Faculty of Medicine

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CHARACTERISTICS OF PATIENT RECEIVING PHYSIOTHERAPY IN DIFFERENT NON-GOVERNMENT ORGANIZATIONS

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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

Characteristics of patient receiving physiotherapy in different non-government organizations

Submitted by **Md. Waliur Rahman Turja**, for the partial fulfilment of the requirement for the degree of Bachelor of Science in Physiotherapy (B.Sc. PT).

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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 decline that same any publication, presentation or dissemination of information of the study. I would bind to take consent from the department of Physiotherapy of Bangladesh Health Professions Institute (BHPI).

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List of Abbreviations

APTA	American Physical Therapy Association
BHPI	Bangladesh Health Professions Institute
BMRC	Bangladesh Medical Research Council
CIHI	Canadian Institute for Health Information
CRP	Centre for the Rehabilitation of the Paralysed
GDAP	Global Disability Action Plan
IRB	Institutional Review Board
IRR	Infrared Radiation
KGCI	Kungliga Gymnastiska Central Institute
LBP	Low Back Pain
NGO	Non-government Organization
OA	Osteoarthritis
PEDro	Physiotherapy Evidence Database
PLID	Prolapsed Lumber Intervertebral Disc
PNF	Proprioceptive Neuromuscular Facilitation
PT	Physiotherapy
RFIL	Repeated Flexion in Lying
ROM	Range of Motion
SDG	Sustainable Development Goals
SWD	Short Wave Diathermy
TENS	Transcutaneous Electrical Nerve Stimulation
UST	Ultra Sound therapy
WCPT	World Confederation for Physical Therapy
WHO	World Health Organization

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Abstract

The physiotherapy is s self-directed health care profession. Physiotherapists work with their patients to plan and provide structured physical treatment aiming to rehabilitation. **Purpose:** To identify the characteristics of patients receiving physiotherapy from different non-government organizations. **Objectives:** To identify the disease condition and what types of physiotherapy treatment is received for the specific condition. **Methodology:** The study design was cross-sectional quantitative study. Total 78 samples were selected conveniently for this study from CRP-Savar, CRP-Mirpur and Enam Medical College & Hospital. Data was collected by using semi structured questionnaire. Descriptive statistic was used for data analysis which focused through table, pie chart and bar chart, association was showed by Chi-square test. **Results:** Among the 78 participants, age group 29-42 and 43-56 both have 30.8% (n=24) participants. In this study, Male participants were 47.4% (n=37) and female participants were 52.6% (n=41). Out of 78 participants, 48.7% (n=38) participants were from urban area and 51.3% (n=40) participants were from rural area. 94.9% (n=74) participants came with musculoskeletal & orthopedic conditions, 3.8% (n=3) participants came with neurological conditions and 1.3% (n=1) participants came with other conditions. Among 78 participants, 18.5% (n=56) participants received mobilization, 13.9% (n=42) participants received IRR, 7% (n=21) participants received REIL. 50% (n=39) participants came without any referral which were counted as 'self', 10.3% (n=8) were referred by general physician and 39.7% (n=31) were referred by others. There are significant association (p=0.003) between monthly income and challenges like financial crisis. **Discussion:** Among 78 participants, almost 10 condition have been diagnosed according to prescription. Among those diagnosis, Mechanical LBP patient was the highest in number. They frequently received Stretching, Mobilization and IRR as physiotherapy treatment. **Conclusion:** The results of this study provided insight into the diagnosis and physiotherapy treatment for the specific condition. This information would assist the professional to justify the physiotherapy practice. More research is needed to evaluate the physiotherapy treatment for these patients.

Keywords: Characteristics of patient, Physiotherapy, Non-government organizations.

CHAPTER-I INTRODUCTION

1.1 Background

Physiotherapy is a health care profession that cares about human function and to minimize the physical potential of individuals. Within the orbit of promotion, prevention, treatment, intervention, habilitation and rehabilitation, it monitors maximizing of quality of life and movement potential. 'Physiotherapy is an internationally recognized health profession which may be practiced by qualified and where required by state or national legislation, duly registered or licensed physiotherapists only. The titles and terms most frequently used in this profession include physical therapist, physiotherapist. In many countries physiotherapists have professional autonomy, in that 'individual physiotherapists have the freedom to exercise professional judgement in health promotion, prevention and the care and treatment of clients within the limits of the therapist's prevailing knowledge and competence' (WCPT, 2011).

It utilizes physical ways to deal with advance, keep up and reestablish physical, mental and social prosperity, considering varieties in wellbeing status. It is science-based, focused on broadening, applying, evaluating and reviewing the evidence that validates and inform its practice and delivery. The activity of clinical judgment and informed explanation is at its center (The Chartered Society of Physiotherapy, 2019).

Physiotherapists work inside a wide assortment of health settings to improve a wide scope of physical issues related with various 'frameworks' of the body. Patients with neuromuscular, musculoskeletal, cardiovascular problem are main concern of a graduate physiotherapists. Physiotherapists work autonomously, frequently as an individual from a group with other health care professionals. Physiotherapy practice is portrayed by intelligent conduct and precise clinical thinking, both adding to and supporting a critical thinking way to deal with patient-driven consideration. Individuals are regularly alluded for physiotherapy by specialists or other health care professionals. Progressively, because of changes in human services, individuals are alluding themselves legitimately to physiotherapists (first-line access) without visiting other health care specialists. Patterns in Canada and Australia, for instance, are not withstanding

investigating the job of the physiotherapist inside the triage arrangement of emergency department (WCPT, 2011).

Blended musings exist with respect to the set of experiences and movement of the strength among physiatrists, different doctors, strategy producers, and the patient populace. Around the world, the commonness of incapacity is expanding in accordance with the maturing populace and the worldwide expansion in non-communicable diseases, psychological wellness, and road traffic accidents. Bangladesh, as 1 of the 194 United Nations member states, embraced the World Health Organization (WHO) global disability action plan (GDAP) 2014 to 2021. The features of the targets of the GDAP are to eliminate hindrances and further develop admittance to wellbeing administrations, fortify wellbeing related recovery with local area based rehabilitation, and upgrade the assortment of inability related data and exploration on handicap and related administrations. There is an expanding neglected requirement for rehabilitation, especially in less financially created nations, features in the call for activity by WHO Rehabilitation 2030. More consideration is needed to accomplish safe rehabilitation practice with insurance for the patients and recovery colleagues. Simultaneously, future physiatrists and other rehabilitation partners should be directed in accordance with public and global demands (Uddin et al., 2019)

Physiotherapists are experts in creating and keeping up individuals' capacity to move and making functional in all phases of their lives. They advance sound ways of life, treat, and counteract numerous issues brought about by illness, pain, disease, injury and inactivity. They work with individuals influenced by a scope of conditions including joint inflammation, back ache, lung disease, spinal line wounds, falls, stroke, incontinence, fracture, burn, and psychological well-being issues. A definitive objective of restoration is to furnish the person with the most ideal open door for full and powerful support furthermore, incorporation in the public eye. Physiotherapists work in numerous assorted settings, including medical clinics, crisis medicinal groups, network settings, hospices, nursing homes, wellbeing focuses, training, and research (Mamin & Hayes, 2018).

The physiotherapy is s self-directed health care profession. Physiotherapists work with their patients to plan and do independently structured physical treatment programs to reestablish work and avoiding incapacity from disease, injury or trauma (CHWN, 2002).

Bangladesh has a populace of 143.8 million, living in around 1, 47,570 square kilometers and developing at the rate of 1.48% per annum. About 70% of the populace lives in the provincial regions. Authoritatively, the nation is isolated into 6 divisions, 64 regions, 507 upazilas furthermore, 4533 associations, every one occupied by a populace of around 22 million, 2 million, 255 thousand and 29 thousand, separately (Ellangovin, 2009).

