will include patient's concepts, ideas, needs and recommendations.so the study will help the Physiotherapist to know about their service as how the patient received those therapies and also include system weakness, performance and thus management, because satisfaction is a yardstick that measure the success of service. In this study patient reflection of concepts is very valuable, because this study is qualitative, which allow explanation of the concept of the recipients. This study may help to modify, redesign, continue the therapy service for Spinal Cord Injury patients who will get benefited in future and also it will help to develop therapy service itself in Bangladesh. The study result helps the physiotherapist to know about their service as how the patient viewed this process and their reflection. Last of all, the incorporation of the findings of the study is also helpful to make the future plan by rethinking the activities according to the service user's suggestion's to make it more effective.

1.3 Research Question

What is the level of satisfaction of spinal cord injury patients about physiotherapy services at CRP?

1.4 Objectives of the study

1.4.1 General objective

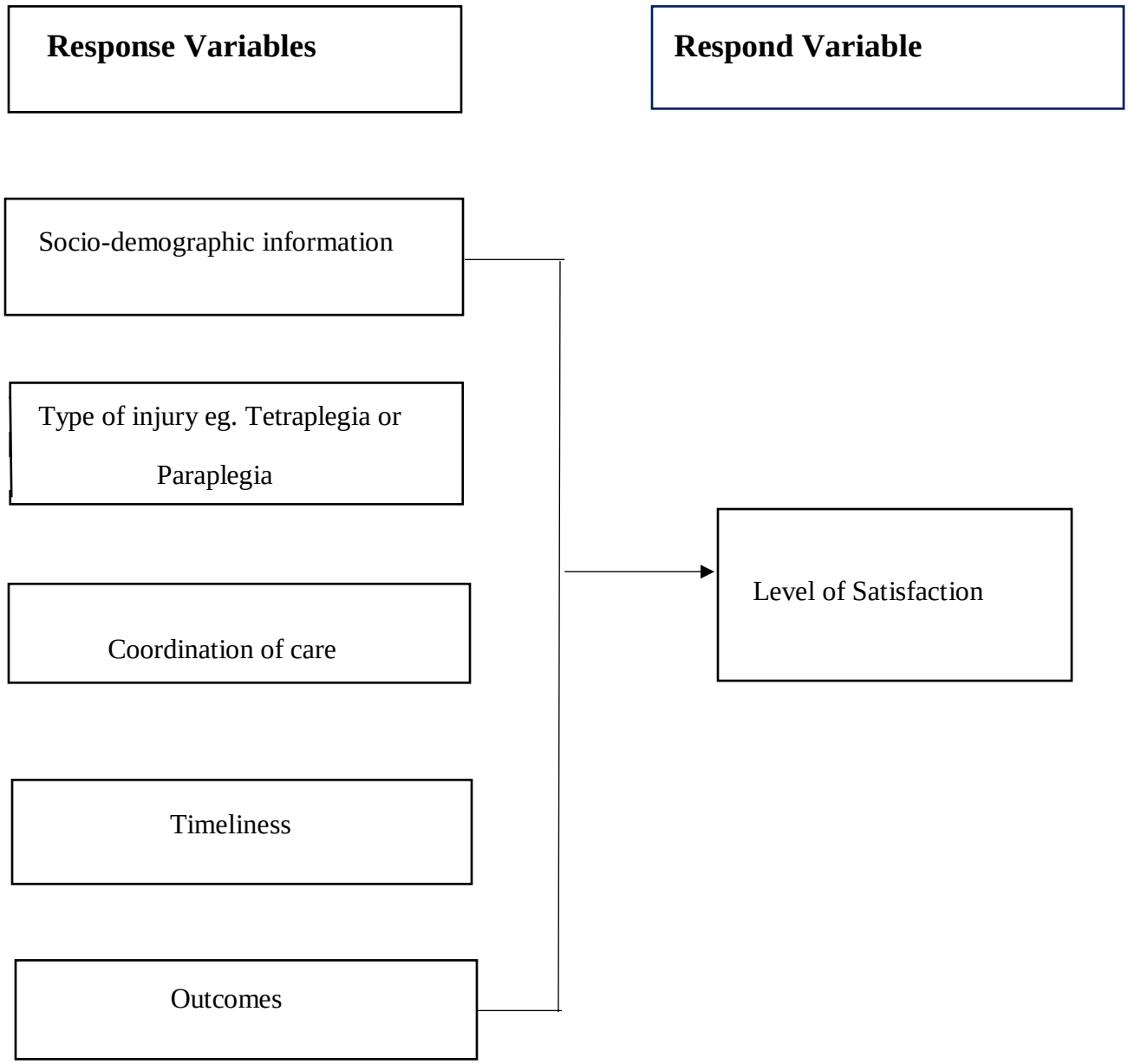
To find out the level of satisfaction of spinal cord injury patients regarding physiotherapy services at CRP.

1.4.2 Specific Objectives

1. To find out the socio-demographic information of patients with spinal cord injury.
2. To identify the existing satisfaction level related to service.
3. To find out the level of satisfaction according to healthcare system.
4. To know the level of satisfaction according to coordination of care.
5. To categorize satisfaction level according to timelines.
6. To find out the level of satisfaction according to outcomes.
7. To evaluate the overall healthcare satisfaction of participants at CRP.

1.6 List of Variables

Conceptual Framework



1.7 Operational definition

Spinal Cord Injury:

A spinal cord injury (SCI) is an injury to the spinal cord that causes functional changes through damage or trauma to the spinal cord, it can be either temporary or permanent. The muscle function, sensation, or involuntary function of the body portion is lost or maintained below the level of lesion.

Traumatic spinal cord injury:

A direct or indirect trauma to the spinal cord following complete or incomplete cut off the spinal cord. Complete cut injuries defect in total loss of motor and sensory function, incomplete injuries result in the loss of some motor and sensory function.

Rehabilitation:

The process of restoration and adaptation of previous skills by a person who has had an injury so as to regain maximum self-sufficiency and function.

Paraplegia:

This word relates to injury or loss of motor and/or sensory function in the spinal cord segments of the thoracic, lumbar or sacral, secondary to impairment of neural components in the spinal canal.

Tetraplegia:

This word relates to motor and /or sensory function harm or loss in the cervical segments of the spinal cord owing to harm to neural components in the spinal canal.

Complete injury:

Loss of sensory and motor function in the lowest sacral segment.

Incomplete injury:

Preservation of motor or sensory function below the neurological level of injury that included the lowest sacral segment.

Skeletal level injury:

This word was used to indicate the level at which the biggest vertebral damage is discovered through radiographic examination.

Neurological level of injury:

The neurological level of injury corresponds to the most caudal spinal cord segment with ordinary sensory and anti-gravity motor function on both sides of the body, provided that the sensory and motor function is normal (intact) rostrally.

Patient satisfaction:

Satisfaction implies satisfying one's wishes, expectations, or needs, or the enjoyment extracted from the target sources. Patient satisfaction is therefore a measure of how happy a patient is with the health care they got from their health care provider.

CHAPTER-II LITERATURE REVIEW

The spinal cord is the main channel through which motor and sensory data moves between the brain and body and includes longitudinally focused spinal tracts (white matter) around central fields (grey matter) where most neuronal spinal cell bodies are located. The gray matter consisting of sensory and motor neurons that are organized into sections. Axons of spinal sensory neurons enter and motor neurons axons leave the spinal cord through segmental nerves or roots (Kirshblum et al., 2011).

The spinal cord extends from the medulla oblongata to the distal majority of the conus medullaris. Spinal cord segments are split into cervical, thoracic, lumbar and sacral sections. There are 8 nerve roots in the cervical spine (C1-C7 named after the vertebra above which they enter (i.e. C1 exists above the vertebra of C2, C6 nerve roots pass between the vertebra of C5 and C6 and just below the skull), whereas C8 occurs between the vertebra of C7 and T1; as there is no vertebra of C8. There is no C1 nerve root sensory element tested on the International Standards Examination. The thoracic spine has 12 separate nerve roots (T1-T12) and the lumbar spine consists of 5 separate nerve roots (T1-T2) and lumbar spine consisting of 5 separate nerve roots (L1-L5), each of which is named as they pass below the respective vertebra level. Finally, the sacrum with 5 embryonic segments has merged into a single bony structure consisting of 5 separate nerve roots exiting through the sacral foramina. The spinal cord finishes at the vertebral stage of L1-L2. From the conus medullaris region, cauda equina is a cluster of paired lumbo-sacral nerve roots (right and left) that move through the sac and exit below their corresponding vertebral concentrations through the intervertebral foramen (Kirshblum et al., 2011).

Each root of the section of the spinal cord obtains sensory data from skin regions called dermatomes and likewise intimates a group of muscles called a myotome. Usually a dermatome means a distinct and adjoining region of the skin, most of the roots innervate more than one muscle, and more than one root innervates most of the muscles. Injury to the spinal cord influences the conduction of sensory and motor signals across the lesion site (s) and the autonomic nervous system. The level of injury is diagnosed by thorough

examination of the dermatomes and myotomes of the spinal cord (Kirshblum et al., 2011).

Spinal cord injury (SCI) could be a type of very serious health disease because it affects functional, psychological and socio-economic illness. The spinal cord injury affect important damage in different areas of their lives for purpose. The objectives of rehabilitation and various therapy methods in spinal cord injury are to enhance functionality, decrease secondary morbidity and enhance health-related quality of life (Sezer et al., 2015).

World Health Organization (2013) define as "The term 'spinal cord injury' refers to damage to the spinal cord resulting from trauma (e.g. a car crash) or from disease or degeneration (e.g. cancer).

Spinal cord injury results in a high level of individual disability, which is reflected in radical changes in lifestyle (Kawanishi & Greguol, 2013).According to Wyndaele & Wyndaele (2007), worldwide prevalence has been estimated to range between 223 and 755 per million people and because of improved survival rates, SCI prevalence is increasing. On the basis of a national data base of 30,822 SCI people in the United States, life expectancy of persons with SCI has been shown to increase over the past 30 years, with mortality rates reducing by approximately 40% in the first 2 years after the injury (Saadat et al., 2010). According to NSCISC (2013), it is estimated that the annual incidence of SCI, not including those who die at the scene of the accident, is approximately 40 cases per million population in the US or approximately 12,000 new cases each year. The prevalence SCI according to NSCISC (2013) in the United States who are alive with SCI has been estimated to be approximately 273,000 persons, with a range of 238,000 to 332,000 persons. In United States the annual incidence of traumatic SCI is 40 cases per million or 1200 new cases each year (Rabadi et al., 2013). Nwankwo & Uche (2013) found that in SCI, The 31–45 years age group is the most frequently affected and male is more affected than female (4.3:1), 53% injury occurred in cervical spine, 22% thoracic spine and 25% lumbar spine injury.

In Bangladesh the mean life expectancy of the people with SCI was found in a study 5.36 years. Overall, 56.4% of persons admitted with SCI died within 5 years and 43.6% survived 5 years or more after injury. A study shows in Bangladesh at CRP, the most vulnerable age

groups were 20-40 years, covering 55.6% of persons. Frequency of SCI was less in those below 20 and above 50 years of age. In the 158 persons, 86.1% had injuries of traumatic and 13.9% of non-traumatic origin, leading to 79.75% with paraplegia and only 20.25% with tetraplegia (Razzak et al., 2011).

In Bangladesh, 63% of SCI is caused by falling from a height (Hoque et al.,2012). Another common cause (18%), in Bangladesh Falling while carrying a heavy load on the head, usually resulting in tetraplegia (Razzak et al., 2011).

Spinal cord injury (SCI) can trigger numerous impairments that communicate with the surroundings of a person, resulting in restricted activity and involvement (Middleton et al., 2015). Employment is a significant function for social involvement and social contribution. It also helps a person in many other industries, it makes an individual economically independent, it provides a chance to interact with others, it can provide ideal reintegration into society, it can regularly do one's daily actions, it helps to create one's own identity and it provides life satisfaction and better well-being **(**Piccenna et al., 2015).

Life satisfaction is a key issue for a person's well-being (Erdogan et al, 2012). Life satisfaction is a major problem in SCI patient reintegration. Life satisfaction describes the state of being good, happy and willing or willing to do something in one's life (Volkan & GENC, 2017). Life satisfaction affects health status in both physiological and psychological circumstances (Siahpush et al., 2008).

Spinal cord injury is one type of major disaster that can occur to a human being that can seriously cause physical impairment and psychological distress. 60 percent of the difference between life satisfactions was clarified by essential model of physical (functional autonomy and suffering) and psychological variables (social support and self-efficacy). Spinal cord injury (SCI) is defined mainly in terms of the stage at which the injury happened, which compares with the degree of neurological and functional deficiency observed (Dawson et al., 2009).

Alost half of all spinal cord injuries are functionally incomplete, with some function remaining below the lesion stage (Dawson et al., 2009).

There are some diagnostic terms; incomplete, complete, tetraplegia and paraplegia.

Incomplete injury is used when any sensory and/or motor function is preserved below the lowest S4-S5 sacral segments (i.e. “sacral sparing” present). Sensory sacral sparing is the preservation of sensation (intact or impaired) at the anal mucocutaneous intersection (S4-S5 dermatome) on one or both sides or the presence of voluntary contraction of the internal anal sphincter. Complete injury occurs when the lower sacral segments (S4-S5) have an absence of sensory and motor function (i.e. no sacral sparing) (Kirshblum et al. 2011).

Tetraplegia relates to deficiency or loss of motor and/or sensory function in the cervical segments of the spinal cord owing to harm of neural components within the spinal canal resulting in impairment of function in the arm as well as typically in the trunk, legs and pelvic organs, i.e. including the four limbs. It does not include lesions of the brachial plexus or peripheral nerves outside the neural canal. Paraplegia relates to deficiency or loss of motor and/or sensory function in the spinal canal’s thoracic, lumbar or sacral (but cervical) sections, secondary to spinal canal harm. With paraplegia, arm functioning is avoided, but the trunk, legs and pelvic organs may be involved and this word is also used to refer to injuries to cauda equine and conus medullaris, but not to lumbosacral plexus lesions or peripheral nerves outside the neural canal (Kirshblum et al. 2011).

Often referred to as Non-Traumatic Spinal Cord Injury (NTSCI), spinal cord injury can arise from other factors than trauma. Developing nations, although tumors are testified as a significant cause, tend to have a greater percentage of diseases, especially tuberculosis and HIV. Compared to developed countries, the percentage of instances with degenerative circumstances and tumors is greater (New et al., 2013).

Physical exercise research in people with spinal cord injury has been focused primarily on physiological benefits. However, the results of a physically active lifestyle are reports of quality of life and well-being. Exercises with complete spinal cord injury recorded considerably greater perceived exercise mastery (P=0.002) and incomplete SCI exercises reported considerably reduced perceived exercise mastery (P=0.012) compared to non-exercisers. Those who frequently exercised experienced considerably greater life satisfaction and perceived physical fitness than those who did not frequently practice (Lannem et al., 2010).

Continued patient recovery after rehabilitation can serve as a catalyst for greater rates of

motivation to begin an exercise program after rehabilitation and the patient is often satisfied with advancement in rehabilitation. People with disabilities who reported a greater level of physical activity after rehabilitation also stated a greater level of community reintegration compared to respondents who reported low or inactive physical activity (Rimmer, 2016).

Rehabilitation of SCI starts as quickly as the patient becomes medically stable after injury. This can differ from a couple of days to many weeks depending on whether the person experienced other injuries at the moment of the accident or medical or respiratory problems developed as a consequence. Rehabilitation includes a strategy centered on the team and the patient. Rehabilitation's general objective is to help the individual return to a productive and fulfilling life. This implies different things for distinct individuals. Some individuals make autonomy and/or walking highly important, while others do not. A commonly quoted research from a sample of over 650 individuals in the United States discovered that tetraplegia maintained the highest priority in recovering the function of the hand and upper limbs, and paraplegia maintained the sexual functions as its highest priority. Physiotherapy on objectives linked to motor functions such as walking, pushing a wheelchair, transferring and using upper limbs during rehabilitation stage attempts. Setting goals for an individual with SCI is challenging because it depends on physiotherapists and patients expectations of probable results (Harvey, 2016).

The incidence, prevalence and cause of SCI varies between developing and developed nations and indicates that management and preventive approaches need to be tailored to regional developments. In Western nations, the growing aging population also indicates that traumatic SCI secondary to falls can become a growing public health challenge and that the incidence among the elderly may increase with increased life expectancy. Cripps et al reported SCI's worldwide ranging from 236 to 1.009 per million in 2011. Prevalence is the percentage of a population at a specific moment living with a disease. A disease incidence is the amount of fresh instances in an at-risk population over a specified period of time (Singh et al., 2014).

A significant percentage of SCIs consequences in full neurological and tetraplegic deficits. Lifetime SCI management expenses and associated secondary circumstances are overwhelming and pose an important burden to people with SCI, their families, and society.

SCIs primary prevention is a worldwide endeavor at the moment. In the United States, the recorded SCI incidence rate (39 per million) is close to Canada (35 per million), but greater than Western Europe (16 per million), and Australia (15 per million). In relation to changes in methodology, demographic features and rates of pre-hospital mortality, the rise in SCI prevalence in North America appears to be associated with a greater proportion of SCIs associated to violence (18%) relative to Western Europe (8%) and Australia (2%). The most prevalent SCI etiologies were automotive crashes (31.5%) and drops (25.3%), followed by gunshot injuries (10.4%), bike crashes (6.8%), diving incidents (4.7%), and medical/surgical problems (4.3%) (Chen et al., 2013).

Traumatic spinal cord injury incidence ranges from 9.2 to 246 per million a year. Since the adaptation of systematic SCI rehabilitation programs, mortality rates have been decreased and life expectancy among SCI patients has been increased. In distinct nations, however, mortality rates and life expectancy vary. This may be due to variations in early and long-term evaluation and management, employment, assistance for mobility, social and financial support, etc. Traumatic accidents (42%) followed by falls (40%) are the most prevalent cause of traumatic spinal cord injury. Car riders included the most recurring group of traffic accidents. Work-related injuries to fall are 54%. Complications of traumatic spinal cord injury arose in 39% of patients. In 80 percent of instances, patients with traumatic spinal cord injury are predicted to have harm to other organ systems. More than 90% of the problem were impacted in patients with polytrauma and ventilator support. In 23% of patients, life-intimidating injuries were viewed. Pressure ulcers in traumatic spinal cord injury patients were one of the most prevalent complications. Other complications include deep venous thrombosis, embolism of the lungs, autonomous dysreflexia (Jakimovska et al., 2019).