An expected 70% of the populace live in provincial zones. Be that as it may, Bangladesh is experiencing quick urbanization creating urban areas of exceptional density and congestion (Chowdhury et al., 2013).

There is an extreme deficiency of physiotherapists to serve the colossal populace of Bangladesh. Though roughly 54.7 thousand physiotherapists were enlisted in the United Kingdom in 2017, just an expected 1.7 thousand physiotherapists exist in Bangladesh today (a populace of around 160 million) (Mamin & Hayes, 2018).

According to the Canadian Institute for Health Information (CIHI), there were 20,134 PTs employed in the Canadian workforce in 2014, representing a 13.5 per cent growth since 2010. Physiotherapist work in a number of different practice settings, such as community health centers, education settings, fitness centers, government/health planning agencies, hospices, hospitals, private practice (clinics or in-home care), nursing homes/long-term care facilities, occupational health centers, out-patient/ambulatory care clinics, prisons, rehabilitation centers, research facilities, seniors' residences, sports clinics, and work sites.8 According to CIHI data, 40 percent of PTs were employed in a hospital setting, 10 per cent in a community setting, and 32 per cent in a private practice setting in 2014. PTs' area of practice in Canada is predominantly focused on the musculoskeletal system (such as sports medicine, orthopaedics, and rheumatology) and general practice (which focuses on general physical health issues). The proportion of PTs practicing in these areas represents 40 and 33 per cent of the labor force, respectively. The remaining areas of practice focus on neurological, cardiovascular, and respiratory

systems and other areas of direct services, including health promotion and wellness. The role of physiotherapy within Canada has the potential to change due to the aging population, increased levels of physical inactivity, and the associated burden of chronic conditions and injuries. PTs may be well positioned to address the changing health and population needs within Canada since they have the capacity to assess physical function and prescribe exercise programs and are in a strong position to provide enhanced individualized services and treatment for seniors, including programs aimed at health promotion and injury prevention. As such, PTs have an important role to play in encouraging healthy, active living and maintaining mobility, not only among seniors but also among the overall population. PTs can play a part in optimizing health system performance through an increased focus on upstream solutions and redirecting patients from costly acute health care and emergency departments toward timely, accessible, and affordable community services. This could significantly reduce pressures on provincial health care budgets and improve the patient experience (Martinello et al., 2017).

There is an extreme lack of physiotherapists to serve the tremendous populace of Bangladesh. Though roughly 54.7 thousand physiotherapists were enlisted in the United Kingdom in 2017 (a populace of around 65 million), just an expected 1.7 thousand physiotherapists exist in Bangladesh today (a populace of around 160 million). This gauge depends on the quantity of graduates detailed since the 1990s. Unexpectedly, the business openings for these physiotherapists are exceptionally restricted. Many alumni set up private practices and barely any look for a job in private medical clinics, nongovernmental associations (NGOs), or look for work abroad. As the calling has no conventional register, no careful figures presently exist on the number of these alumni are right now rehearsing as physiotherapists. This depressing circumstance can be generally credited to one significant issue: BSc physiotherapists are not officially perceived by the public authority. Subsequently, they are not utilized to work clinically in the general wellbeing area. Notwithstanding BSc capabilities being given by government establishments, just certificate physiotherapists (known as wellbeing or clinical technologists) are utilized to work in open emergency clinics as of now. This work is done under the guidance of a physiatrist (a specialist prepared in actual medication),

rather than a physiotherapist, and is generally confined to electrotherapy in an outer muscle short term setting. (Mamin & Hayes, 2018).

1.2 Rationale

To explore the patient profile attending for physiotherapy service in non-government organizations, what physiotherapy service is prescribed and what physiotherapy service the patients are receiving. Due to lack of quality physiotherapy service in government hospitals, most of the patients are dependent on non-government organization's services. Physiotherapy profession now a days have become enriched through research and updating practice guideline. Comparing with other developed countries, physiotherapy profession in Bangladesh is not well structured. In most cases diagnosis and prescribing physiotherapy has lack of interventions. A council for various professionals along with physiotherapists was formed in 2018 named 'Bangladesh Rehabilitation Council'. This council has been forming guideline for physiotherapy rehabilitation. It is a matter of sorrow that, most of the government hospital do not follow any structured guidelines. As a result their quality of service is also hampered. Through this study, how patients are diagnosed, what physiotherapy services they are prescribed, by whom they are prescribed and how they are referred are the main findings of the study. Through this study, the current state of physiotherapy service in different non-government organizations will be understood.

1.3 Research question

What is the status of the patients receiving physiotherapy and what types of physiotherapy services they are getting in non-government organizations?

1.4 Objectives

1.4.1 General objective

To find out the characteristics of physiotherapy patients receiving physiotherapy from different non-government organizations.

1.4.2 Specific objectives

- To find out the referral system.
- To identify the disease conditions and what physiotherapy treatment is prescribed for the specific condition.
- To explore what physiotherapy services clients are receiving.

CHAPTER-II LITERATURE REVIEW

Physicians like Hippocrates, and later Galenus, are believed to have been the first practitioners of physiotherapy, advocating massage, manual therapy techniques and hydrotherapy to treat people in 460 B.C After the development of orthopedics in the eighteenth century, machines like the Gymnasticon were developed to treat Gout and similar diseases by systematic exercise of the joints, similar to later developments in physiotherapy. The idea of soundness and physical exercise as a means of improving nationalism and health among the population also grew stronger in Europe during the 16th and 17th centuries. Several philosophers and authors, e.g., Rosseau, Pestalozzi, Basedow, Guts Muths and Jahnhave made important contributions to this philosophical movement which also influenced the development of physical education and physiotherapy in the Nordic countries. Per Henrik Ling (1776-1839), known as "the founding father of Swedish gymnastics". In 1813, Ling started the Kungliga Gymnastiska Central Institute, KGCI, for the purpose of teacher training in physical education. Ling divided physical exercise according to its different purposes in four main areas; pedagogical, military, medical and aesthetic. By 1820, Ling had designed about 2000 exercises for pedagogical purposes, the so-called Ling system. The exercises were based on the anatomical properties of the human body and were called daily exercises (Abrandt, 1997).

Each exercise was to be performed with military rigor with the maximum of movement. The under lying philosophy was that the systematic training of exercises for all the muscles would bring the body into a state balance and harmony, which was the goal of the training. The training system was also used for medical purposes. Ling's philosophy was that physical balance and harmony, which were disrupted by illness and dysfunctions could be restored through physical exercise. His thoughts were later further developed by his son Hjalmar Ling (who continued the work at KGCI after his father's death in 1839), and by his disciple and collaborator Gabriel Branting. The educational program at KGCI covered three directions; the pedagogical/medical direction, the strictly pedagogical, and the military direction. The fourth dimension of Ling's classification of physical exercise

according to its purpose, aesthetical physical exercise, was never realized in any educational program at KGCI. The pedagogical/medical educational program comprised three years for men and two years for women. In both cases, successful completion of the program qualified for work as a teacher in physical education as well as work as a physiotherapist. The first-time physiotherapy is mentioned as a profession in its own right was in the 1887 statutes of KGCI (Abrandt, 1997).

Other countries soon followed. In 1894 four nurses in Great Britain formed the Chartered Society of Physiotherapy. The School of Physiotherapy at the University of Otago in New Zealand in 1913 and the United States' 1914 Reed College in Portland, Oregon, which graduated "reconstruction aides. Research catalyzed the physiotherapy movement. The first physiotherapy research was published in the United States in March 1921 in The PT Review. In the same year, Mary McMillan organized the Physical Therapy Association (now called the American Physical Therapy Association (APTA). Treatment through the 1940s primarily consisted of exercise, massage and traction. Manipulative procedures to the spine and extremity joints began to be practiced, especially in the British Commonwealth countries, in the early 1950s. Later that decade, PTs started to move beyond hospital-based practice, to outpatient orthopedic clinics, public schools, college/universities, geriatric settings, rehabilitation centers, hospitals, and medical centers.

Specialization for physical therapy in the U.S. occurred in 1974, with the Orthopedic Section of the APTA being formed for those physical therapists specializing in orthopedics. In the same year, the International Federation of Orthopaedic Manipulative Therapy was formed, which has played an important role in advancing manual therapy worldwide since. Today, through physiotherapy, a variety of ailments and conditions are treated. Patients seek treatment for back pain, osteoarthritis, Alzheimer’s disease, Parkinson’s disease, bursitis, muscle strains, Guillian-Barre-Syndrome, balance conditions, asthma, fibromyalgia, wounds, burns, rheumatoid arthritis and a host of other conditions. The goals of physiotherapy depend unique needs of clients, but common desired outcomes include a reduction in pain, increased range of motion, increased

endurance and strength, restored independence, a reduction in stress and a greater quality of life for the patient. In 1999, the World Confederation for Physical Therapy (WCPT) adopted a general description of physiotherapy for worldwide use. It states that physiotherapy provides services to people and populations to develop, maintain and restore maximum movement and functional ability throughout the lifespan. Physiotherapy profession is conceptualized by three basic terms, body, movement and interaction (Broberg et al., 2003).

Depicting the body, it is viewed as the underlying piece of physiotherapy. The perspective on the body communicated in physiotherapy manages reconciliation of the physical body, the psyche and the emotions. The body is the locus of the center and is in this way the reason for human presence and improvement. By monitoring the body and confidence of placing individual can encounter oneself as being entire, intelligible and comprehensible (Rosberg, 2000).

The term ‘‘movement’’ in physiotherapy refers to a holistic view of an individual as an active being who is capable of changing and thus to gain health and well-being. It is seen as an implicit aspect of the body, which is the origin of movement. Movement forms a means for interaction between individuals as well as between the person and the environment that possibilities for the person to cope with situations and to fulfil individual’s goals. The capacity to move is accordingly seen as a key element of health, also refers to several critical exorcisms in physiotherapy practice where specific movements are used in the assessment and treatment of different impairments such as those affecting breathing, posture, muscle tone and movement diagonal (Ling, 2000).

Interaction is both verbal and non-verbal communication, describes the ordinal relevance between the client and the therapist, which exists in the situation whether acknowledged, or not (Thornquist, 2001).

Interaction forms an important part in physiotherapy since it involves a mutual understanding between the client and therapist in goal setting and intervention. Interaction is seen as a pre-requisite for changes in body awareness and movement attitudes. As extent, interaction is cognizant of the way a person or a body is influenced by, and influences the society and the environs within which individual lives. Interaction thus has to do with self-awareness and the understanding of others, especially when it is related to health and illness (Broberg et al., 2003).

The act of physiotherapy occurs during experiences with individual or gatherings of patients or clients. The training includes useful aptitudes and reflection on the clinical thinking process: appraisal, objective setting, arranging, assessment and documentation (Jones et al., 2000).

It requires making a decision as to whether or not physiotherapy intervention is appropriate. Practice is not only the application of evidence-based treatment methods, but also includes other types of knowledge. These could be described as propositional knowledge, professional craft knowledge as well as personal knowledge also (Higgs & Titchen, 1995).

Physiotherapy is aimed at the children, young people, adults and elderly people with different health complexities. This involves a wide variety of working areas, which may also vary between cultures and countries (WCPT, 1999).

Physiotherapists randomly work in multidisciplinary teams. During their education, therefore, students should acquire an adequate understanding of the role and functions of other specific disciplines. Students also need knowledge of the social, ethical and legal issues they play in different working areas. The diversity of practice places special demands on curriculum design in deciding the fields of clinical education. Another key component is research that enriched physiotherapy profession and still on going to develop more and more. Research in physiotherapy can pick up questions posed in practice and research results should be brought back to the field to enhance the beauty of

practice. A key challenge for physiotherapy is to select and develop research methods that describe the multiple aspects of puzzles encountered in practice. Research is needed to develop both experience-based and evidence-based knowledge, and these two types of knowledge should support each another (Higgs & Titchen, 1995).

Physiotherapists should also be open in conducting research from adjacent disciplines. However, if the dominating scientific ideal is based on natural sciences only, the understanding of central phenomena such as body, movement, interaction and their relation to health will be at stake of being reduced to its measurable components (Broberg et al., 2003).

Throughout the world, the considerable variations in populations, cultures and health care systems influence the various ways in which physiotherapy is being practiced and regulated. The World Health Organization (WHO, 1994) has identified key factors which are bringing changes in health services internationally. They include cost constraints, ageing populations, the impact of technological advances, increased clients expectations and knowledge, the desire for improved health outcomes, and changes in the health care task, with the focus moving from acute to chronic conditions. On a national basis, a population-based approach is required to address community-wide goals for health improvement.

Such goals include providing basic education to increase literacy levels, work security, adequate income, useful societal roles for people and freedom from or protection from environmental insults. Physiotherapy has responded internationally in many ways to these challenges: physiotherapists have learned to work in a broad arena, in a competitive market place and in a rapidly changing local context (e.g., communities with growing multicultural mixes). Physiotherapists must be more than competent practitioners, clinician scientists, problem solvers or reflective practitioners, demonstrating accountability and responsibility. Like other health professionals, physiotherapists need to be able to work well in health care teams and to demonstrate both their discrete professional skills and an ability to interact with arrange of different clients and

colleagues and to make decisions in various settings, within the context of a changing political or institutional environment (Higgs & Hunt, 1999).

Physiotherapy practice demonstrates many similarities around the world, despite local variations. There is more uniformity within some regions, such as Europe, than in others such as Africa or the Asia-West Pacific region. Some of the variations relate to the structure and funding of health care systems; others relate to the development and profile of the profession. The percentage of the gross national product spent on health ranges widely within the AWP region, from 1.6% in some countries to 8% in Australia. In some European countries this percentage is higher, for example in Sweden it is 16%. Physiotherapy is an essential part of the health care system in most developed countries, with services paid for either by the official health care system, by a health insurance system, or by users. The scope of physiotherapy practice is influenced by the ratio of qualified physiotherapists to the population. The number of physiotherapists per head of population varies enormously, particularly within the AWP region, ranging from 1:1,750 in Australia to 1:212,000 in India, with the average ratio for the region being 1:60,000 people. In Ethiopia there are approximately 14 physiotherapists for 60 million people. (WCPT, 1996)

Physiotherapy is still predominantly a female based profession in most countries, although the proportions of males and females are slowly equalizing. Countries such as Japan and Indonesia the profession have a larger proportion of men (65% and 56% respectively). In Australia, although men and women have been entering the programs in approximately equal numbers for couple of years, the overall proportion of males practicing physiotherapy is quite slow to change. There is a trend for the attrition rate from the profession amongst men to be slightly higher than amongst women, perhaps linked to career structures and limited salary range (Higgs, Kathryn, Elizabeth, 2001).

Very recently WCPT claimed that 6 out of 10 physiotherapists are women, 82% of the countries around the globe have currently more female physiotherapy practitioner than male. 6 out of 10 in European region, 7 out of 10 in North America region, 6 out of 10 in Africa, 5 out of 10 in Asia pacific region (WCPT, 2011).