Paralysis is the most noticeable problem with spinal cord injury (SCI). SCI also has significant implications for many body functions, including bladder, intestine, respiratory, cardiovascular and sexual functions. It also has social, financial and psychological implications and increases the susceptibility of people to later life complications of the renal system as well as musculoskeletal injuries, pain, osteoporosis and other issues. People with SCI need medical and rehabilitation as well as ongoing access to wheelchair friendly environments and adequate home care, equipment, transportation, employment and

financial support. Therefore, managing people with SCI is complicated, involving healthcare experts, organizations and services from government. Physiotherapist treat a group of various SCI-related issues, including many body structures, although the underlying pathology is neurological in nature. Physiotherapy rehabilitation principles are frequently used in physiotherapy procedures for individuals with SCI and proof of efficacy. It involves three prevalent issues of weakness, contractures, and bad control of the motor function. Spinal cord injuries are described as complete or incomplete in accordance with the International Standards for SCI Neurological Classification and the American Spinal Injuries Association Impairment Scale (AIS). Spinal cord injuries are described as complete or incomplete. Complete lesions are described as AIS A and AIS B, AIS C, AIS D, AIS E are described as incomplete lesions. This classification scheme was familiarized in 1982 to exchange the original, but perhaps more instinctive, an individual was categorized as having an incomplete SCI if they had more than three levels of motor or sensory conservation below the injury stage. In comparison, the SCI International Neurological Classification Standards differentiate between complete and incomplete injuries in the S4/5 sections based on sensory and motor conservation. A lesion is classified as complete if a person does not have a voluntary anal contraction (S4/5 motor preservation indication) and/or sensation in or around the anus (S4/5 sensory preservation indication), irrespective of how much motor or sensory function they have below the lesion level. SCI patient's acute medical leadership focuses on reducing further neurological damage to the spinal cord and improving recovery. Clearly, spine stability is a concern (Harvey, 2019).

Either conservatively with bed rest (with or without traction) or surgically (usually with decompression and fusion) this is created. Surgical management is more prevalent now than conservative management, and there is still a lot of discussion about the benefit of each strategy.

Spine management, however, is only one element of acute medical care. There are many other characteristics associated with maintaining blood pressure, circulation, breathing, bladder drainage, bowel care, nutrition and body temperature, and decreasing patients and their family's psychological distress. Physiotherapy during this phase is usually concentrated on treating complications of the respiratory system and inhibiting secondary musculoskeletal issues associated with prolonged bed rest. Following SCI rehabilitation

begins as quickly as patients are medically stable following injury. This may vary from a few days to several weeks, depending on whether the person experienced other injuries at the moment of the accident or medical or respiratory problems eventually developed. Rehabilitation include a strategy centered on the team and the patient. Reintegration's general goal is to allow the individual to return to a productive and fulfilling existence. To distinct individuals, this implies different things. For instances, one person makes autonomy and/or walking a high priority, while others do not. Physiotherapist must play their part in teaching the media about this problem. Assessment of an SCI patient is an important original step in the management of physiotherapy. This step is essential not only to set realistic objectives, but also to recognize key issues. Evaluations carried out for this purpose are subjective (Harvey, 2019).

For example, in an attempt to identify any underlying issues, a physiotherapist may assess the ability of a patient to transfer from a wheelchair to bed. The evaluation may require observing and analyzing the efforts of a patient to transfer to determine which portion of the body to transfer. The patient has execution issues and isolates the underlying issues. This sort of evaluation enables guide therapy.

Evaluations are also used to provide an objective manner over time to monitor improvement. For this purpose, more standardized and objective evaluations are crucial. Instead of observing the attempts of a patient to transfer, a therapist can quantify the amount of assistance that the patient requires to transfer or measure the time taken to transfer using a standardized evaluation that captures these constructs. Certain standardized and objective assessments can, of course, also be used to define fundamental issues and guide therapy, especially impairment assessments. To guide therapy, the outcomes of the evaluation and goal-setting method are used (Harvey, 2019).

Treatments need to be based on proof, but because of the surprisingly few high-quality and conclusive randomized, controlled studies involving individuals with SCI, this presents a true challenge to the physiotherapy profession. Most of the studies have been carried out over the past few years and have looked at measures such as treadmill walking with overhead suspension, robotic gait training, electrical stimulation and other high-tech and possibly expensive procedures.

Interestingly, three typical SCI units were inspected in Europe and one in Australia indicated that the therapists continue to devote most of their time to the administration of simpler procedures frequently used to treat impairments such as weakness, limited joint mobility, limited fitness, pain and pulmonary compromise, while also teaching individuals how to walk, move around the bed, mobilize in a wheelchair and use their upper limbs.

This scenario shows a discrepancy between the priorities of scientists and the treatments that clinicians provide. This does not show that clinicians do not offer the finest or appropriate treatments, but it does imply that clinical treatments are not always based on high-quality clinical trials involving individuals with SCI and that scientists do not always test the efficacy of medicines frequently administered by clinicians. Without high-quality studies involving individuals with SCI to guide therapy, physiotherapists need to look further and be driven by what is known from other physiotherapy fields. The findings of high-quality studies in other patient organizations can often provide more precise proof of individuals with SCI's probable reactions to medicines than looking at non-randomized or poorly performed studies in individuals with SCI. In addition, a logical problem-solving strategy to therapy choice must guide physiotherapists (Harvey, 2019).

For instance, if an individual with C6 tetraplegia wishes to know how to move form a wheelchair to a bed separately, they need to be taught how to do this, and the physiotherapist needs to know the biomechanics of suitable movement strategies. Clinical trials involving with C6 tetraplegia learning to transfer may not be necessary to guide choices on therapy. Alternatively, physiotherapists can apply what is known about working with C6 tetraplegia biomechanics and the values of efficient motor skills learning. One with the difficulties facing physiotherapists operating in SCI is not only the absence of high-quality direct proof, but also the comprehensive practical collaboration.

Physiotherapist operating in SCI , for instance, to treat pain and respiratory problems; use electrical stimulation to treat ulcers of stress; develop fitness training programs that encourage individuals with SCI to embrace a healthy lifestyle and teach disabled sports. Provide care with different kinds of orthosis, splint, and aids like wheelchairs. This should be guidance on methods for preventing ulcers of the shoulder and pressure administrating multiple electrotherapy procedures. Physiotherapist then need distinct clinical skills to treat

individuals with SCI. The other challenge for physiotherapists operating in this region is to maintain an open mind about fresh measures such as stem cell therapy and robotics, while at the same time resisting the temptation to adopt these procedures until proof of high quality demonstrates their efficacy (Harvey, 2019).

New interventions should not be launched on the ground of low-quality proof, as they may waste time, money, resources, and patient attempts and may offer patients an unrealistic recovery expectation. This also rapidly become integrated as normal practice, especially if they involve business interests and individuals with SCI see them as useful. A window of chance closes once these interventions are rolled out to scrutinize these interventions in clinical trials. Weakness is the most evident impairment preventing motor duties begin performed by individuals with SCI, As a result, physiotherapists are commonly administering strength training procedures. Limited strength can be caused neurologically in individuals with SCI, as seen in individuals with Grade 2 or 3 strength in the muscle of quardriceps who are attempting to walk.

Alternatively, restricted power may be due to inadequate muscle mass (or, more correctly, inadequate cross-sectional physiological region) in neutrally intact muscles such as the upper limb muscles of individuals with paraplegia attempting to master a floor-to-floor wheelchair transition. That is, the individual needs a gradual resistance training program in which the load is increased properly and gradually. Such training is often best performed in the context of a functional skill, provided that it is possible to maintain the principles of progressive resistance training. Non-paralyzed muscle progressive resistance training not only improves power but also improves quality of life. Contractures after SCI are a prevalent issue.

Passive motions and stretching are commonly used for contracture treatment and prevention. However, there is still uncertainty about the effectiveness of these measures. A great deal of physiotherapy is aimed at enhancing the ability of patients to execute motor functions such as walking, transferring, wheelchair pushing and using the upper limb. Typically, therapy is based on motor learning principles. Motor learning principles can also be used to train gait in individuals with walking potential. Repetitive exercise is once again a main element (Harvey, 2019).

Patients with spinal cord injury often experience life-threatening complications (Muldoon & Muldoon., 2010). Patients with spinal cord injury often go to separate therapy clinics, but they do not always have sufficient therapy equipment. For the therapy and rehabilitation of individuals with spinal cord injury, there is no dedicated government hospital in Bangladesh. For treating spinal cord injury, there is only one non-governmental organization. This is the Centre for the Rehabilitation of the Paralyzed (CRP). This Centre has been running a rehabilitation program for the last 30 years that enables patients to enhance their life style (Islam et al., 2011).

This research will further improve our understanding of SCI in Bangladesh and assist create efficient programs and policies. The lack of advanced care in Intensive Care Units (ICU) and accurate and long-term management and rehabilitation of SCI patients in developing countries leads to low survival and life expectancy. Holistic treatments for CRP SCI patients result in higher survival rates (Islam et al., 2011).

Patient satisfaction with care is a structure that reflects an individual's general experience of being examined and treated in a hospital in a specified setting over a particular period of time. By self-reporting measures, patient satisfaction with care has become a problem globally in nearly every specialty in health care. From the satisfaction of care and customer service, patient satisfaction can be regarded. People who are happy with care, for instances, are more likely to finish a therapy course; may improve their general results compared to those of individuals who do not return for prescription care. For some patients, physiotherapy is an important care. But the satisfaction of patients with physiotherapy in Bangladesh has yet to be measured (Hossain et al., 2012).

CHAPTER-III METHODOLOGY

3.1 Study Design

The researcher has chosen cross sectional study design to fulfill the objectives of this study. Descriptive study design was chosen because the aims of the study were to know "Satisfaction level of spinal cord injury patients about physiotherapy services at CRP. Cross-sectional study was analysis that present situation and carried out at one time point or over a short period. Data could also be collected on individual characteristics including exposure to risk factors, along with information about the outcome. In this way cross sectional studies provide a snapshot of the outcome and characteristics associated with it, at a specific point in time. Usually there was no hypothesis as such, but the aim was to describe a population or a subgroup within the population with respect to an outcome and set risk factors. Cross-sectional studies were sometimes carried out to investigate associations between risk factors and the outcome of interest. They were limited, however, by the fact that they were carried out at one time point and give no indication of the sequence of events whether exposure occurred before, after or during the onset of the disease outcome.

3.2 Study Site:

The study was conducted at the Centre for the Rehabilitation of the Paralyzed (CRP). It is the only specialized Rehabilitation Centre for the patients with Spinal Cord Injury (SCI) in Bangladesh and also is the biggest Spinal Cord Injury (SCI) Rehabilitation Centre in South Asia.

3.3 Study Period

The study was conducted from 11th August 2018 to 31th July 2019.

3.4 Target Population and Sample Population

The target population were the patients with Spinal Cord Injury (SCI) who were admitted at the Centre for the Rehabilitation of the Paralyzed (CRP).

3.5 Sample Size

The equation of sample size calculation are given below:

$$n=\frac{z^2\times pq}{d^2}$$

Here,

n = Sample size

p = Percentage of sample population

z = The standard normal deviate usually set at 1.96 which corresponds to the 95% confidence of level

d = Degree of accuracy of the target population estimate to have a particular characteristics

q = Expected proportion 1-p

Here, z = 1.96

P = 0.5 (here, p = prevalence)

q = 1-p

= 1-0.5

= 0.95

d = 0.05

The study population was the persons with spinal cord injury who had received the rehabilitation process from the Centre for the Rehabilitation of the paralyzed (CRP). Researcher was selected 105 persons conveniently to conduct this study. Here researcher used the formulation of sample size determination. The researcher used 95% confidence interval for this study. So the confidence interval (z) = 1.96. The researcher used 5% sampling error for this study. So sampling error is (d) = 0.05. Researcher did not know the total number of persons with SCI in the Bangladesh. So, the prevalence of SCI is (p) = 0.5 & (q) = 0.95. So the total sample was required 384. But researcher was selected 105 numbers of persons (male & female) with spinal cord injury who were receiving treatment from Centre for the Rehabilitation of the Paralyzed (CRP) conveniently to conduct this study due to limited time for this study. The participants were selected based on inclusion criteria & exclusion criteria.

3.6 Sampling Procedure

The convenience sampling method was used in this study. Convenient sampling was a process in which a sample was draw from the subjects conveniently available. The procedure was including all of people with spinal cord injury actually who met the inclusion and exclusion criteria.

3.7 Inclusion Criteria

- Persons with spinal cord injury (Harvey, 2016).
- Persons who received physiotherapy services (Custer, 2012).
- Age range 18-70 years (Custer, 2012).
- Both male and female were included (Gurcay et al., 2010).

3.8 Exclusion Criteria

- Patient who didn't take rehabilitation (Harvey, 2016).
- Undiagnosed injury (Harvey, 2016).
- Spinal cord injury patient with psychological problem (Singh et al., 2014).
- A progressive disease (Chen et al., 2013).
- Loss of vision or hearing (New et al., 2013).
- Age more than 70 years (Custer, 2012).

3.9 Data Collection Tools

Data was collected through Satisfaction with Continuum of Care (SCC) survey scale in a prescribed form.

3.10 Data Analysis

Researcher was analyzed data by using the Statistical Package for Social Science (SPSS) 20 version where used descriptive statistics and Microsoft excel-2007. Satisfaction with Continuum of Care (SCC) survey and Demographic questionnaire was analyzed. Demographic factors were discussed such as gender, age, occupation, marital status and duration of injury. The socio-demographic part of the data has been analyzed by descriptive statistics and represented by tables, bar, chart, histogram, pie etc. The level of satisfaction has been analyzed by descriptive statistics and represented by bar, chart, histogram, pie etc.

3.11 Ethical Consideration

Researcher followed the Bangladesh Medical Research Council (BMRC) guide line & WHO research guideline. This protocol presentation was firstly submitted to the Institutional Review Board (IRB) of BHPI and initial permission was taken. Permission was also taken from the Head of the Department of Physiotherapy, CRP for data collection**.** Researcher maintained the confidentiality of the collected data from the individuals. The ethical consideration was obtained through an informed consent letter to the participant. Consent was obtained by providing each participant a clear description of the study purpose, the procedure involved in the study and also informing them that if they wish they could withdraw themselves any time from the study. Participant were explained about their role in the study and it was explained that there was no direct benefit from the study but in future, cases like them may would be benefited from it. Participants were also advised that they were free to decline answering any questions during interview. The necessary information had been kept secure place to also ensure confidentiality. They were also assured that it would not cause any harm. Then they signed the consent form.

Written consent (appendix) was given to all participants prior to completion of the questionnaire. The researcher explained to the participants about his or her role in this study and aim and objective of this study. The researcher received a written consent from every participants including signature. So the participant assured that they could understand about the consent from and their participation was on voluntary basic. The participants were informed clearly that their information would be kept confidential. The researcher assured the participants that the study would not be harmful to them. It was explained that there might not a direct benefit from the study for the participants but in the future cases like them might be get benefit from it. The participants had the rights to withdraw consent and discontinue participation at any time without prejudice to present or future care at the spinal cord injury (SCI) unit of CRP. Information from this study was anonymously coded to ensure confidentiality and was not personally identified in any publication containing the result of this study.

3.12 Rigor of the Study

The rigorous manner was maintained to conduct the study. The study was conducted in a clean and systemic way. During the data collection it was ensured participants were not influenced was experiences. The answer was accepted whether they were negative or positive impression. No leading questions were asked or no important questions were avoided. The participant information was coded accurately and checked by the supervisor to eliminate any possible errors. The entire information was handled with confidentiality. In the result section, outcome was not influenced by showing any personal interpretation. During conduct the study every section of the study was checked and rechecked by the research supervisor.

CHAPTER-IV RESULTS

In this study descriptive study design is chosen because the aims of the study were to know the level of satisfaction among the spinal cord injury patients about physiotherapy services. The socio-demographic information along with satisfaction with continuum of care (SCC) survey was taken of 105 patients by the qualified physiotherapist who has been working in the spinal cord indoor unit at CRP.

4.1. Socio-demographic Information

4.1.1 Age Groups

The study was conducted with 105 participants. Among them 15-35 years were 68.6% (n=72), 36-55 years were 25.7% (n=27), 56-70 years were 5.7% (n=6). Most of them were 15-35 years were 68.6% (n=72).

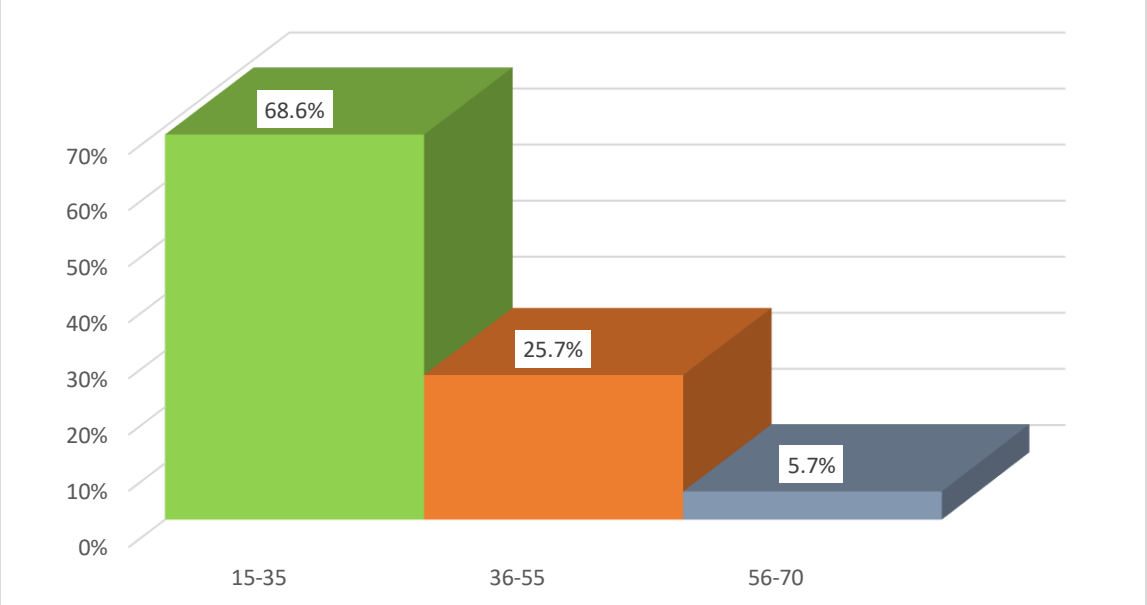


Figure-1: Age of the participants

4.2 Gender

Male was pre-dominantly higher than female. Out of 105 participants 83.8% (n=88) were male and 16.2% (n=17) were female. Figure 2 shows the sex distribution of the participants.