In certain nations there is a differentiation among registration and licensure. Individuals can be entitled with “Physiotherapist” designation through registration but also need to hold a current license for legal practicing. This two-layered methodology gives some adaptability; however, it implies organization of the guideline is increasingly complex. This is especially evident when certain criteria are set for upkeep of licensure, for example, compulsory proceeding with training. Enlistment can be furnished with conditions on training, especially if the professional doesn't satisfy minimum standards. These conditions can be a constraint on the term or the idea of the training, or a prerequisite that the professional be administered. Such arrangements can be valuable for experts who wish to visit for a short period to teach or do research (Higgs, Kathryn, Elizabeth, 2001).

In Bangladesh, physiotherapy profession is overridden in government level. There is an existing title issue as it is not protected and regulated. Though, professional bodies here exist, their role is too limited to advocacy, peer support, and professional development. Now two such groups exist: the Bangladesh Physiotherapy Association, which is a member of the World Confederation of Physical Therapists, and also the Bangladesh Physical Therapy Association but they don’t have the key to regulate profession Bangladesh is advancing toward widespread wellbeing inclusion. Wellbeing workforce arranging must deliver how to meet the twin objectives of expanded openness and arrangement of brilliant consideration. Three components should now be considered. Initially, the acknowledgment of the ensured title of physiotherapist along global benchmarks, pair, a blended, single enrollment and official guideline. Second, a guarantee to the arrangement of physiotherapist. Third, an assessment in the Bangladeshi setting of the express interface between physiotherapy arrangement and the improved personal satisfaction, joining into society, come back to business, and decrease of financial fardel and illness (Mamin & Hayes, 2018).

Rehabilitation services in both public and private health care not currently existing in Bangladesh, and this scarcity is being addressed by some non-government organizations. As a result, physiotherapy is not included in health policies by the government, so now

itis fully under-resourced and not funded. The government is not recruiting qualified physiotherapists in the public health sector. Patients with various neurological and musculoskeletal conditions are getting less quality service and often discharged home once medically fit without any follow-up or rehabilitation which could reduce their dependence and help integrate them into society. This is a noteworthy oversight by a legislature that is focused on executing the worldwide 2030 SDGs. All-inclusive wellbeing inclusion is a conspicuous piece of the SDGs and tries to guarantee that all individuals can utilize the promotive, safeguard, corrective, rehabilitative, and palliative wellbeing administrations they need, while additionally guaranteeing that the utilization of these administrations doesn't open the client to financial hardship.

For the patients, there have direct impact in the quality of life and also have a positive impact on the economy. Proper rehabilitation for injuries and musculoskeletal problems can reduce impairment, rest or in previous function, improving recovery period, and return to work, thus reducing the financial fardel. At present, the health system does not have the capacity to answer the needs of these patients, leaving them without a proper treatment, at risk of further complications and hamper their reintegration into society. Physiotherapy plays an integral role to promoting and improving health in a population (Bultmann et al., 2009).

CHAPTER-III METHODOLOGY

3.1 Study design

Cross sectional study was selected for conduct the study. A cross-sectional study was a descriptive study in which disease and exposure status was measured simultaneously in a given population and the most important advantage were it is quick and cheap.

3.2 Study site and study area:

This study was conducted in different non-government organizations, e.g., Centre for the Rehabilitation of the Paralysed, Enam Medical College in both indoor and outdoor unit where physiotherapy service is available.

3.3 Study population and sampling:

Sampling refers to the process of selection the subjects/individual. A population refers to the entire group of people or items that meet the criteria set by the researcher. In this study population were the patients who had been receiving physiotherapy from different non-government organizations.

3.4 Sample size:

Sample is a group of subjects are selected from population, who are used in a piece of research (Hicks, 2009). A sample was a smaller group taken from the population. Sometimes the sample size might be big and sometimes it might be small, depending on the population and the characteristics of the study.

When the sample frame is finite,

The equation of finite population correction in case of cross sectional study is:

$n = \frac{Z^2 pq}{d^2}$

$= \frac{(1.96)^2 x\ 0.10\ x\ 0.90}{(0.05)^2}$

= 138

Here,

Z (confidence interval) = 1.96

P (prevalence) = 10% (Uddin et al., 2019)

And, q= (1-p)

= (1- 0.10)

= 0.90

The actual sample size was, n= 138.

Conventionally through calculation sample size was determined as 138, lack of time and due to this COVID-19 pandemic situation I managed to collect 78 samples.

3.5 Selection Criteria

3.5.1 Inclusion criteria:

- Aged 18 years and above
- Both male and female participants
- Patients who were taking consultation for Physiotherapy treatment
- Patients who were interested to participate
- Mentally sound patients

3.5.2 Exclusion criteria:

- Reluctance of the patient
- Patient with cognitive problems
- Patients who were taking Physiotherapy treatment from government hospitals

3.6 Data collection methods and tools

Data was collected by face to face interview. A predefined pretested semi structured questionnaire was used to collect the data.

3.7 Data analysis

Descriptive statistics was used to analyze the data. Data was analyzed with the software named Statistical Package for Social Science (SPSS) version 22.0. The variables labeled in a list and the researcher established a computer based data definition record file that consist of a list of variables in order. The researcher put the name of the variables in the variable view of SPSS and defined the types, values, decimal, label alignment and measurement level of data. The next step was done cleaning new data files to check the inputted data set to ensure that all data had been accurately transcribed from the questionnaire sheet to the SPSS data view. Then the raw data became ready for analysis in SPSS. Data was analyzed by descriptive statistics and calculated as percentages and presented by using table, bar graph, pie charts etc. Microsoft office Excel 2013 was used to decorate the bar graph and pie charts. The result of this study was consisted of quantitative data.

Chi-squared test:

A chi-squared test, also written as $\chi 2$ test, is any statistical hypothesis test where the sampling distribution of the test statistic is a chi-squared distribution when the null hypothesis is true. Without other qualification, 'chi-squared test' often is used as short for Pearson's chi-squared test. In this study, the chi-squared test was used to determine whether there was a significant difference between the expected frequencies and the observed frequencies in one or more categories.

Assumptions of the Chi-square:

1. The data in the cells should be frequencies, or counts of cases rather than percentages or some other transformation of the data.
2. The levels (or categories) of the variables are mutually exclusive. That is, a particular subject fits into one and only one level of each of the variables.
3. Each subject may contribute data to one and only one cell in the $\chi 2$. If, for example, the same subjects are tested over time such that the comparisons are of the same subjects at Time 1, Time 2, Time 3, etc., then $\chi 2$ may not be used.
4. The study groups must be independent. This means that a different test must be used if the two groups are related. For example, a different test must be used if the researcher's data consists of paired samples, such as in studies in which a parent is paired with his or her child.
5. There are 2 variables, and both are measured as categories, usually at the nominal level. However, data may be ordinal data. Interval or ratio data that have been collapsed into ordinal categories may also be used. While Chi-square has no rule about limiting the number of cells (by limiting the number of categories for each variable), a very large number of cells (over 20) can make it difficult to meet assumption #6 below, and to interpret the meaning of the results.
6. The value of the cell expected should be 5 or more in at least 80% of the cells, and no cell should have an expected of less than one (3). This assumption is most likely to be met if the sample size equals at least the number of cells multiplied by 5. Essentially, this assumption specifies the number of cases (sample size) needed to use the $\chi 2$ for

any number of cells in that χ2. This requirement will be fully explained in the example of the calculation of the statistic in the case study example.

Calculating Chi-square

The formula for calculating a Chi-Square is:

$$\sum \chi^2_{i-j} = \frac{(O-E)^2}{E}$$

Where,

O = Observed (the actual count of cases in each cell of the table)

E = Expected value

χ2 = The cell Chi-square value

∑χ2 = Formula instruction to sum all the cell Chi-square values

x^2_{i-j} = i–j is the correct notation to represent all the cells, from the first cell (i) to the last cell (j); in this case Cell 1 (i) through Cell 6 (j).