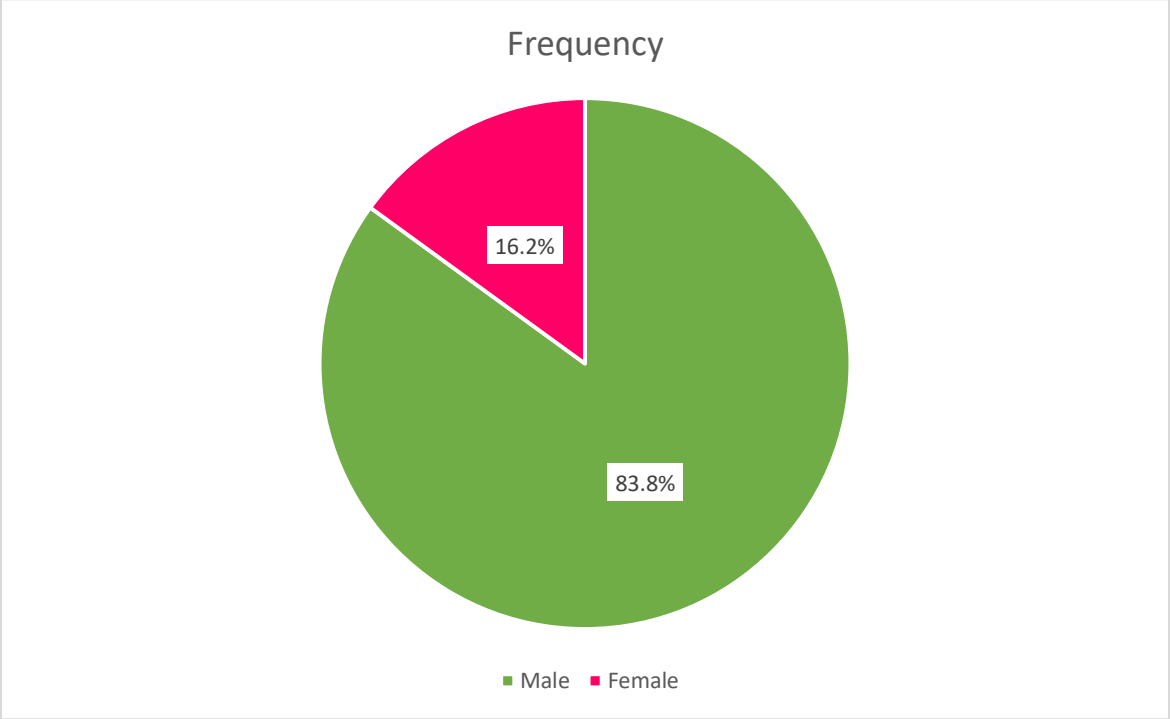


Figure-2: Gender of the participants

4.1.2 Living Place:

Most of the participants who are suffering from rural areas 76.2% (n=80).Only 14.3% (n= 15) from urban areas and 9.5% (n=10) from semi-urban areas.

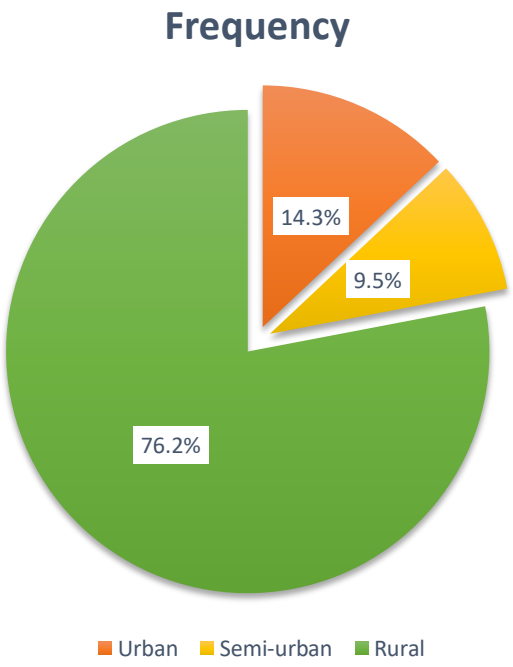


Figure-3: Living place

4.1.3 Family Type:

Among the 105 participants researcher found 57.1% (n=60) participants came from nuclear family, 42.9% (n=45) came from extended family. Figure 4 shows the family type among the participants.

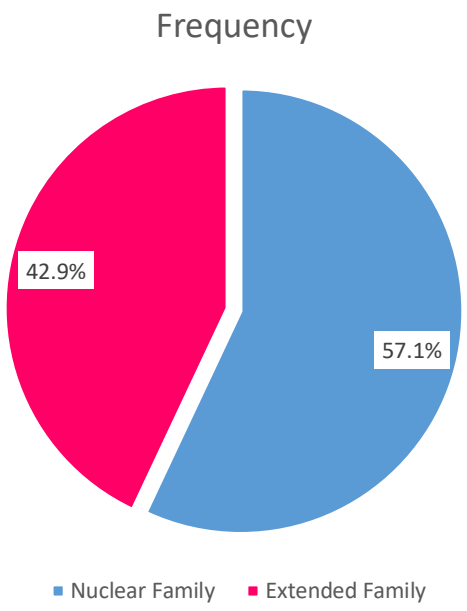


Figure-4: Family type

4.1.4: Marital Status:

Among the 105 participants researcher found married person 60% (n=63), unmarried 40% (n=42). Most frequent status in married that was higher than unmarried.

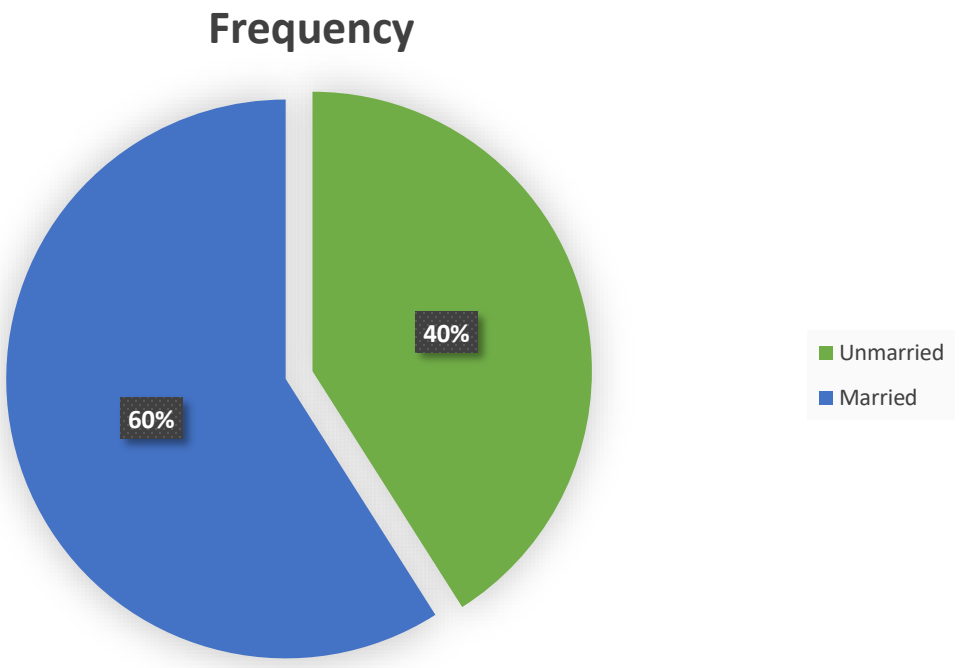


Figure-5: Marital Status

4.1.5: Religion:

Among 105 participants 92.4% (n=97) are Muslim, 5.7% (n=6) are Hindu and 1.9% (n=2) are Buddha.

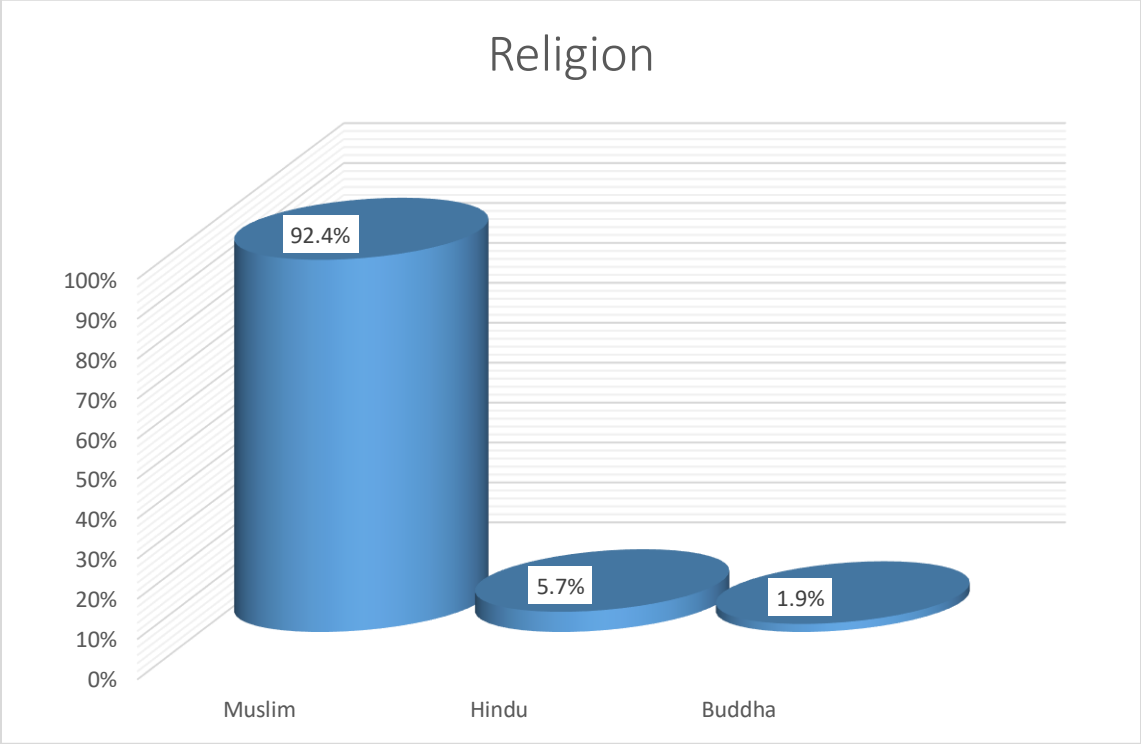


Figure-6: Religion

4.1.6: Educational Status

Table-1: Educational Status of the participants

Educational Status	Number	Percent (%)
Illiterate	20	19
Up to class-5	14	13.3
Primary School certificate(PSC)	8	7.6
Up to class-8	22	21
Junior school certificate(JSC)	6	5.7
Secondary school certificate(SSC)	15	14.3
Higher secondary certificate (HSC)	8	7.6
Bachelor	3	2.9
Master	5	4.8
Others	4	3.8
Total	**105**	**100**

Out of 105 participants, most of them were up to class-8, 21% (n=22) that means they have the basic knowledge to read and write. After that illiterate was the second most common and the number was 19% (n=20). Table 1 show the details of the educational status of the participants.

4.1.7 Occupation

Table-2: Occupation of the participants

Occupation of the Participants	Number (n)	Percent (%)
Housewife	8	7.6
Student	22	21
Farmer	10	9.5
Garment's worker	3	2.9
Teacher	3	2.9
Businessman	17	16.2
Day laborer	16	15.2
Unemployed	5	4.8
Driver	6	5.7
Electrician	1	1
Mason	8	7.6
Police	1	1
Others	5	4.8
Total	**105**	**100**

Among 105 participants, most of them were student 21% (n=22) that means they are engaged in educational activity. Businessman were the second most common 16.2% (n=17) and daily laborer were the third one 15.2% (n=16). Table 2 shows the details information of the occupation of the participants.

4.1.8 Earning Member

Table-3: Earning Member

Earning Member	Number (n)	Percent (%)
Himself / Herself	72	68.6
Husband / Wife	9	8.6
Father / Mother	24	22.9
Total	**105**	**100**

Among 105 participants the earning member himself/herself is 68.6% (n=72), husband/wife is 8.6% (n=9), father/mother is 22.9% (n=24).

4.1.9 Average Monthly Income

Table-4: Average Monthly Income

Average Monthly Income	Number (n)	Percent (%)
10000-20000	10	9.5
20001-30000	40	38.1
30001-40000	28	26.7
40001-50000	18	17.1
50001-60000	7	6.7
60001-70000	2	1.9
Total	**105**	**100**

Among 105 participants average monthly income between the range 10000-20000 was 9.5% (n=10), 20001-30000 is 38.1% (n=40), 30001-40000 is 26.7% (n=28), 40001-50000 is 17.1% (n=18), 50001-60000 is 6.7% (n=7) and 60000-70000 is 1.9% (n=2). Most frequent status is 20001-30000 is 38.1% (n=40).

4.2 Spinal Cord Injury (SCI) related information

4.2.1 Duration of injury

Table-5: Duration of Injury

Duration of Injury	Number (n)	Percent (%)
1-10 weeks	49	46.7
10-20 weeks	21	20
20-30 weeks	16	15.2
30-40 weeks	8	7.6
40-50 weeks	5	4.8
50-60 weeks	2	1.9
60-70 weeks	4	3.8
Total	**105**	**100**

Among 105 participants duration of injury were 46.7% (n=49) in 1-10 weeks, 20% (n=21) in 10-20 weeks, 15.2% (n=16) in 20-30 weeks, 7.6% (n=8) in 30-40 weeks, 4.8% (n=5) in 40-50 weeks, 1.9% (n=2) in 50-60 weeks, 3.8% (n=4) in 60-70 weeks.

4.2.2 Causes of Injury

Table-6: Causes of Injury

Causes of Injury	Number (n)	Percent (%)
Fall from height	51	48.6
Fall while carrying heavy load on head	1	1
Fall of heavy load on neck	5	4.8
Fall of heavy load on back	11	10.5
Road traffic accident (RTA)	30	28.6
Physical assault	2	1.9
Gun shoot injury	3	2.9
Others	2	1.9
Total	**105**	**100**

In this study researcher found the major cause of Spinal Cord Injury was fall from height 48.6% (n=51). Other causes include fall while carrying heavy load on head was 1% (n=1), fall of heavy load on neck was 4.8% (n=5), fall of heavy load on back was 10.5% (n=11), road traffic accident (RTA) was 28.6% (n=30), physical assault was 1.9% (n=2) and gun shoot injury was 2.9% (n=3).

4.2.3 Type of Injury

Among the 105 participants paraplegia patients were 43.8% (n=46) and tetraplegia patient were 56.2% (n=59).

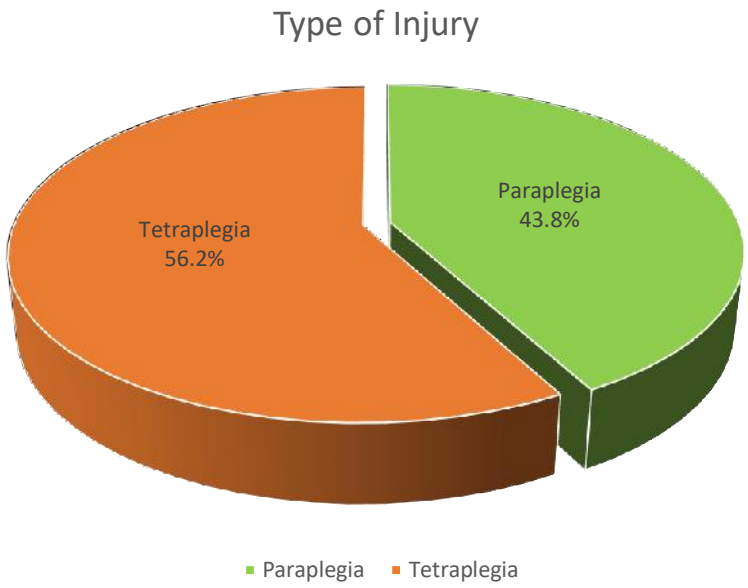


Figure-7: Type of Injury

4.3 Identification of the existing satisfaction level related to service

4.3.1 Felt good about the quality of physiotherapy services

As a whole, the satisfactory percentage to the quality of physiotherapy services with SCI among the 105 participants, about 1% (n=1) participants was disagree, 1.9% (n=2) was neither agree nor disagree, 6.7% (n=7) was agree and 90.5% (n=95) was strongly agree.

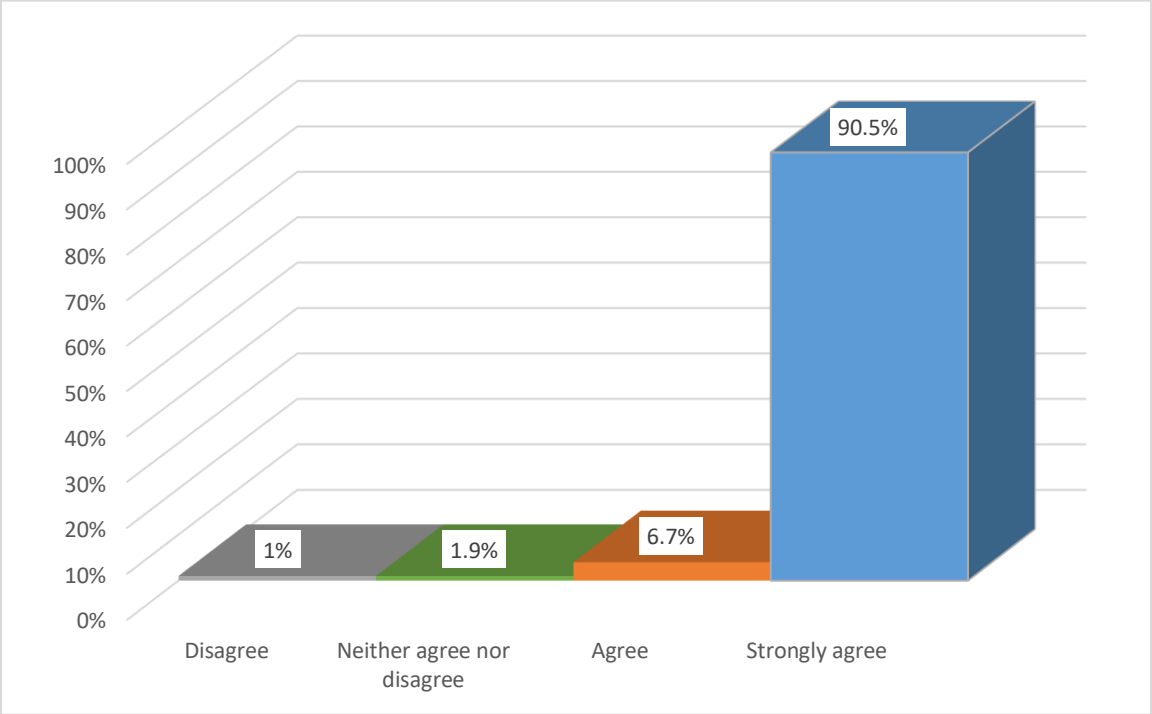


Figure-8: Felt good about the quality of physiotherapy services

4.3.2 The quality of physiotherapy services did not change from person to person

Among 105 participants 1.9% (n=2) participants were disagree with the above statements, 5.7% (n=6) were neither agree nor disagree, 10.5% (n=11) were agree and 81.9% (n=86) patients were strongly agree.

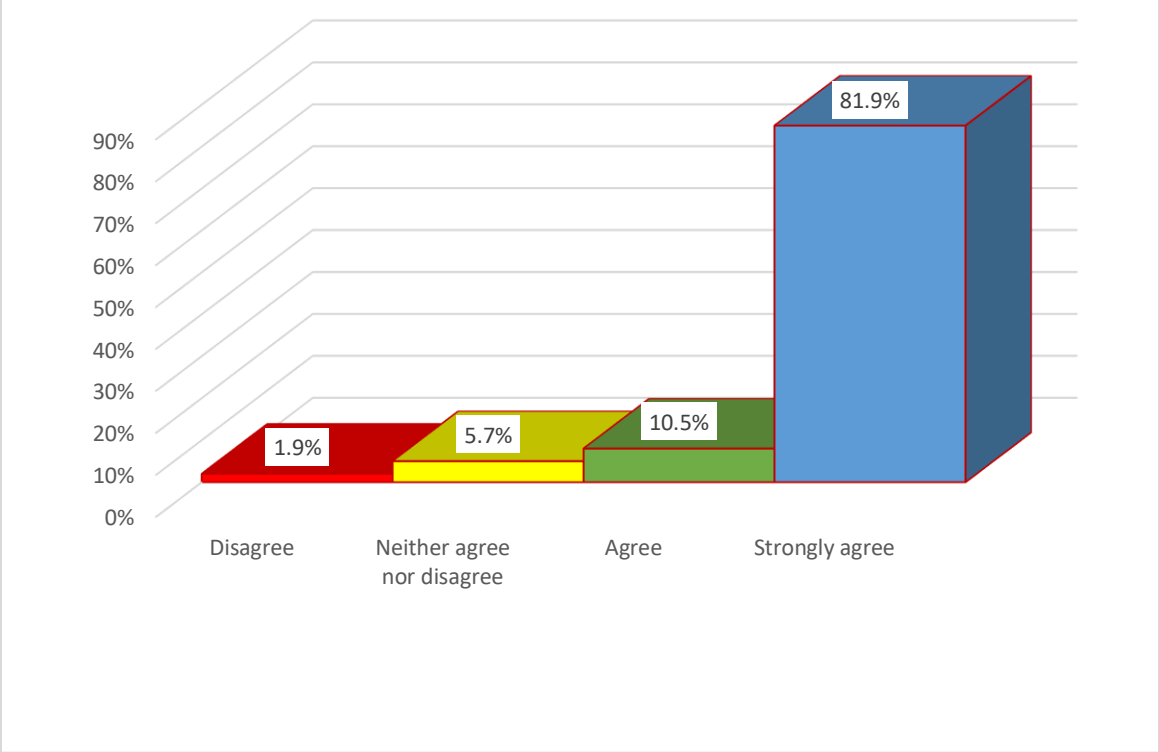


Figure-9: The quality of physiotherapy services did not change from person to person

4.3.3 Felt confident in the skills of physiotherapist

Among the 105 participants 3.8% (n=4) were neither agree nor disagree in the confident skills of physiotherapist, 7.6% (n=8) were agree and 88.6% (n=93) were strongly agree.

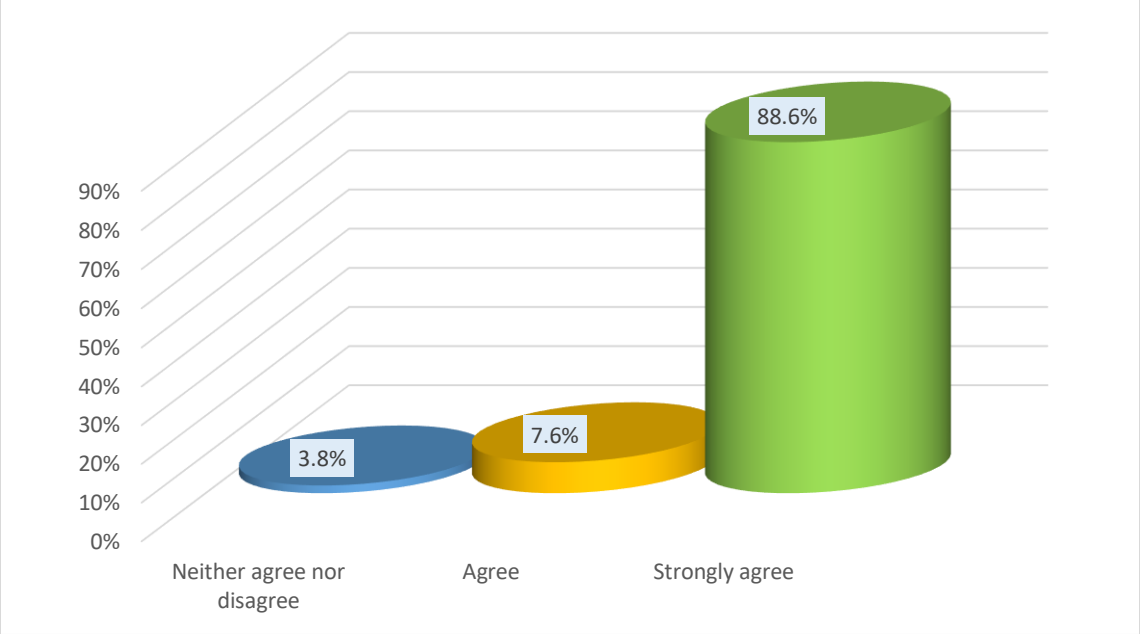


Figure-10: Felt confident in the skills of physiotherapist

4.3.4 Physiotherapist taught how to be safe

Among 105 participants 2.9% (n=3) were neither agree nor disagree with the statement, 8.6% (n=9) were agree and 88.6% (n=93) were strongly agree.

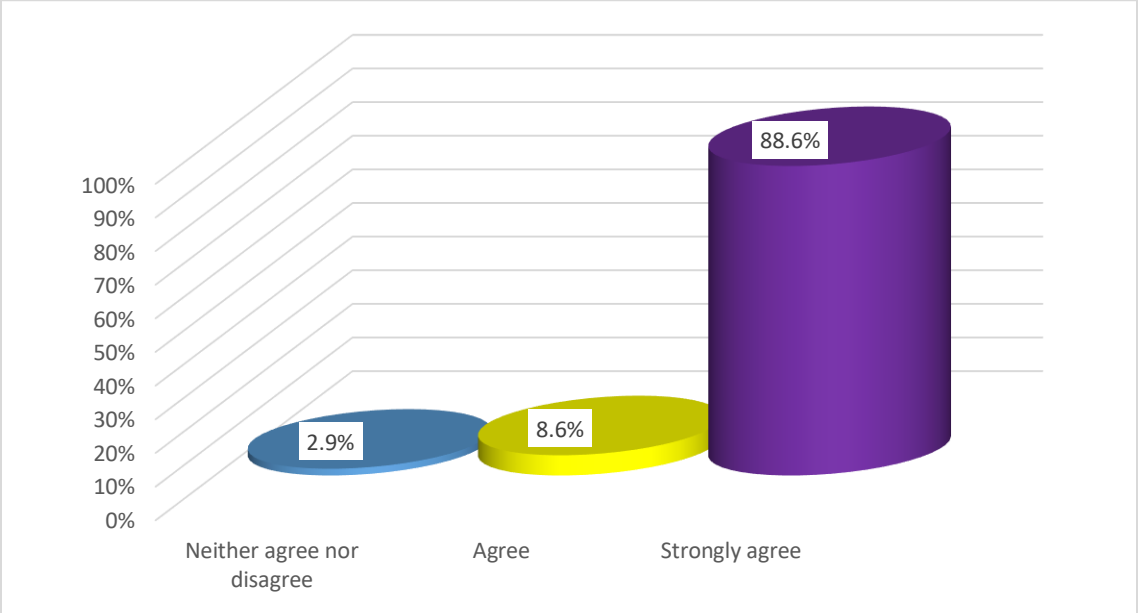


Figure-11: Physiotherapist taught how to be safe

4.3.5 The physiotherapist told what they were doing and why they were doing it

Among 105 participants 1% (n=1) was disagree with the statement, 10.5% (n=11) were neither agree nor disagree, 5.7% (n=6) were agree and 82.9% (n=87) were strongly agree.

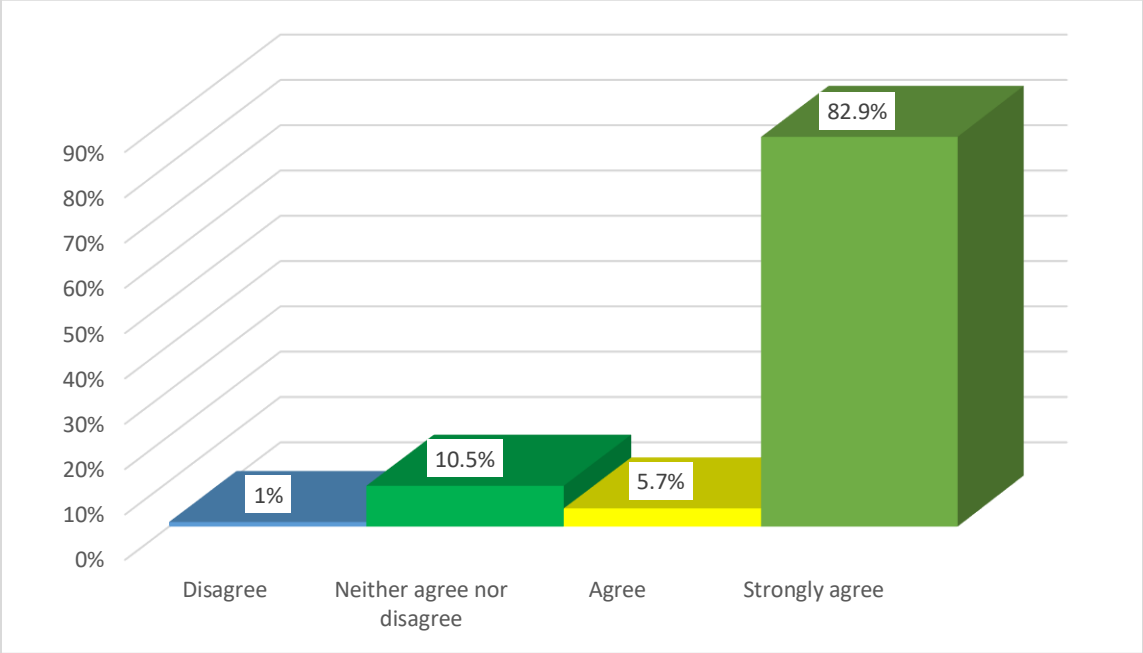


Figure-12: The physiotherapist told what they were doing and why they were doing it

4.4 Level of satisfaction according to healthcare system

4.4.1 Involved in making decisions about physiotherapy services with the help of the physiotherapist

Among 105 participants 1.9% (n=2) was disagree with the involvement in making decisions, 1% (n=1) was neither agree nor disagree, 9.5% (n=10) were agree and 87.6% (n=92) were strongly agree.

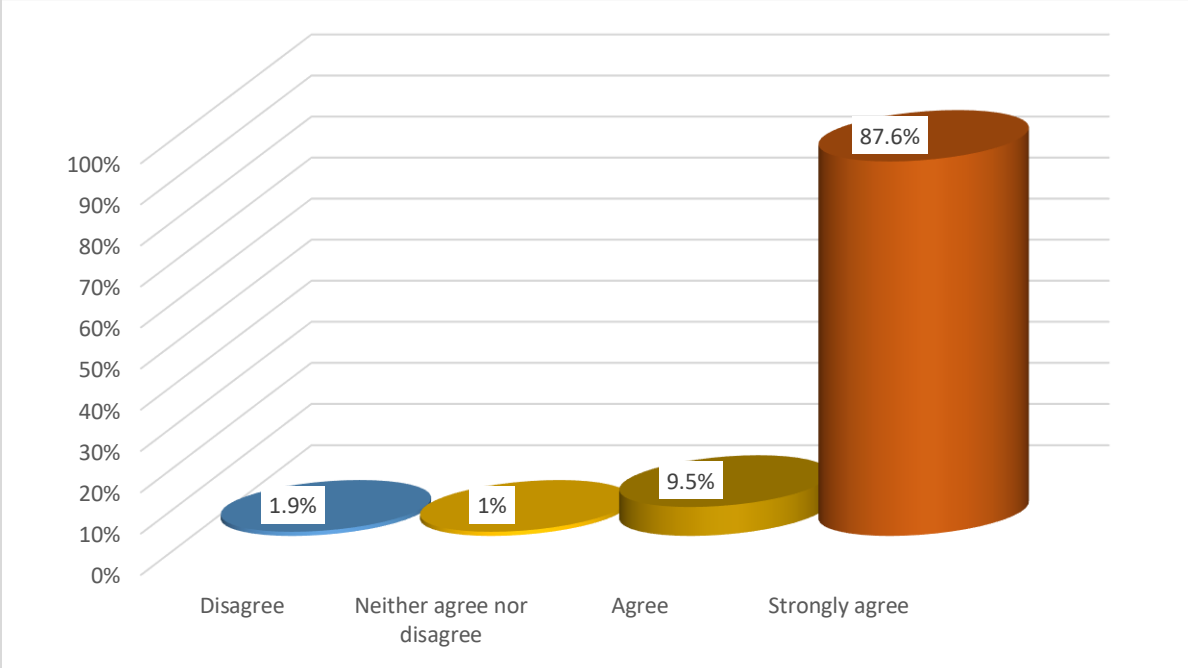


Figure-13: Involved in making decisions about physiotherapy services with the help of the physiotherapist

4.4.2 What the participant thought seemed to matter to the physiotherapist

Among 105 participants 4.8% (n=5) were neither agree nor disagree with the statement, 8.6% (n=9) were agree and 86.7% (n=91) were strongly agree.

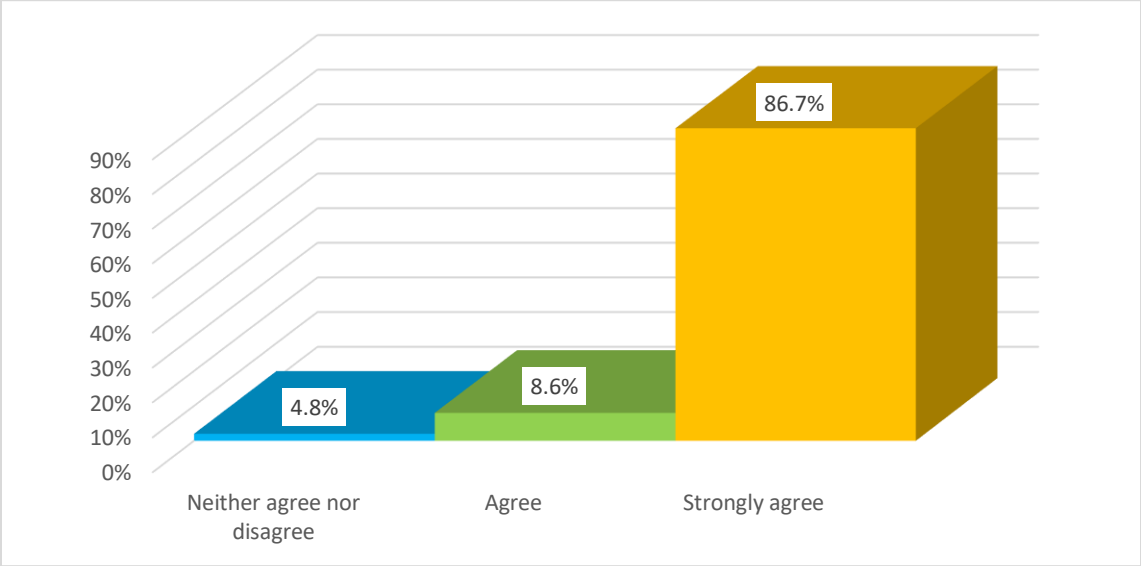


Figure-14: What the participant thought seemed to matter to the physiotherapist

4.4.3 The participant was not asked to do anything they felt was not helping them

Among 105 participants 1% (n=1) was disagree with the statement, 2.9% (n=3) was neither agree nor disagree with the statement, 6.7% (n=7) were agree and 89.5% (n=94) were strongly agree.

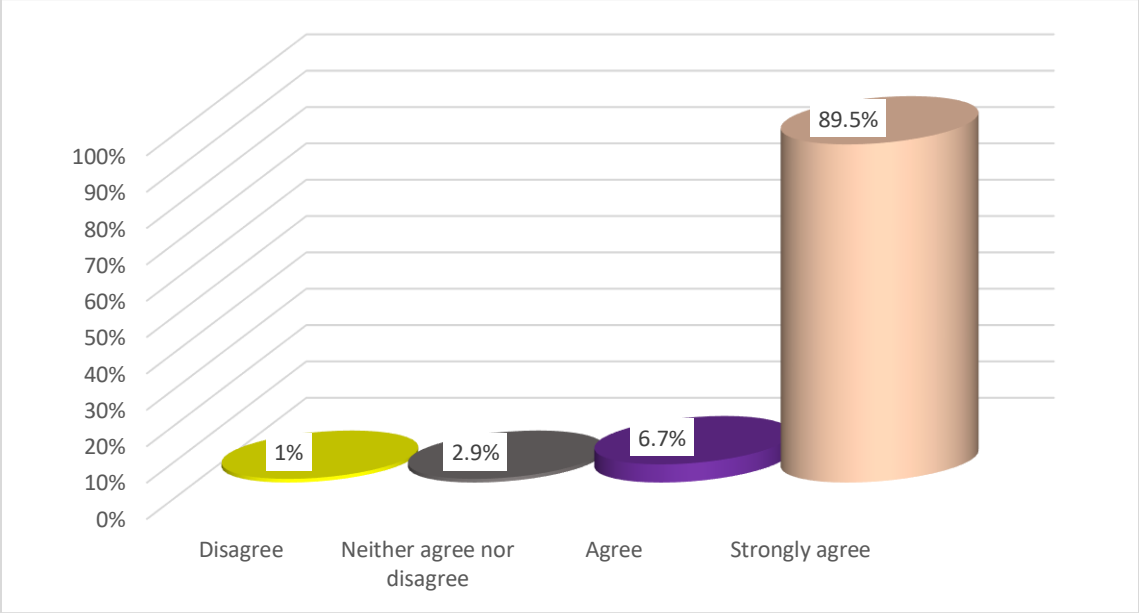


Figure-15: The participant was not asked to do anything they felt was not helping them

4.4.4 Able to ask questions

Among 105 participants 1% (n=1) was disagree with the ability to ask questions, 2.9% (n=3) were neither agree nor disagree with the statement, 7.6% (n=8) were agree and 88.6% (n=93) were strongly agree.