The first step in calculating a χ2 is to calculate the sum of each row, and the sum of each column. These sums are called the "marginals" and there are row marginal values and column marginal values.

3.7 Ethical consideration

The research was submitted to the Institutional Review Board (IRB) of Bangladesh Health Professions Institute (BHPI) and after defense the research approval was permitted from the IRB. A written/verbal consent will be taken from participate before collecting of data. The World Health Organization (WHO) & Bangladesh Medical Research Council (BMRC) guideline was always followed to conduct the study. During the course of this study, the samples who will be interested in the study will give consent forms and propose of the research and the consent form will be explained to them verbally. The study will not interfere with their jobs. They will be informed that their participation is fully voluntary and they have the right to withdraw or discontinue from the research at any time. They were also informed that confidentiality was maintained regarding their information. It should be assured the participant that his or her name or address will not be used. The participant will also be informed or given notice that the research result would not be harmful for them.

CHAPTER-IV RESULTS

The purpose of the study was to find out the patient's characteristics those who attended to non-government organizations.

4.1 Subjective Information

4.1.1 Age of the participants

Among the 78 participants, age group 18-30 had 29.5% (n=23), 31-40 had 20.5% (n=16), 41-50 had 23.1% (n=18), 51-60 had 19.2% (n=15), 61-70 had 21.8% (n=17), 51-60 had 17.9% (n=14) and 61-70 had 7.7% (n=6) participants and mean age was 42.14 (Table 1).

Table 1: Age of the participant

Age group	Percentage	Mean
18-30	7.7%	42.14
31-40	2.6%	
41-50	23.1%	
51-60	20.5%	
61-70	21.8%	

4.1.2 Sex of the participants

Among the 78 participants, Male participants were 47.4% (n=37) and female participants were 52.6% (n=41).

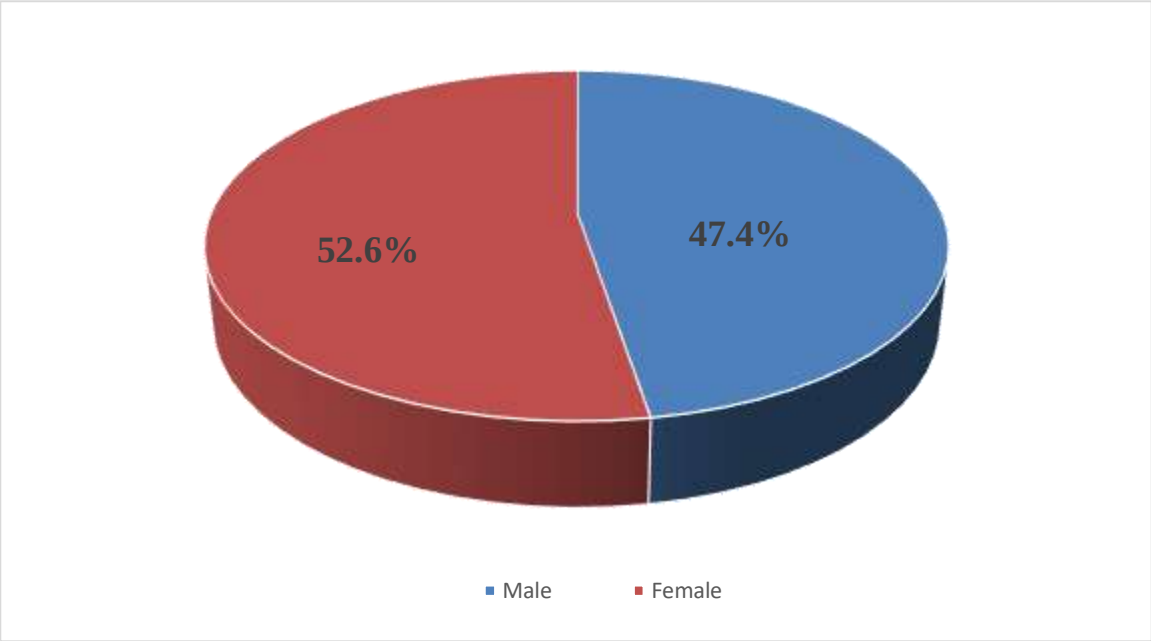

Figure-1: Sex of the participants

4.1.3 Educational Status

Among the 78 participants, 12.8% (n=10) were illiterate, 28.2% (n=22) were from primary level, 37.2% (n=29) were from secondary level, 11.5% (n=9) were from higher secondary level, 9% (n=7) were from graduation level and 1.3% (n=1) was from post-graduation level.

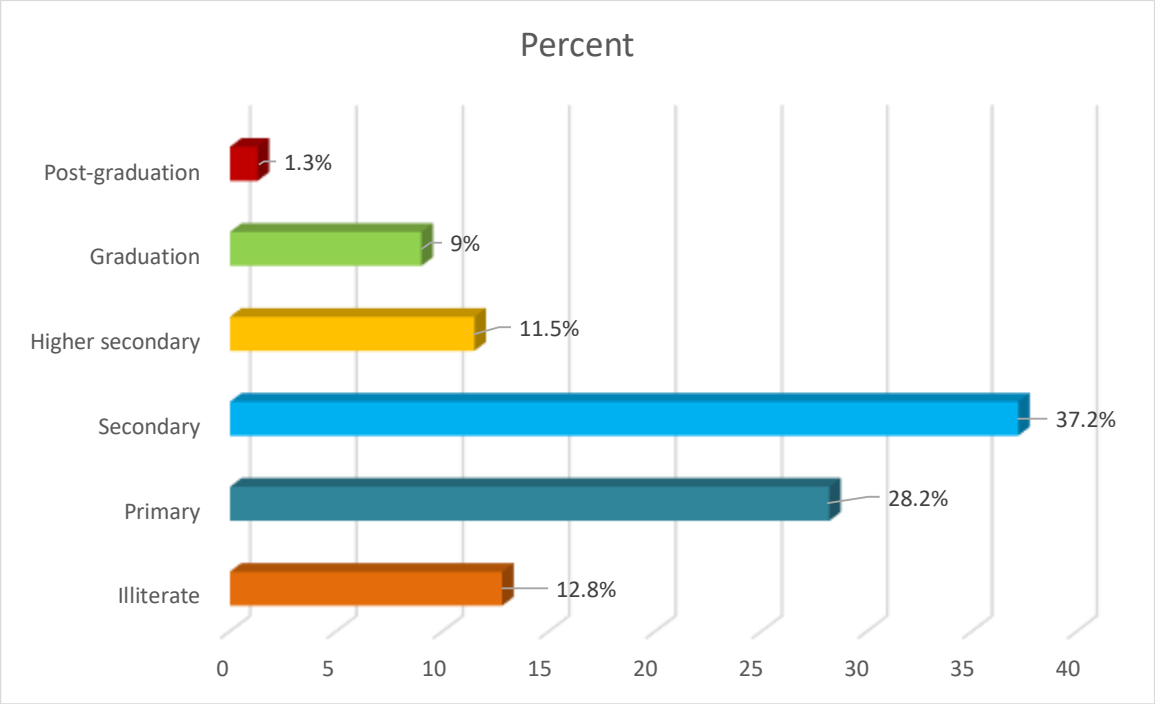

Figure 2: Educational Status

4.1.4 Occupation

Among 78 participants, 14.1% (n=11) were service holder, 19.2% (n=15) were businessman, 1.3% (n=1) was retired, 35.9% (n=28) were housewife, 9% (n=7) were student, 20.5% (n=16) were in other occupation.