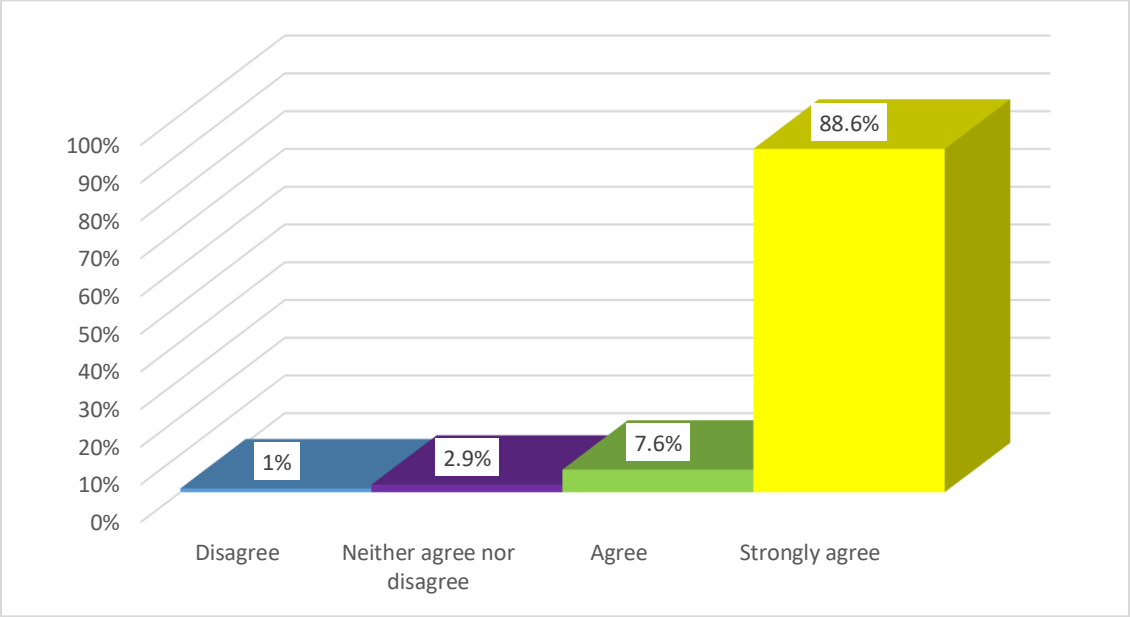


Figure-16: Able to ask questions

4.4.5 Played an active part in physiotherapy services

Among 105 participants 1% (n=1) was neither agree nor disagree with played an active part in the physiotherapy services, 7.6% (n=8) were agree and 91.4% (n=96) were strongly agree.

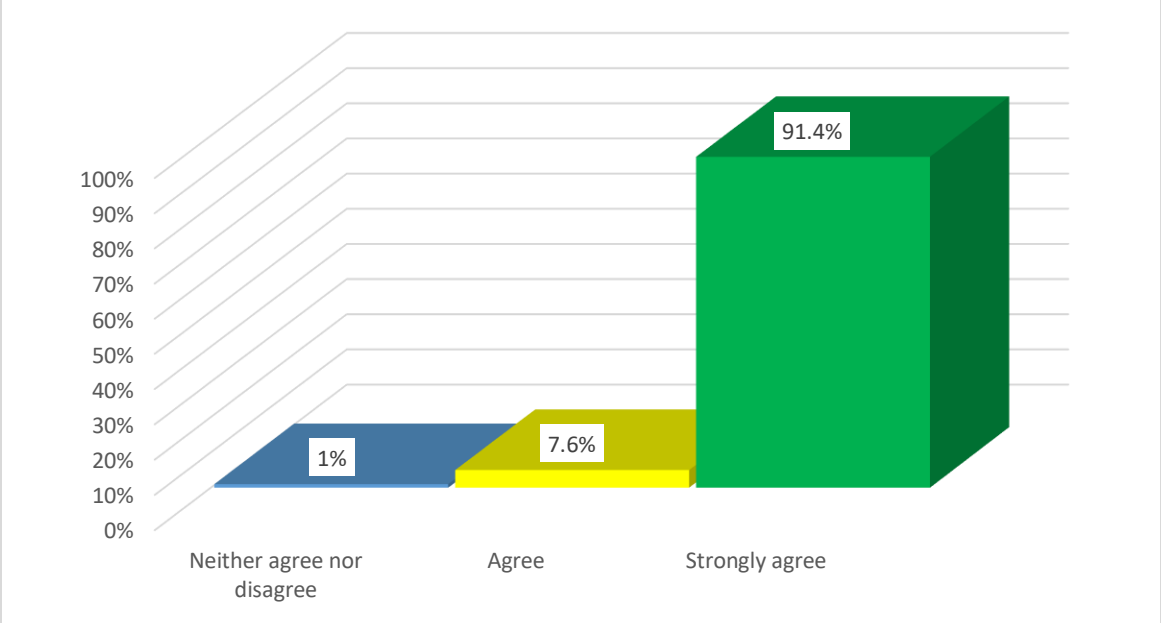


Figure-17: Played an active part in physiotherapy services

4.4.6 Treated with respect

Among 105 participants 4.8% (n=5) were agree and 95.2% (n=100) were strongly agree with treated with respect.

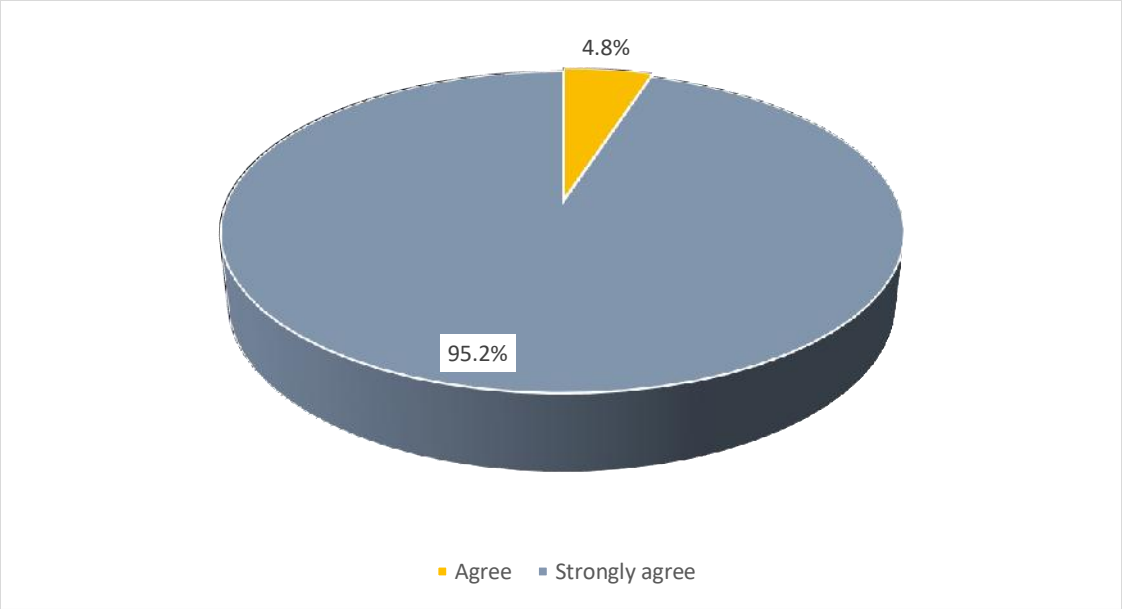


Figure-18: Treated with respect

4.4.7 If the participants had pain, it seemed that the physiotherapist tried to help them

Among 105 participants 2.9% (n=3) were neither agree nor disagree with the above statement, 8.6% (n=9) were agree and 88.6% (n=93) were strongly agree.

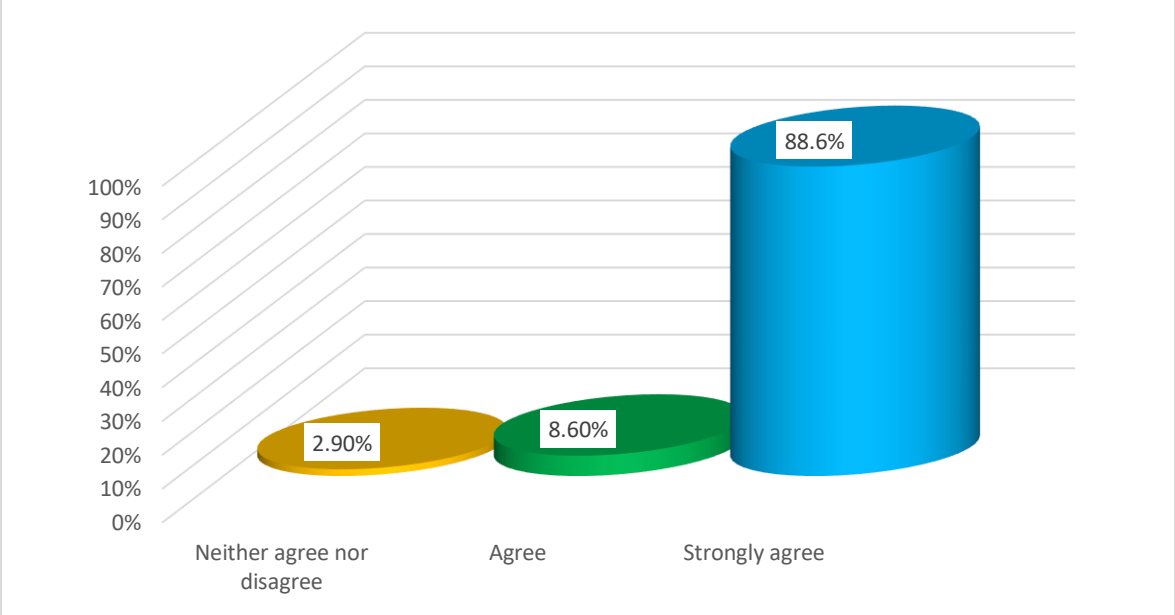


Figure-19: If the participants had pain, it seemed that the physiotherapist tried to help them

4.5 Level of satisfaction according to coordination of care

4.5.1 The physiotherapist worked together to help the participants

Among 105 participants 3.8% (n=4) were neither agree nor disagree with the statement, 10.5% (n=11) were agree and 85.7% (n=90) were strongly agree.

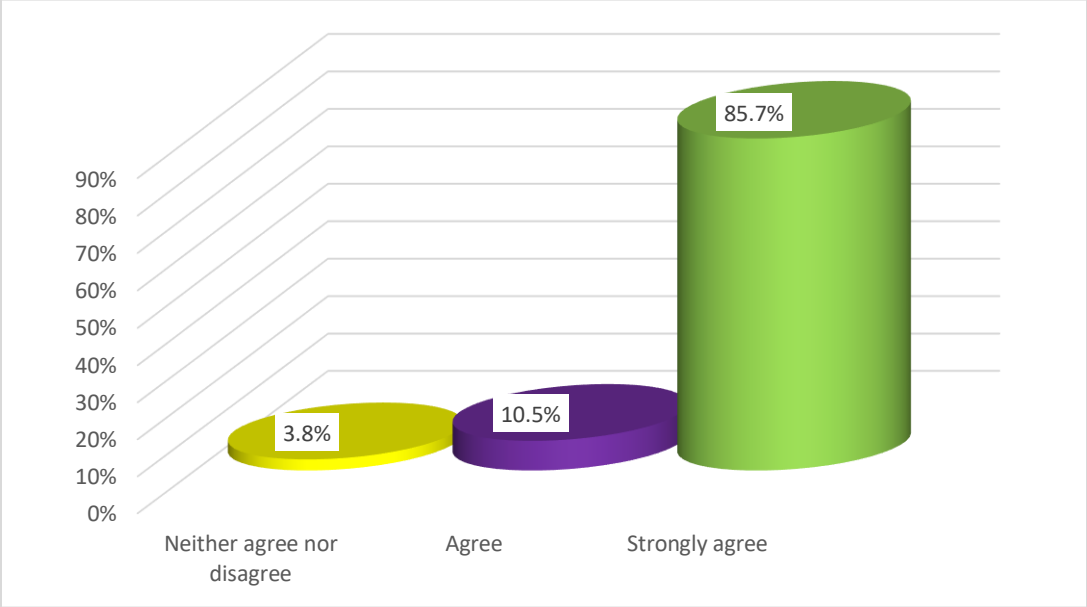


Figure-20: The physiotherapist worked together to help the participants

4.5.2 Physiotherapist seemed to care about the participants and their needs

Among 105 participants 1.9% (n=2) were neither agree nor disagree with care about me and my needs, 11.4% (n=12) were agree and 86.7% (n=91) were strongly agree.

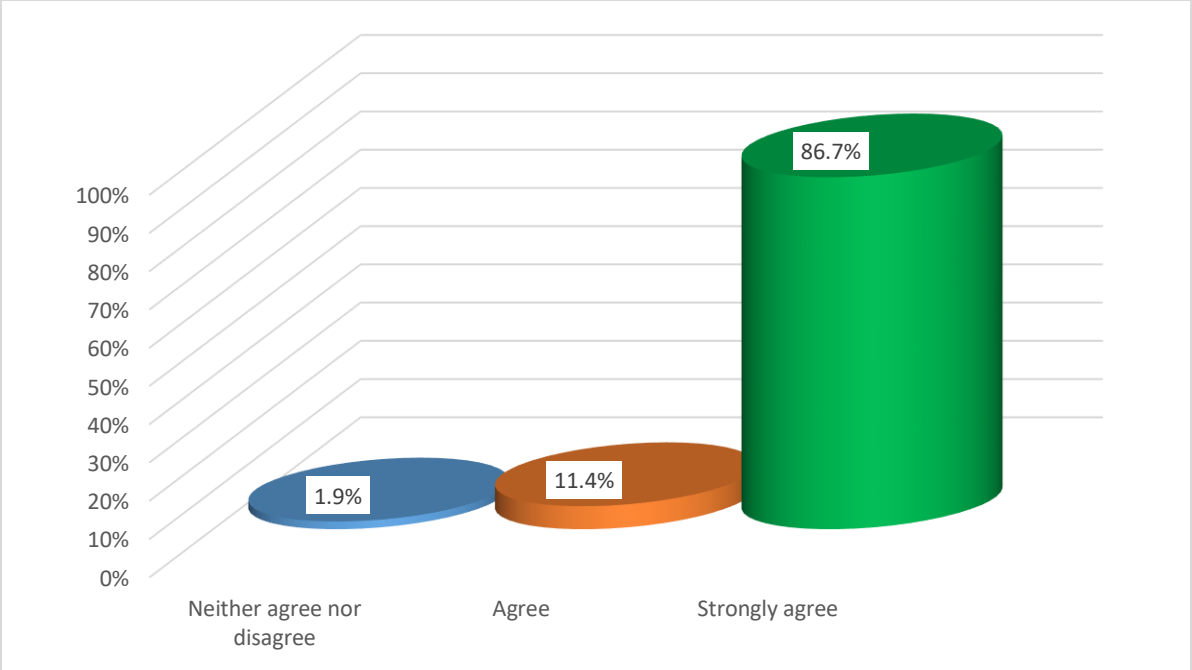


Figure-21: Physiotherapist seemed to care about the participants and their needs

4.5.3 The physiotherapist seemed to be in touch with each other about care

Among 105 participants 5.7% (n=6) were neither agree nor disagree with the statement, 8.6% (n=9) were agree and 85.7% (n=90) were strongly agree.

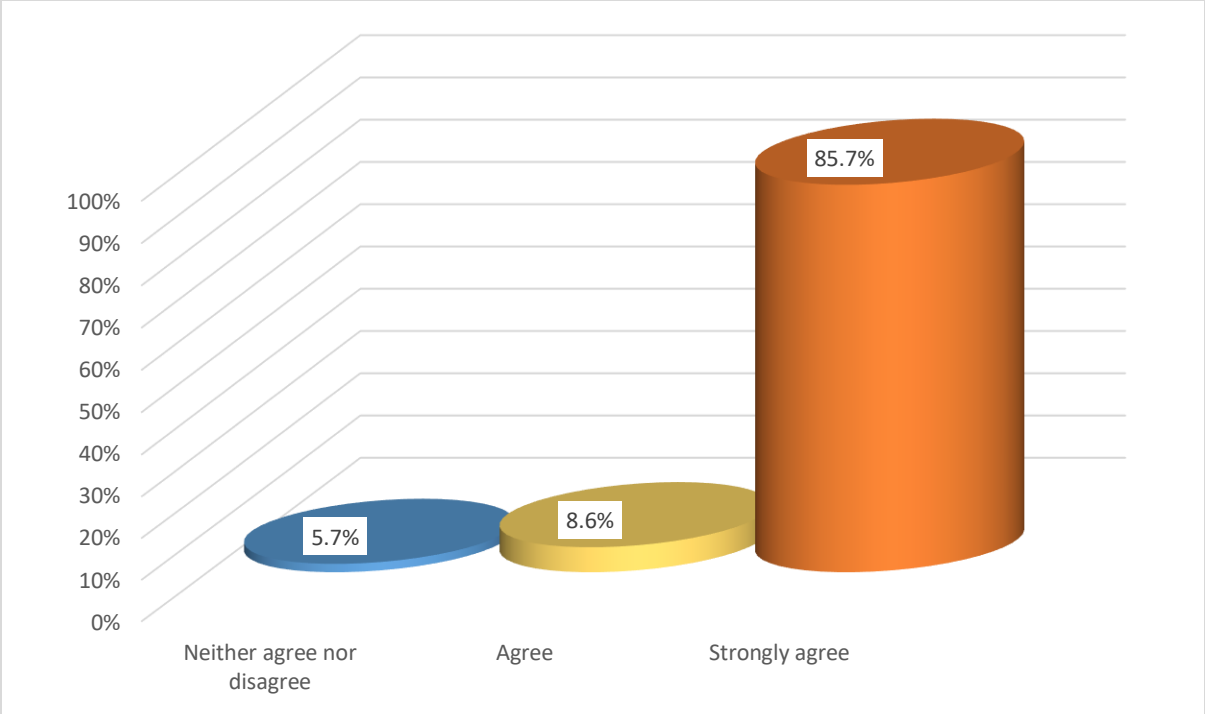


Figure-22: The physiotherapist seemed to be in touch with each other about care

4.6 Level of satisfaction according to timelines

4.6.1 If the participant had to wait something, it was not very long

Among 105 participants 4.8% (n=5) were neither agree nor disagree with the statement, 7.6% (n=8) were agree and 87.6% (n=92) were strongly agree.

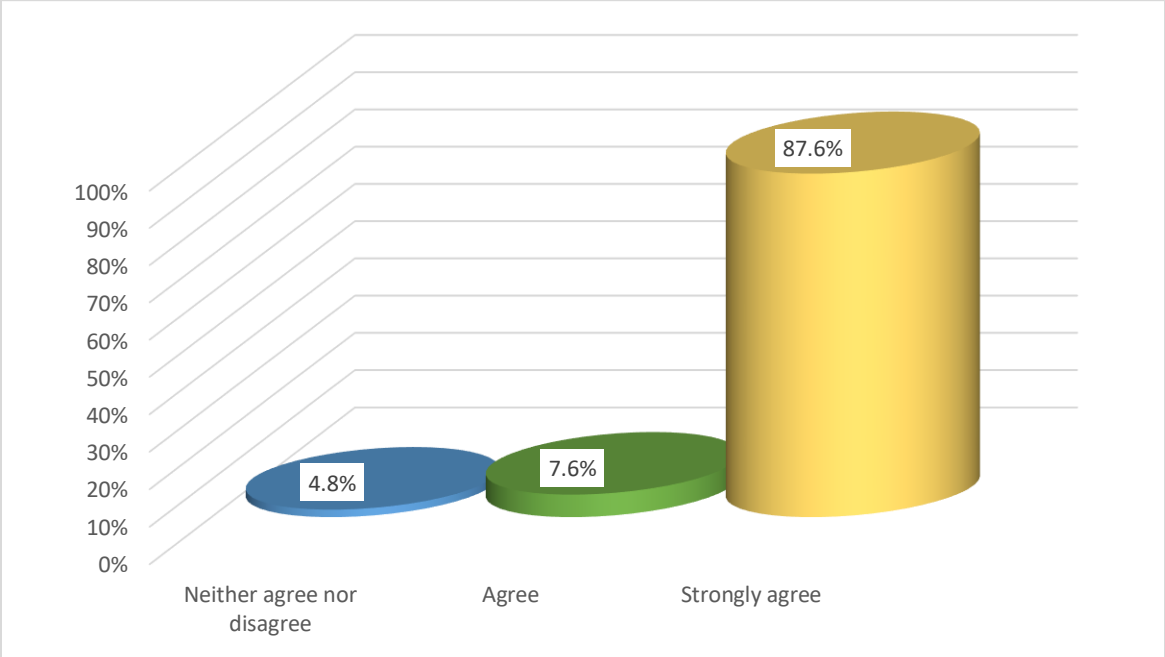


Figure-23: If the participant had to wait something, it was not very long

4.6.2 Care took place in a timely and efficient manner

Among 105 participants 1% (n=1) was disagree with the care took place in a timely and efficient manner, 2.9% (n=3) were neither agree nor disagree, 8.6% (n=9) were agree and 87.6% (n=92) were strongly agree.

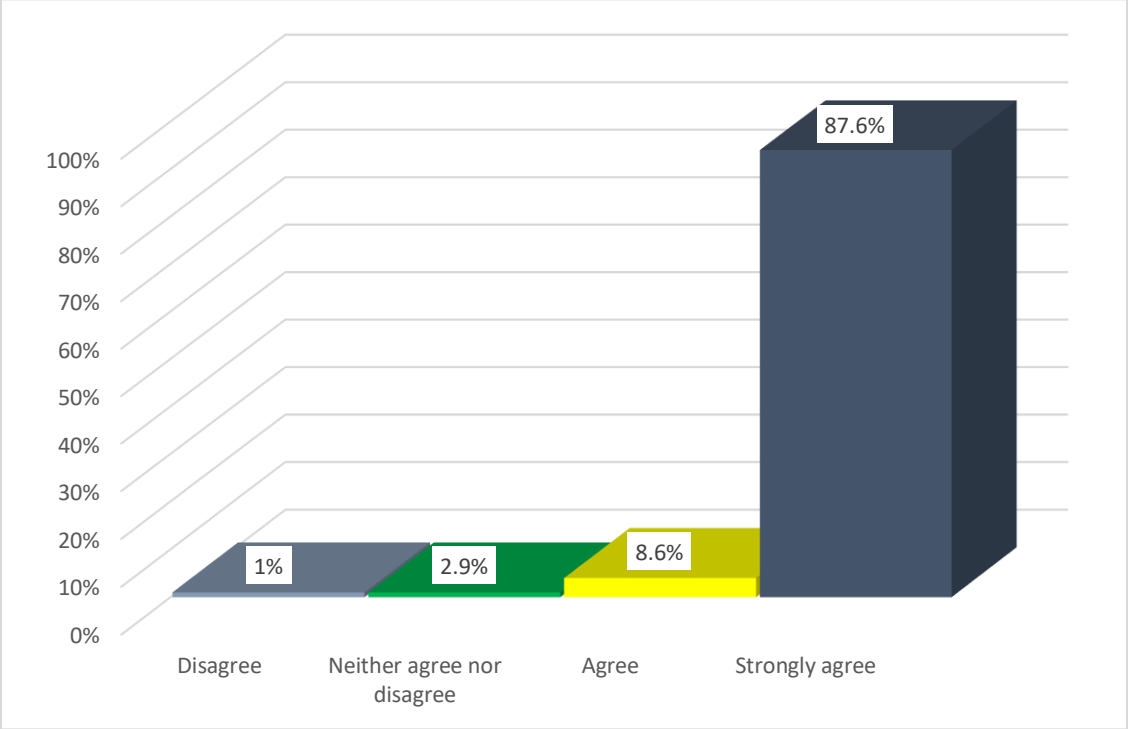


Figure-24: Care took place in a timely and efficient manner

4.6.3 The participant was kept informed about delays

Among 105 participants 1.9% (n=2) was disagree with the information about delays, 1.9% (n=2) were neither agree nor disagree, 11.4% (n=12) were agree and 84.8% (n=89) were strongly agree.

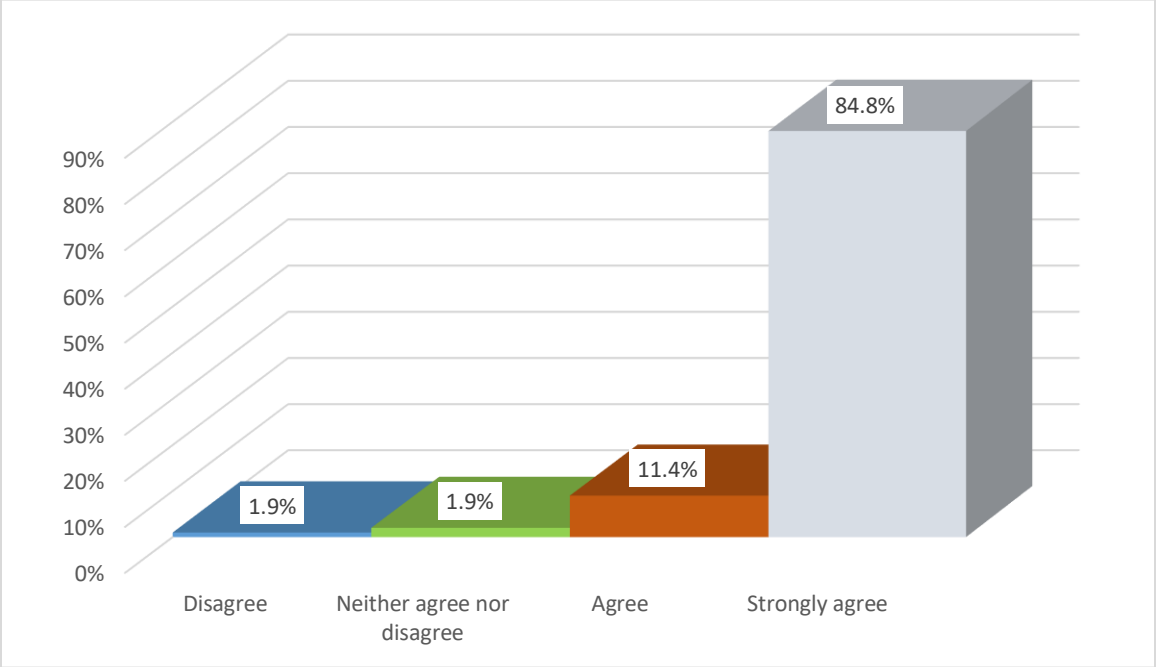


Figure-25: The participants was kept informed about delays

4.6.4 The participant felt the physiotherapist spent time with them

Among 105 participants 1.9% (n=2) were neither agree nor disagree with the physiotherapist spent time with them**,** 8.6% (n=9) were agree and 89.5% (n=94) were strongly agree.

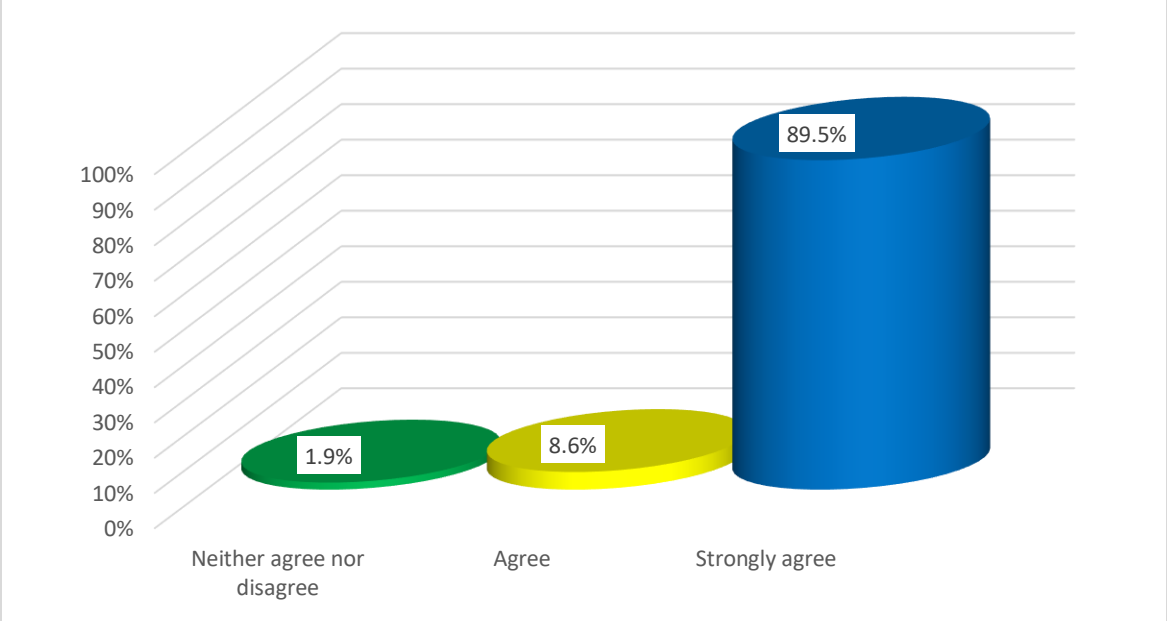


Figure-26: The participant felt the physiotherapist spent time with me

4.7 Level of satisfaction according to outcomes

4.7.1 While here, the participant have been helped to get better

Among 105 participants 1% (n=1) was neither agree nor disagree with the statement, 8.6% (n=9) were agree and 90.5% (n=95) were strongly agree.

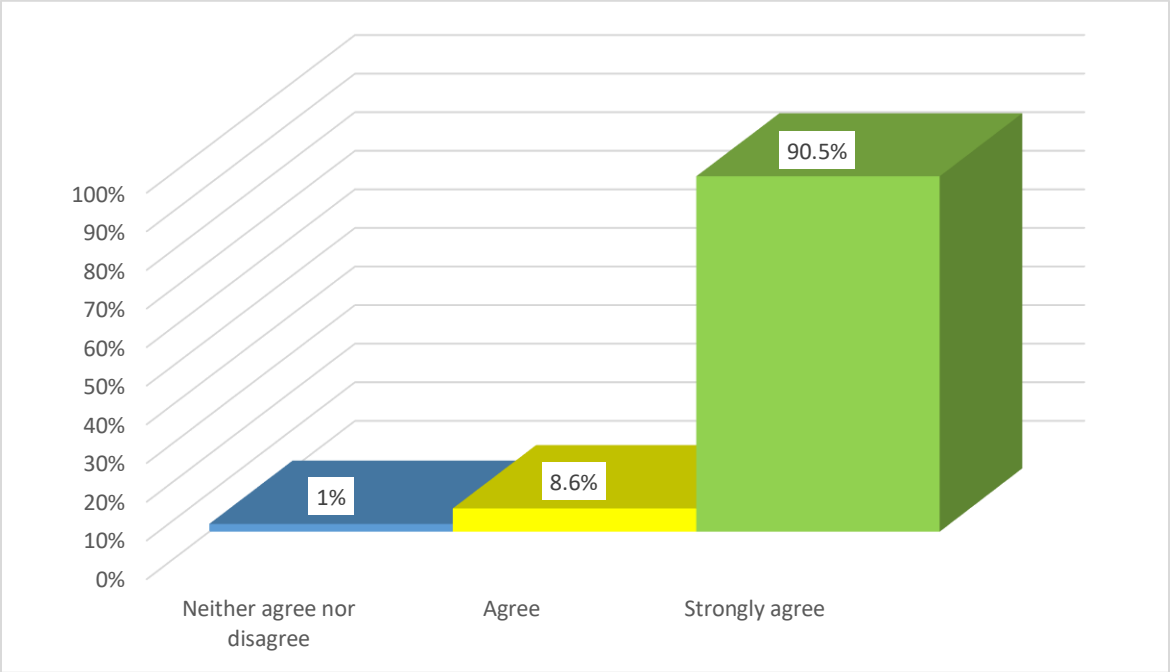


Figure-27: While here, the participant have been helped to get better

4.7.2 If the participants need help again, they would come back to CRP

Among 105 participants 1% (n=1) was neither agree nor disagree with the statement, 3.8% (n=4) were agree and 95.2% (n=100) were strongly agree.

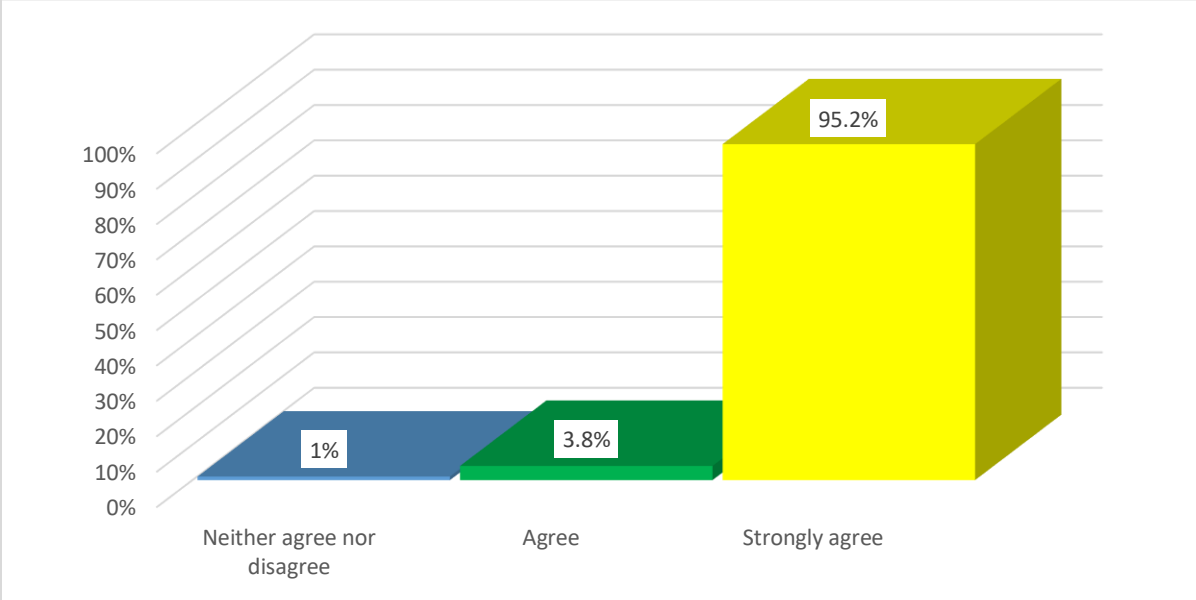


Figure-28: If the participants need help again, they would come back to CRP

4.7.3 The participant would recommend CRP to other people

Among 105 participants 1% (n=1) was neither agree nor disagree to recommend CRP to other people, 3.8% (n=4) were agree and 95.2% (n=100) were strongly agree.

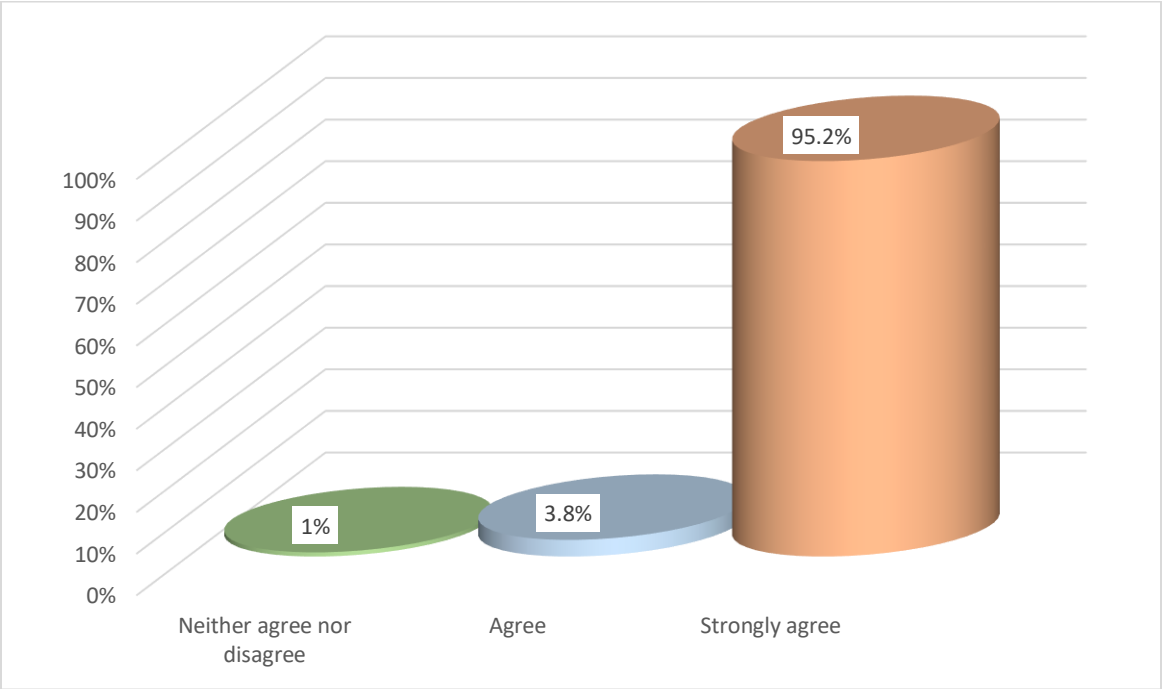


Figure-29: The participant would recommend CRP to other people

4.7.4 (If discharged): The instructions that received at discharge were clear

Among 105 participants 1.9% (n=2) was neither agree nor disagree with the statement, 6.7% (n=7) were agree and 91.4% (n=96) were strongly agree.