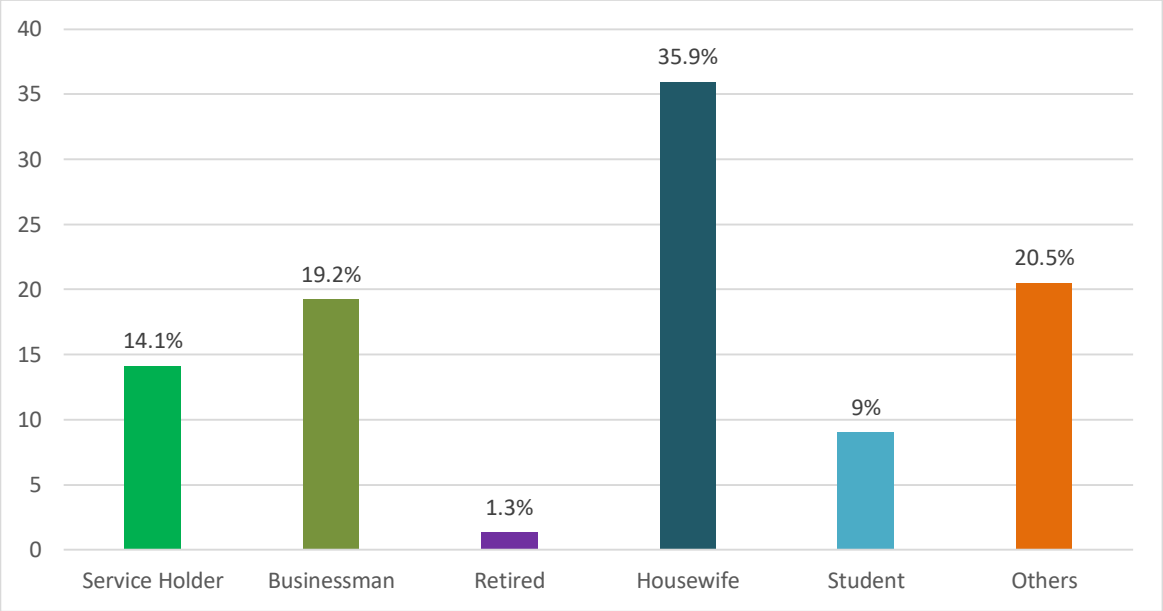

Figure 3: Employment

4.1.5 Family Members

Among the 78 participants, minimum family member was 3 persons and maximum was 9 persons in a family. From them 3 persons were 1.3% (n=1), 4 persons were 28.2% (n=22), 5 persons were 19.2% (n=15), 6 persons were 29.5% (n=23), 7 persons were 11.5% (n=9), 8 persons were 9% (n=7) and 9 persons were 1.3% (n=1) (Table 2).

Table 2: Family Member

Family member	Number of participants	Percentage
3	1	1.3%
4	22	28.2%
5	15	19.2%
6	23	29.5%
7	9	11.5%
8	7	9%
9	1	1%

4.1.6 Earning member

Among the 78 participants, 41% (n=32) participant's family has 1 earning member, 46.2% (n=36) participant's family have 2 earning members, 10.3% (n=8) participant's family have 3 earning members and 2.6% (n=2) participant's family have 4 earning members.

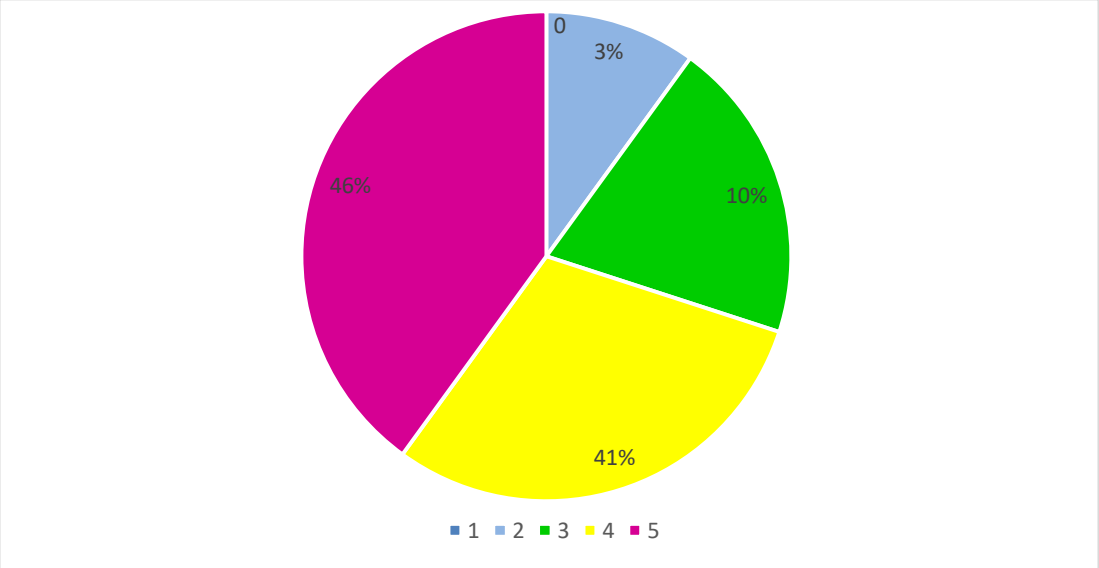

Figure 4: Earning Member

4.1.7 Monthly income

Among 78 participants, 5.1% (n=4) participants earn in between 0-10000 BDT, 35.9% (n=28) participants earn in between 10001-20000 BDT, 24.4% (n=19) participants earn in between 20001-30000 BDT, 17.9% (n=14) participants earn in between 30001-40000 BDT, 12.8% (n=10) participants earn 40001-50000 BDT and 3.8% (n=3) participants earn 50001-60000 BDT monthly (Table 3).

Table 3: Monthly Income

Monthly income (BDT)	Number of participants	Percentage	Mean	Std. deviation
0-10000	4	5.1	28089.74	12568.964
10001-20000	28	35.9		
20001-30000	19	24.4		
30001-40000	14	17.9		
40001-50000	10	12.8		
50001-60000	3	3.8		

4.1.8 Area of Residence

Out of 78 participants, 48.7% (n=38) participants were from urban area and 51.3% (n=40) participants were from rural area.

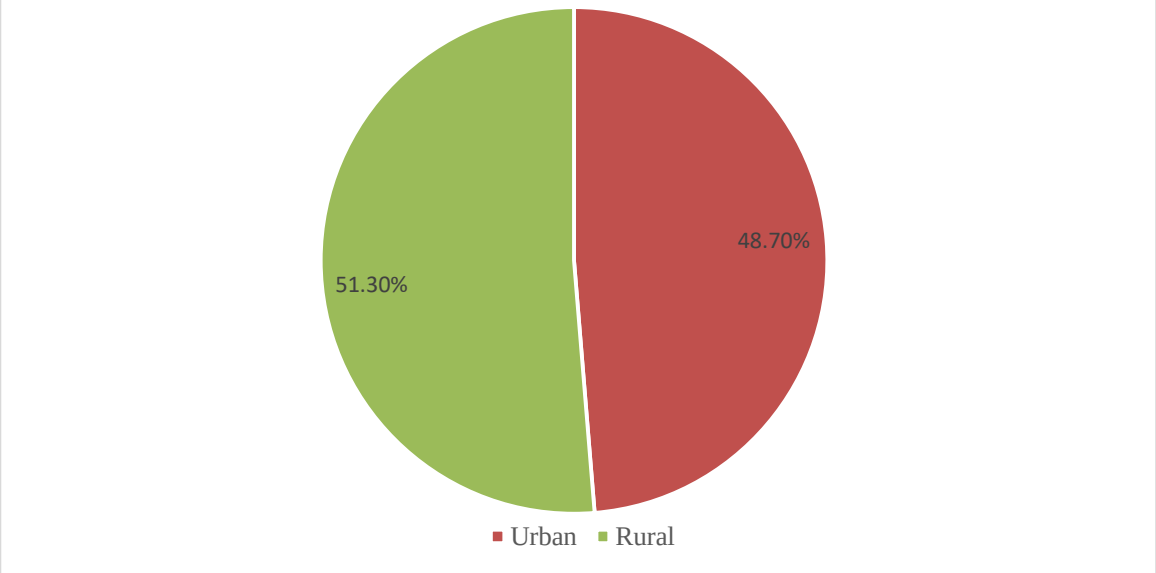

Figure 5: Area of Residence

4.1.9 Disease Information

Among 78 participants, 94.9% (n=74) participants came with musculoskeletal & orthopedic conditions, 3.8% (n=3) participants came with neurological conditions and 1.3% (n=1) participants came with other conditions.