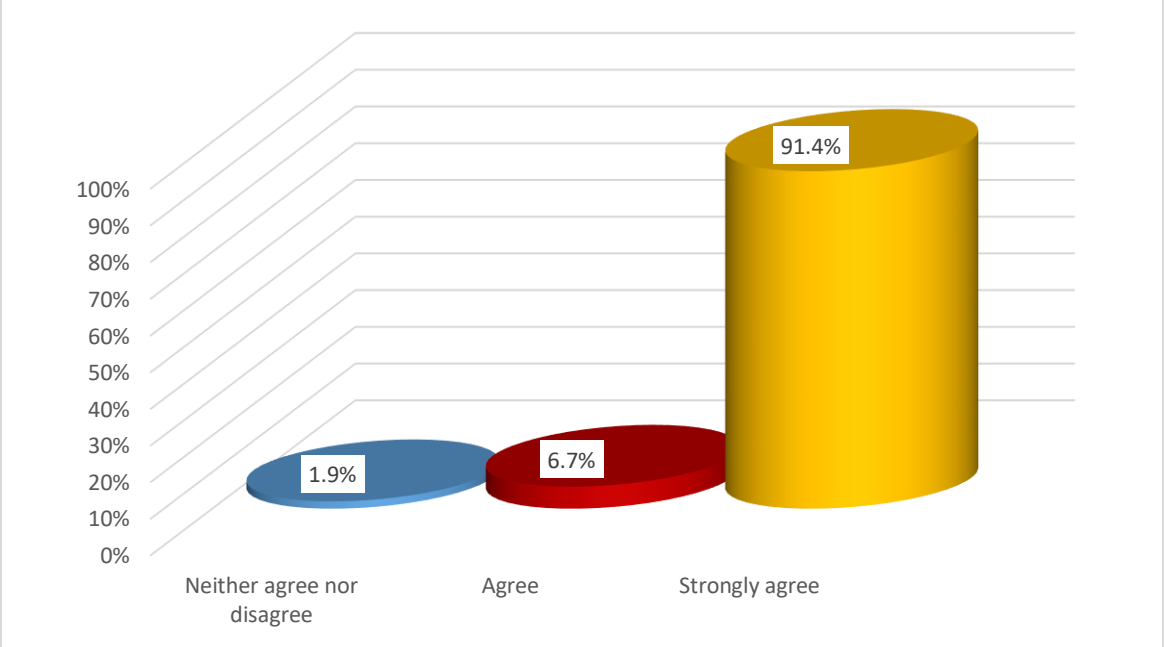


Figure-30: The instructions that received at discharge were clear

4.8 The evaluation of overall healthcare satisfaction of participants at CRP.

Among 105 participants 1.9% (n=2) were fairly satisfied with the physiotherapy services, 13.3% (n=14) were poorly satisfied with the physiotherapy services, 32.4% (n=34) were good with the physiotherapy services, 38.1% (n=40) were very good with the physiotherapy services and 14.3% (n=15) were excellent with the physiotherapy services.

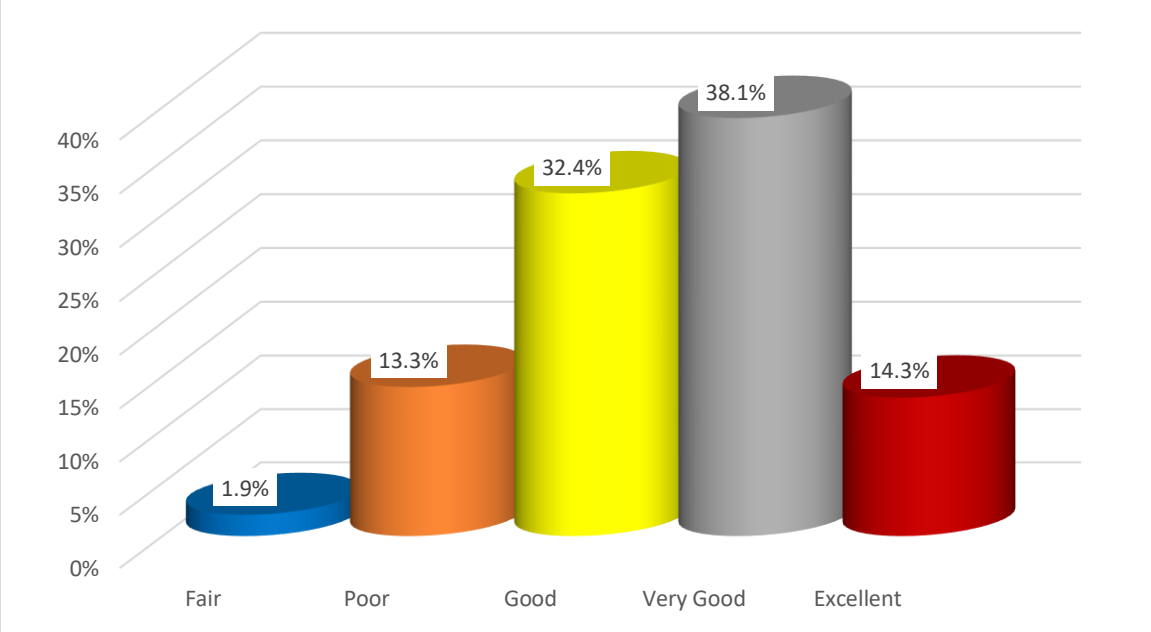


Figure-31: The evaluation of overall healthcare satisfaction of participants at CRP

CHAPTER-V DISCUSSION

A cross sectional survey was used to determine the level of Satisfaction among the Spinal Cord Injury patients about the physiotherapy services. The objective of the research was to evaluate the level of Satisfaction among the Spinal Cord Injury patients who were in the rehabilitation process and received physiotherapy services from CRP. The study was based on information from the injury of the spinal cord. Most of the participant's age group was in the current research 15-35 years. Male was pre-dominantly higher than female. Out of 105 participants 83.8% (n=88) were male and 16.2% (n=17) were female. The connection of age, ethnicity and gender on satisfaction measures was evaluated in the research. Further assessment showed no important statistical difference in the type of diagnosis for this age group. Demographics as satisfaction predictors have often been evaluated with inconsistent outcomes in prior literature. Many writers (Hall & Dornan, 1990; Ingo, Lehnert-Batar, Schupp, Gerling, & Kladny, 2006; McKinnon, 2001; Thi, Briancon, Empereur, & Guillemin, 2002) have evaluated the connection between population factors such as age, gender and ethnicity in order to determine their predictive satisfaction ability. Similar to the results of this research, these writers discovered older adults, especially adults 60 and elderly, to be more satisfied than other groups with no predictive power of gender and ethnicity. However, other writes such as Heinemann, Bode, Cichowski and Kan (1997) discovered that elderly age was not a satisfaction predictor while other writers (Berges, Ottenbacher, Smith, Smith and Ostir, 2006; Pound, Tilling, Rudd, & Wolfe, 1999; Stiller, Cains, & Drury, 2009) discovered that population factors (e.g. age, ethnicity, sexuality) did not predict greater satisfaction concentrations. There were no important predictors of satisfaction with the clinical quality of care in the current research. Therefore, rehabilitation satisfaction may be affected in portion by age with more satisfied older adults, but other demographics appear to be independent of satisfaction (Custer, 2012).

Among 105 participants duration of injury were 46.7% (n=49) in 1-10 weeks, 20% (n=21) in 10-20 weeks, 15.2% (n=16) in 20-30 weeks, 7.6% (n=8) in 30-40 weeks, 4.8% (n=5) in 40-50 weeks, 1.9% (n=2) in 50-60 weeks, 3.8% (n=4) in 60-70 weeks. Binary logistic

regression was performed to determine whether a patients days from the start of disability to the rehabilitation admission, duration of rehabilitation and complete hours of rehabilitation treatment predict client-centered satisfaction and/or clinical performance. Rehabilitation procedures included an independent variable that substantially predicted customer focus and clinical quality satisfaction. Days from condition on admission to RRH ranged extensively from 0 days to 55 years, with 75% admission within 15 days of entry. Clients who were admitted with 15 days from onset were 1.96 times (nearly twice as likely) more likely to report satisfaction on the client-centeredness subscale. Additional analysis was conducted to examine the group of participants who were admitted in 15 days or less. Discharge status and ethnicity were not statistically significant. There were no statistically significant variations with regard to severity, complete co-morbidities, or pain at admission or discharge in respondents who were admitted within 15 days or less. For clinical quality, the total number of hours of rehabilitation was significant. The odds ratio for total rehabilitation hours is 1.016 indicating that participants were more than 1.6 percent more likely to be satisfied on the subscale of clinical quality for each additional hours of rehabilitation therapy (Custer, 2012).

In my study, Among the 105 participants I found married person 60% (n=63), unmarried 40% (n=42). Most frequent status in married that was higher than unmarried. Out of 105 participants, most of them were up to class-8, 21% (n=22) that means they have the basic knowledge to read and write. After that illiterate was the second most common and the number was 19% (n=20). Among 105 participants 92.4% (n=97) are Muslim, 5.7% (n=6) are Hindu and 2% (n=1.9) are Buddha. This first component of the study included a convenience sampling of 150 patients (91 women). Age-wise, between 50 years and 65 years, a majority (59.3 percent) were aged, (18 percent were 18 to 34 years) and (22.7 percent were 35 to 49 years). Most participants (43.6 percent) were schooled up to 10^{th} grade; 1.3 percent had no schooling, 7.4 percent were schooled up to 5^{th} grade; 12.1 percent were schooled up to 9^{th} grade; 27.5 percent were schooled up to 12^{th} grade, and 8.1 percent were graders. Most of the respondents (83.3%) were married; 13.3% were unmarried, 0.7% divorced and 2% were windowed. According to religion, the majority were Buddhists (97.3%), with a Christian minority (1.3%) and Muslim (1.3%) (Tennakoon & de Zoysa, 2014).

As a whole, the satisfactory percentage to the quality of physiotherapy services with SCI among the 100 participants, about 1% (n=1) participants was disagree, 1% (n=1) was neither agree nor disagree, 4% (n=1) was agree and 94% (n=1) was strongly agree. Tennakoon and de Zoysa (2014) showed that 60% of patients were extremely satisfied, while 29.3% were mildly satisfied with the physiotherapy service. Such a high level of satisfaction may result in a strong standard of physiotherapy service or low patient care expectations. A significant element of a successful therapy program is a healthy physiotherapist connection.

The study showed that 86% patients strongly agreed that the physiotherapist explained the therapy in details and also tell them why this therapy was performed. The respondents agreed that the physiotherapists had carefully explained their therapy and were satisfied with this explanation. Patient participation in decision-making has shown a weak but substantial positive association with satisfaction. An important connection between physiotherapists was noted in this research listening to the worries of patients and satisfaction with the service provided. There was also an important connection between the physiotherapist's time spent with the patient and the level of satisfaction. In this research, professionalism was evaluated as regard for the patient, the physiotherapist's consistency and the patient's privacy. Non-clinical variables also influence patient satisfaction. Multiple studies have discovered that patients are more satisfied if the physiotherapy service is easily accessible (place, parking and clinical hours), includes useful administrative employees and is linked with reduced wasting times, and premises are of a high standard (Tennakoon and de Zoysa, 2014).

5.1 Limitation of the Study

No research will have 100 percent accuracy and may have some limitation. This study also had some limitation:

The study was conducted through Centre for the Rehabilitation of the Paralyzed (CRP) which may not represent the whole country.

As the study period was short so the adequate number of sample was not possible.

The required number of sample was 384 but it was taken only 105 samples. As it takes long time for completing the rehabilitation program. So, the result may not be generalized.

A convenience sampling was used that was not reflecting the wider population under the study.

The research project was done by an undergraduate student and it was first research for her. So the researcher had limited experience with techniques and strategies in terms of the practical aspects of research. As it was the first survey of the researcher so might be there were some mistakes that overlooked by the supervisor and the honorable teachers.

CHAPTER VI CONCLUSION AND RECOMMENDATION

6.1 Conclusions:

Spinal cord injury is a disorder with traumatic or non-traumatic causes that can occur. There are many occurrences that influence the lifestyle of a person, life satisfaction and quality of life. At an era, it can impede a person's complete life. It is very prevalent in developing countries such as Bangladesh. The purpose of the study was to assess the satisfaction level of physiotherapy services among the spinal cord injury patients. Approximately 83.8% (n=88) male and 16.2% (n=17) were female. So, male were more susceptible than female in this research among 105 participants. Bangladesh is a highly populated nation and, instead of being female, males are primarily engaged in outside occupation. Males operate in all areas without any safety hazards. That's why males are more prone to get injury to the spinal cord. On the other side, most of the respondents came from rural regions with a low level of education. From the research it can be concluded that patients are highly satisfied with the physiotherapy services. Most respondents were satisfied with medicine during their stay at CRP, receive moderate personnel assistance, atmosphere was clean moderate. So, environmental standard was good. Spinal cord injury is a major obstacle to the life satisfaction and quality of life of a person, particularly their physical and mental condition. Therefore, awareness and needed steps should be taken to enhance their physical and mental health.

6.2 Recommendations

The aim of the study was to assess the satisfaction level of physiotherapy services among the spinal cord injury patients. Though the study had some limitations but investigator identified some further step that might be taken for the better accomplishment of further research. The main recommendations would be as follow:

The random sampling technique rather than the convenient would be chosen in further in order to enabling the power of generalization the results.

The duration of the study was short, so in future wider time would be taken for conducting the study.

Investigator use only 100 participants as the sample of this study, in future the sample size would be more.

Researcher just find out the frequency and percentage of the satisfaction level. So for further study, the researcher recommended to find out the association between satisfaction level and patients demographic profile.

The ratio of complete and incomplete participants were not equal, in case of further the equality of the complete and incomplete participant should be maintained for the accuracy of the result.

In this study, the investigator took the SCI person only from the selected area of CRP, Savar. So for further study investigator strongly recommended to include the SCI person from all over the Bangladesh to ensure the generalize ability of this study.

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Appendix

1. Consent form (English)
2. Questionnaire (English)
3. Consent form (Bangla**)**
4. Permission letter

Informed consent

(Please read out to the participant)

Assalamualaikum, my name is **Saima Akter,** my study entitled, **"Satisfaction level of spinal cord injury patients about physiotherapy services at CRP"**. For this study purpose I would like to know about some personal and other related information. You will answer some questions which are mentioned in this form. This will take approximately 30-35 minutes.

I would like to inform you that this is entirely a professional study and will not be used for any other purpose. All the information provided by you will be treated as confidential and in the event of any report or publication it will be ensured that the source of information remains secure. Your participation in this study is voluntary and you may withdraw yourself at any time during this study without any negative consequences. You also have the right not to answer a particular question that you don't like or do not want to answer during interview.

If you have any query about the study, you may contact with me or my supervisor **Professor Md. Obaidul Haque**, Head of the Department of Physiotherapy & Vice Principal of Bangladesh Health Professions Institute (BHPI) , CRP, Savar, Dhaka-1343.

Do you have any questions before I start?

So may I have your consent to proceed with the interview?

Yes ☐

No ☐

Name of the Interviewer ……..... Date.....