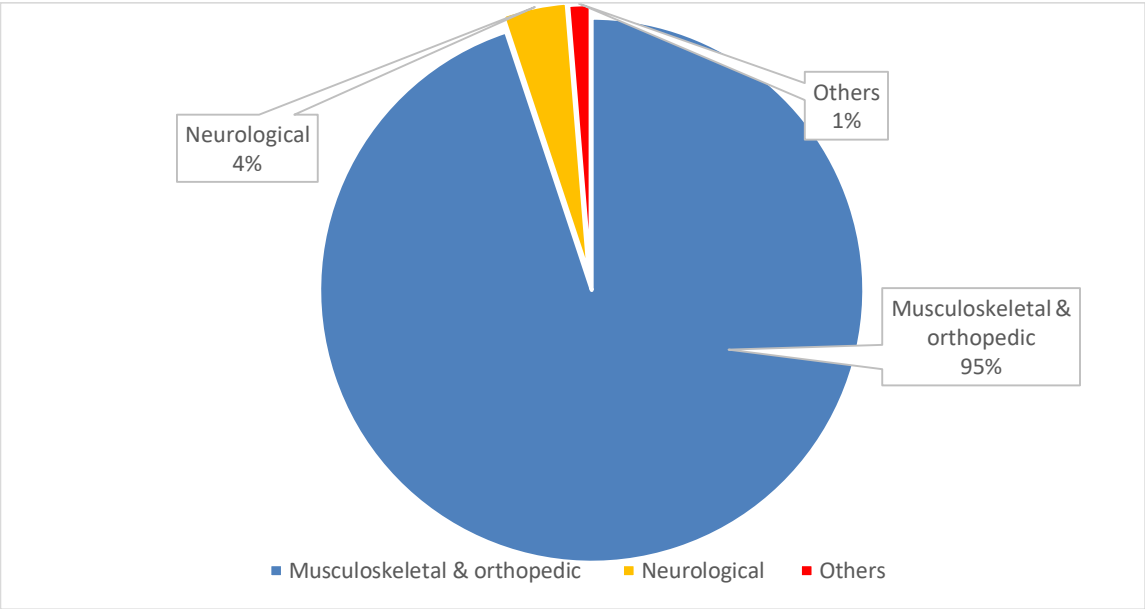

Figure 6: Disease information

4.2.1 Diagnosis

Among 78 participants, 11.3% (n=9) participants diagnosed with cervical spondylosis, 26.3% (n=21) participants diagnosed with mechanical LBP, 5% (n=4) participants diagnosed with PLID, 12.5% (n=10) participants diagnosed with shoulder pain, 16.3% (n=13) participants diagnosed with OA, 3.8% (n=3) participants diagnosed with neck radiculopathy, 5% (n=4) participants diagnosed with stroke, 15% (n=12) participants diagnosed with trauma and 5% (n=4) participants diagnosed with Lumber radiculopathy.

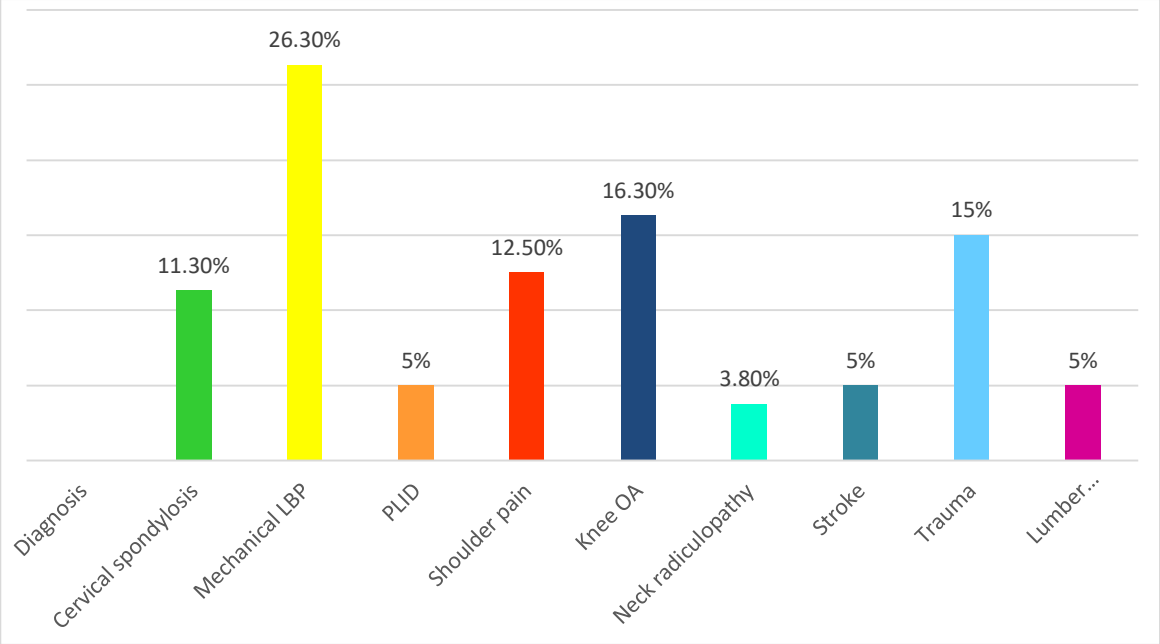

Figure 7: Diagnosis

4.2.2 Patient Referral

Out of 78 participants, 50% (n=39) participants came without any referral which were counted as 'self', 10.3% (n=8) were referred by general physician, 39.7% (n=31) were referred by others.