Signature of the Interviewer ..... Date……

Questionnaire sheet

1. Personal Information

1.1	Identification number:
1.2	Date of interview:
1.3	Name of respondent:
1.4	Age:
1.5	Contact Number:

2. Socio-demographic information

	Question	Answer
2.1	Address	Village: P.O: P.S: District:
2.2	Gender	1. Male 2. Female
2.3	Living area	1. Urban 2. Semi urban 3. Rural
2.4	Family type	1.Nuclear family 2. Extended family
2.5	Marital status	1. Unmarried 2. Married 3. Divorced 4. Separated 5. Widow 6. Other (specify) ……
2.6	Religion	1. Islam 2. Hinduism

		3. Christian 4. Buddha 5. Other (specify) ……
2.7	Educational status	1. Illiterate 2. Up to class- 5 3. Primary school certificate (PSC) 4. Up to class- 8 5. Junior school certificate (JSC) 6. Secondary school certificate (SSC) 7. Higher secondary certificate (HSC) 8. Bachelor 9. Masters 10. Other (specify) ……..
2.8	Occupation	1. Housewife 2. Student 3. Farmer 4. Garment's worker 5. Teacher 6. Businessman 7. Day laborer 8. Unemployed 9.Others(specify) ……..
2.9	Earning member	1. Himself/Herself

		2. Husband/Wife 3. Father/Mather 4. Other(specify) ……
2.10	Average monthly income	……TK.

3. Spinal cord injury related information

3.1	Date of injury	
3.2	Cause of injury	1. Fall from height 2. Fall while carrying heavy load on head 3. Fall of heavy object on neck 4. Fall of heavy object on back 5. Road traffic accident (RTA) 6. Others (specify) ……..
3.3	Type of injury	1. Paraplegia 2. Tetraplegia

Satisfaction level of spinal cord injury patients about physiotherapy services at CRP

In comparing our service programs to those available elsewhere, how would you rate us on the following:

	Strongly Agree	Agree	Neither Agree or disagree	Disagree	Strongly disagreed
I felt good about the quality of my physiotherapy services.	**5**	**4**	**3**	**2**	**1**
The quality of my physiotherapy services did not change from person to person.	**5**	**4**	**3**	**2**	**1**
I felt confident in the skills of physiotherapist who helped me.	**5**	**4**	**3**	**2**	**1**
Physiotherapist taught me how to be safe.	**5**	**4**	**3**	**2**	**1**
The physiotherapist who helped me told me what they were doing and why they were doing it.	**5**	**4**	**3**	**2**	**1**

Please indicate your level of satisfaction with our healthcare system in the following areas:

	Strongly Agree	Agree	Neither Agree or disagree	Disagree	Strongly disagree
I was involved in making decisions about my physiotherapy services with the help of the physiotherapist.	5	4	3	2	1
What I thought seemed to matter to the physiotherapist.	5	4	3	2	1
I was able to ask questions.	5	4	3	2	1
I was not asked to do anything I felt was not helping me.	5	4	3	2	1
I played an active part in my physiotherapy services.	5	4	3	2	1
I was treated with respect	5	4	3	2	1
If I had pain, it seemed that the physiotherapist tried to help me.	5	4	3	2	1

Coordination of care

	Strongly Agree	Agree	Neither Agree or disagree	Disagree	Strongly disagree
The physiotherapist worked together to help me.	5	4	3	2	1
Physiotherapist seemed to care about me and my needs.	5	4	3	2	1
The physiotherapist seemed to be in touch with each other about my care.	5	4	3	2	1

Timeliness

	Strongly Agree	Agree	Neither Agree or disagree	Disagree	Strongly disagree
If I had to wait for something, it was not very long.	**5**	**4**	**3**	**2**	**1**
My care took place in a timely and efficient manner.	**5**	**4**	**3**	**2**	**1**
I was kept informed about delays.	**5**	**4**	**3**	**2**	**1**
I felt the physiotherapist spent time with me.	**5**	**4**	**3**	**2**	**1**

Outcomes

	Strongly Agree	Agree	Neither Agree or disagree	Disagree	Strongly disagree
While here, I have been helped to get better.	**5**	**4**	**3**	**2**	**1**
If I needed help again, I would come back to CRP	**5**	**4**	**3**	**2**	**1**
I would recommend CRP to other people.	**5**	**4**	**3**	**2**	**1**
(If discharged): The instructions that I received at discharge were clear to me.	**5**	**4**	**3**	**2**	**1**

Overall, how you evaluate the healthcare within CRP ?
5. Excellent 4.Very Good 3.Good 2.Poor 1.Fair

সম্মতিপত্র

আসসালামুআলাইকুম,

আমি সায়মা আক্তার, আমি এই গবেষণা প্রকল্পটি বাংলাদেশ হেলথ প্রফেসন্স ইন্সটিটিউট (বিএইচপিআই) এ পরিচালনা করছি যা আমার ৪র্থ বর্ষ বি এস সি ইন ফিজিওথেরাপী কোর্সের অন্তর্ভুক্ত।

আমি "সি আর পি তে আগত মেরুরুজ্জুতে আঘাত প্রাপ্ত রোগীদের ফিজিওথেরাপি সেবা-তে সন্তুষ্টি" এর উপর গবেষণা করছি। আমি এক্ষেত্রে আপনাকে কিছু ব্যক্তিগত এবং সংশ্লিষ্ট বিষয়ের উপর কিছু প্রশ্ন করতে চাচ্ছি। এতে আনুমানিক ২০-৩০ মিনিট সময় লাগবে। আমি আপনাকে আশ্বস্ত করছি যে এটা আমার অধ্যয়নের অংশ এবং যা অন্য কোনো উদ্দেশ্যে ব্যবহৃত হবে না। এই গবেষণায় আপনার অংশগ্রহণ বর্তমান ও ভবিষ্যৎ চিকিৎসাতে কোনো প্রকার প্রভাব ফেলবে না। আপনি যে সব তথ্য প্রদান করবেন তার গোপনীয়তা বজায় থাকবে এবং আপনার প্রতিবেদনের ঘটনা প্রবাহে এটা নিশ্চিত করা হবে যে এই তথ্যের উৎস অপ্রকাশিত থাকবে। এই গবেষণায় আপনার অংশগ্রহন সেচ্ছায় প্রণোদিত এবং আপনি যে কোনো সময় এই গবেষণা থেকে কোনো নেতিবাচক ফলাফল ছাড়াই নিজেকে প্রত্যাহার করতে পারবেন। এছাড়াও কোন নির্দিষ্ট প্রশ্নে আপনি উত্তর দিতে না চাইলে সাক্ষাতকারের যে কোনো সময় আপনার উত্তর না দেওয়ার অধিকার আছে।

এ গবেষণায় অংশগ্রহণকারী হিসেবে যদি আপনার কোনো প্রশ্ন থাকে তাহলে আপনি আমাকে অথবা আমার সুপারভাইজার অধ্যাপক মুহাম্মদ ওবায়দুল হক, বিভাগীয় প্রধান, ফিজিওথেরাপী ও উপাধ্যক্ষ বিএইচপিআই, সিআরপি, সাভার, ঢাকা তে যোগাযোগ করতে পারেন।

আমি কি আপনার অনুমতি নিয়ে সাক্ষাতকার শুরু করতে পারি?

হ্যা ☐ না ☐

অংশগ্রহণকারীর সাক্ষরঃ তারিখঃ

উপাত্ত সংগ্রহকারীর সাক্ষরঃ তারিখঃ

স্বাক্ষির সাক্ষরঃ তারিখঃ

বাংলা প্রশ্নপত্র

১. ব্যক্তির তথ্য

১.১	সনাক্তকরণ নম্বরঃ
১.২	সাক্ষাতকারের তারিখঃ
১.৩	উত্তরদাতার নামঃ
১.৪	বয়সঃ
১.৫	যোগাযোগের নম্বরঃ

২. ব্যক্তির আর্থ- সামাজিক তথ্য

	প্রশ্ন	উত্তর
২.১	ঠিকানা	গ্রাম: ডাকঘর: থানা: জেলা:
২.২	লিঙ্গ	১ . পুরুষ ২. মহিলা
২.৩	আবাসিক এলাকা	১. শহুরে ২. আধা শহুরে ৩. গ্রামীণ
২.৪	পরিবারের ধরণ	১. অণু পরিবার ২. যৌথ পরিবার
২.৫	বৈবাহিক অবস্থা	১. অবিবাহিত ২. বিবাহিত ৩.তালাক প্রাপ্ত ৪. বিবাহ বিচ্ছিন্ন ৫. বিধবা/বিপত্নীক ৬. অন্যান্য .....(লিখুন)
২.৬	ধর্ম	১. ইসলাম ২. হিন্দুধর্ম ৩. খ্রিষ্টান

		৪. বুদ্ধ ৫. অন্যান্য ……(লিখুন)
২.৭	শিক্ষাগত যোগ্যতা	১. নিরক্ষর ২. পঞ্চম শ্রেণী পর্যন্ত ৩. প্রাথমিক স্কুল সার্টিফিকেট ৪. অষ্টম শ্রেণী পর্যন্ত ৫. জুনিয়র স্কুল সার্টিফিকেট ৬. মাধ্যমিক স্কুল সার্টিফিকেট ৭. উচ্চ মাধ্যমিক স্কুল সার্টিফিকেট ৮. স্নাতক ডিগ্রি ৯. স্নাতকোত্তর ডিগ্রি ১০. অন্যান্য ……(লিখুন)
২.৮	পেশা	১. গৃহিণী ২. ছাত্র/ছাত্রী ৩. কৃষক ৪. গার্মেন্টস শ্রমিক ৫. শিক্ষক ৬. ব্যবসায়ী ৭. দিনমজুর ৮. বেকার ৯. অন্যান্য ……(লিখুন)
২.৯	উপার্জনক্ষম সদস্য	১. নিজ ২. স্বামী/স্ত্রী

		৩. বাবা/মা ৪. অন্যান্য ……(লিখুন)
২.১০	গড় মাসিক আয়	……টাকা

৩. স্নায়ুরুজ্জের আঘাত সম্পর্কিত তথ্য

৩.১	দুর্ঘটনার তারিখ	
৩.২	দুর্ঘটনাজনিত আঘাতের কারন	১. উঁচু স্থান থেকে পড়ে যাওয়া ২. ভারী ভর মাথায় বহন করতে গিয়ে পড়ে যাওয়া ৩. ঘাড়ে ভারী বস্তু পড়ে যাওয়া ৪. পিঠে ভারী বস্তু পড়ে যাওয়া ৫. সড়ক দুর্ঘটনা ৬. অন্যান্য ……(লিখুন)
ে৩.৩	আঘাতের ধরণ	১. প্যারাপ্লেজিয়া ২. টেট্রাপ্লেজিয়া

"সিআরপিতে আগত মেরুরুজ্জুতে আঘাতপ্রাপ্ত রোগীদের ফিজিওথেরাপি সেবার সন্তুষ্টির মাত্রা"

অন্যান্য সেবার তুলনায় আপনি আমাদের কিভাবে মূল্যায়ন করবেন?

	দৃঢ়ভাবে একমত	**একমত**	**একমত/ অসম্মতি**	**অসম্মতি**	**দৃঢ়ভাবে অসম্মতি**
আমি আমার ফিজথেরাপী চিকিৎসা সেবার গুনগত মান ভালো অনুভব করছি।	৫	৪	৩	২	১
আমার ফিজিওথেরাপী সেবার গুনগত মান ব্যক্তিভেদে পরিবর্তন হয়নি।	৫	৪	৩	২	১
আমি ফিজিওথেরাপিস্টের দক্ষতা সম্পর্কে আত্মবিশ্বাসী।	৫	৪	৩	২	১
ফিজিওথেরাপিস্ট আমাকে কিভাবে নিরাপদে থাকা যায় তা শিখিয়েছেন।	৫	৪	৩	২	১
যেসব ফিজিওথেরাপিস্ট আমাকে চিকিৎসা করেছিলেন, তারা তাদের চিকিৎসা কার্যক্রম আমার নিকট ব্যখ্যা করেছিলেন।	৫	৪	৩	২	১

অনুগ্রহপূর্বক আমাদের স্বাস্থ্যসেবা ব্যবস্থার সাথে সন্তুষ্টির স্তর নির্দেশ করুনঃ

	দৃঢ়ভাবে একমত	একমত	একমত/ অসম্মতি	অসম্মতি	দৃঢ়ভাবে অসম্মতি
আমি ফিজিওথেরাপিস্টের সহায়তায় ফিজিওথেরাপি চিকিৎসা সেবা সম্পর্কে সিদ্ধান্ত নিতে পেরেছি।	৫	৪	৩	২	১
আমি যা চিন্তা করতাম ফিজিওথেরাপিস্ট সে ব্যাপারগুলো দেখতেন।	৫	৪	৩	২	১
আমি প্রয়োজনীয় প্রশ্ন জিজ্ঞাসা করতে পারতাম।	৫	৪	৩	২	১
আমাকে এমনকিছু করতে বলা হয়নি, যা আমার দরকার নেই।	৫	৪	৩	২	১
আমি আমার ফিজিওথেরাপি চিকিৎসা সেবায় নিজ থেকে অংশ নিয়েছি।	৫	৪	৩	২	১
আমাকে সম্মানের সাথে চিকিৎসা সেবা দেওয়া হয়েছে।	৫	৪	৩	২	১
যদি আমার ব্যাথা হত, ফিজিওথেরাপিস্ট সমাধান করার চেষ্টা করেছেন।	৫	৪	৩	২	১

সেবার সমন্নয়ঃ

	দৃঢ়ভাবে একমত	একমত	একমত/ অসম্মতি	অসম্মতি	দৃঢ়ভাবে অসম্মতি
ফিজিওথেরাপিস্ট আমাকে সাহায্য করার জন্য একসঙ্গে কাজ করেছে।	৫	৪	৩	২	১
ফিজিওথেরাপিস্ট আমার এবং আমার প্রয়োজন সম্পর্কে যত্ন করতেন।	৫	৪	৩	২	১
ফিজিওথেরাপিস্ট আমার চিকিৎসা সম্পর্কে একে অপরের সাথে যোগাযোগ করতেন।	৫	৪	৩	২	১

সময়ানুবর্তিতাঃ

	দৃঢ়ভাবে একমত	একমত	একমত/ অসম্মতি	অসম্মতি	দৃঢ়ভাবে অসম্মতি
যদিও আমার কিছু সময়ের জন্য অপেক্ষা করতে হত , তা খুব দীর্ঘ সময়ের জন্য নয়।	৫	৪	৩	২	১
আমার সেবা সময়মত এবং দক্ষতার সাথে সম্পন্ন হয়েছে।	৫	৪	৩	২	১
আমি অপেক্ষাকালীন দেরী সম্পর্কে অবগত ছিলাম।	৫	৪	৩	২	১
আমি অনুভব করেছি ফিজিওথেরাপিস্ট আমার সাথে সময় অতিবাহিত করেছেন।	৫	৪	৩	২	১

ফলাফলঃ

	দৃঢ়ভাবে একমত	একমত	একমত/ অসম্মতি	অসম্মতি	দৃঢ়ভাবে অসম্মতি
এখানে আমাকে রোগ থেকে সুস্থ হতে সহযোগিতা করা হয়েছে।	৫	৪	৩	২	১
যদি আমার আবার সাহায্যের দরকার হয়, আমি সিআরপিতে ফিরে আসব।	৫	৪	৩	২	১
আমি অন্যান্য রোগীদের সিআরপিতে আসার জন্য সুপারিশ করব।	৫	৪	৩	২	১
যদি ছাড়পত্র দেওয়া হয়, ছাড়পত্রের সময় আমাকে যে নির্দেশাবলী দেওয়া হয়েছিল সেগুলো আমার কাছে স্পষ্ট ছিল।	৫	৪	৩	২	১

সামগ্রিকভাবে, আপনি সিআরপির স্বাস্থ্যসেবাকে কিভাবে মূল্যায়ন করবেন?
৫। চমৎকার ৪। খুব ভালো ৩। ভালো ২। খারাপ ১। নগণ্য

Permission Letter

May 20, 2019

The Head of the Department

Department of Physiotherapy

CRP, Chapain, Savar, Dhaka-1343.

Through: The Head of the Department, Department of Physiotherapy, BHPI.

Subject: Prayer for seeking permission to collect datafor research project.

Sir,

With due respect I state that I am a 4th year student of B. Sc. in Physiotherapy Department of BHPI, the academic Institute of CRP. I sincerely seeking your permission to collect the data for my research project as the partial fulfillment of the requirement for the degree of B.Sc. in Physiotherapy. The title of this research project is **"Satisfaction level of spinal cord injury patients about physiotherapy services at CRP"** under the supervision of **Professor Md. Obaidul Haque,** Head of the Department of Physiotherapy & Vice Principal of Bangladesh Health Professions Institute (BHPI), CRP, Savar, Dhaka-1343.I would like to assure you that anything of my research project will not be harmful for the participants.

So, I therefore, pray and hope that you would be kind enough to grant my application and permitme to collect data to accomplish this research project.

Sincerely yours,

Saima Akter

....

Saima Akter

4th Year, B. Sc. in Physiotherapy

Roll no: 05,Session: 2014-15,

Bangladesh Health Professions Institute (BHPI),
(An academic institution of CRP)
CRP, Chapain, Savar, Dhaka-1343.

Forwarded & Recommended
20.05.19
Prof. Md. Obaidul Haque
Head, Department of Physiotherapy
Bangladesh Health Professions Institute (BHPI)
CRP, Savar, Dhaka-1343

Allow to data collection from SCI unit
20.5.19
MUZAFFOR HOSSAIN
Senior Consultant & IPD Incharge
Physiotherapy Department
CRP, Savar, Dhaka-1343

Approved
20/05/19
Mohammad Anwar Hossain
Associate Professor & Head
Physiotherapy Dept., CRP
Savar, Dhaka-1343

বাংলাদেশ হেল্‌থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)
BANGLADESH HEALTH PROFESSIONS INSTITUTE (BHPI)
(The Academic Institute of CRP)
CRP-Chapain, Savar, Dhaka-1343. Tel: 02-7745464-5, 7741404

Ref: CRP-BHPI/IRB/09/19/1338 Date: 18/09/2019

To
Saima Akter
B.Sc. in Physiotherapy
Session: 2014-15, Student ID: 112140237
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Subject: Approval of the thesis proposal "Satisfaction level of spinal cord injury patients about physiotherapy services at CRP".

Dear Saima Akter
Congratulations.
The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application to conduct the above mentioned dissertation, with yourself, as the Principal investigator. The Following documents have been reviewed and approved:

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

The study involves use of a questionnaire to explore satisfaction level of spinal cord injury patients about physiotherapy services at CRP that may take 15 to 20 minutes to answer the questionnaire and there is no likelihood of any harm to the participants. The members of the Ethics committee have approved the study to be conducted in the presented form at the meeting held at 10.00 AM on 11th August 2018 at BHPI.

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

Best regards,

Muhammad Millat Hossain
Assistant Professor, Dept. of Rehabilitation Science
Member Secretary, Institutional Review Board (IRB)
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

18th September, 2019
The Chairman
Institutional Review Board (IRB)
Bangladesh Health Professions Institute (BHPI)
CRP-Savar, Dhaka-1343, Bangladesh

Subject:Application for review and ethical approval.

Respected Sir,

With due respect and humble submission to state that I am Saima Akter, student of 4th Professional B.Sc. in Physiotherapy at Bangladesh Health Professions Institute (BHPI)- an academic institute of CRP under faculty of Medicine of University of Dhaka (DU).This is a 4(four) year full time course. Conducting thesis project is partial fulfillment of the requirement for the degree of B.Sc in physiotherapy. As I have to conduct a thesis entitled, "**Satisfaction level of spinal cord injury patients about physiotherapy services at CRP"** under the supervision of Professor Md. Obaidul Haque, Head of the Department of the Physiotherapy & Vice Principal of Bangladesh Health Professions Institute (BHPI), BHPI, CRP, Savar, Dhaka-1343, Bangladesh. The purpose of the study is to find out the level of satisfaction of spinal cord injury patients about physiotherapy services at CRP. I would like to assure that anything of my study will not be harmful for the participants. Informed consent will be received from all participants,data will be kept confidential.

May I, therefore pray and hope that you would be kind enough to approve the thesis proposal and to start data collection. I can assure you that I will maintain all the requirements for study.

Sincerely,

Saima Akter

Saima Akter
4th professional B.Sc in Physiotherapy

Roll: 05, Session: 2014-15

BHPI, CRP, Savar, Dhaka-1343 ,Bangladesh

Recommendation from the thesis supervisor:

.....

Professor Md. Obaidul Haque

Head of the Department of the Physiotherapy &

Vice Principal of Bangladesh Health Professions Institute (BHPI)

BHPI, CRP, Savar, Dhaka-1343