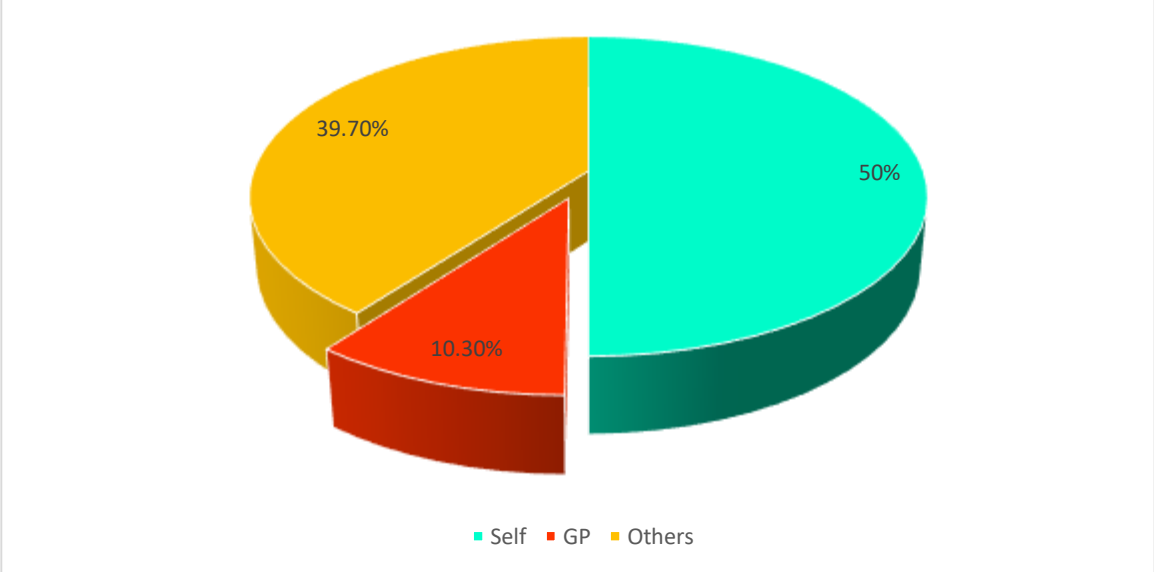

Figure 8: Patients Referral

4.2.3 Physiotherapy intervention

Among 78% participants, 3.6% (n=11) participants received postural reeducation, 18.5% (n=56) participants received mobilization, 13.9% (n=42) participants received IRR, 7% (n=21) participants received REIL, 1.7% (n=5) participants received soft tissue release, 3.6% (n=11) participants received rest, 8.6% (n=26) participants received cold compression, 7% (n=21) participants received strengthening exercise, 0.7% (n=2) participants received isometric exercise, 15.5% (n=47) participants received stretching, 1% (n=3) participants received movement with mobilization, 1% (n=3) participants received progressive ROM exercise, 0.7% (n=2) participants received side flexion, 3.3% (n=10) participants received TENS, 8.9% (n=27) participants received traction, 0.3% (n=1) participants received capsular stretching, 0.3% (n=1) participants received elbow bag, 0.3% (n=1) participants received core stability exercise, 1.3% (n=4) participants received UST, 0.3% (n=1) participants received knee cap, 0.3% (n=1) participants received mild compression on cervical spine, 0.7% (n=2) participants received positioning, 0.3% (n=1) participants received pelvic correction exercise, 0.3% (n=1) participants received RFIL, 0.3% (n=1) participants received motor control exercise and 0.3% (n=1) participants received cervical stabilization (Table 4).

Table 4: Physiotherapy intervention

Treatment	Number of participants	Percentage
Postural reeducation	11	3.60%
Mobilization	56	18.50%
IRR	42	13.90%
REIL	21	7%
Soft tissue release	5	1.70%
Rest	11	3.60%
Cold compression	26	8.60%
Strengthening exercise	21	7%
Isometric exercise	2	0.70%
Stretching	47	15.60%
Movement with mobilization	3	1%
Progressive ROM	3	1%
Side Flexion	2	0.70%
TENS	10	3.30%
Traction	27	8.90%
Capsular stretching	1	0.30%
Elbow bag	1	0.30%
Core stability exercise	1	0.30%
UST	4	1.30%
Knee cap	1	0.30%
Mild compression on cervical spine	1	0.30%
Positioning	2	0.70%
Pelvic correction exercise	1	0.30%
RFIL	1	0.30%
Motor control exercise	1	0.30%
Cervical stabilization	1	0.30%

4.2.4 Treatment for cervical spondylosis:

Among 78 participants, 9 patient was diagnosed with cervical spondylosis. Out of 9 participants, 12.5% (n=4) participants received postural reeducation, 18.8% (n=6) participants received mobilization, 15.6% (n=5) participants received IRR, 6.3% (2) participants received rest, 6.3% (2) participants received cold compression, 6.3% (n=2) participants received strengthening exercise, 3.1% (n=1) participants received isometric exercise, 12.5% (n=4) participants received stretching, 3.1% (n=1) participants received progressive ROM exercise, 9.4% (n=3) participants received traction, 3.1% (n=1) participants received mild compression on cervical spine and 3.1% (n=1) participants received cervical stabilization.

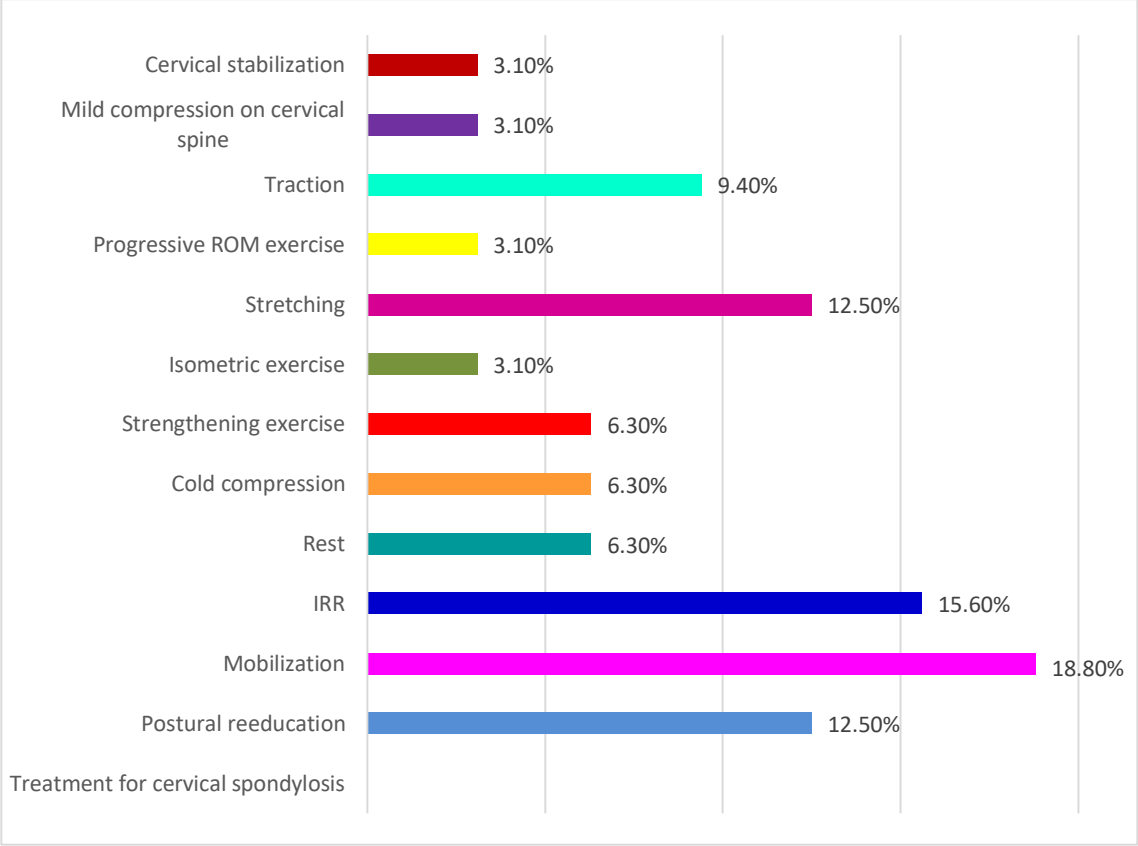

Figure 9: Treatment for cervical spondylosis

4.2.5 Treatment for mechanical LBP

Among 78 participants, 21 patient was diagnosed with mechanical LBP. Out of 21 participants, 3.4% (n=3) participants received postural reeducation, 17.2% (n=15) participants received mobilization, 17.2% (n=15) participants received IRR, 13.8% (n=12) participants received REIL, 2.3% (n=2) participants received soft tissue release, 2.3% (n=2) participants received cold compression, 4.6% (n=4) participants received strengthening, 17.2% (n=15) participants received stretching, 1.1% (n=1) participants received movement with mobilization, 1.1% (n=1) participants received TENS, 14.9% (n=13) participants received traction, 1.1% (n=1) participants received core stability exercise, 1.1% (n=1) participants received pelvic correction exercise, 1.1% (n=1) participants received RFIL and 1.1% (n=1) participants received motor control exercise.

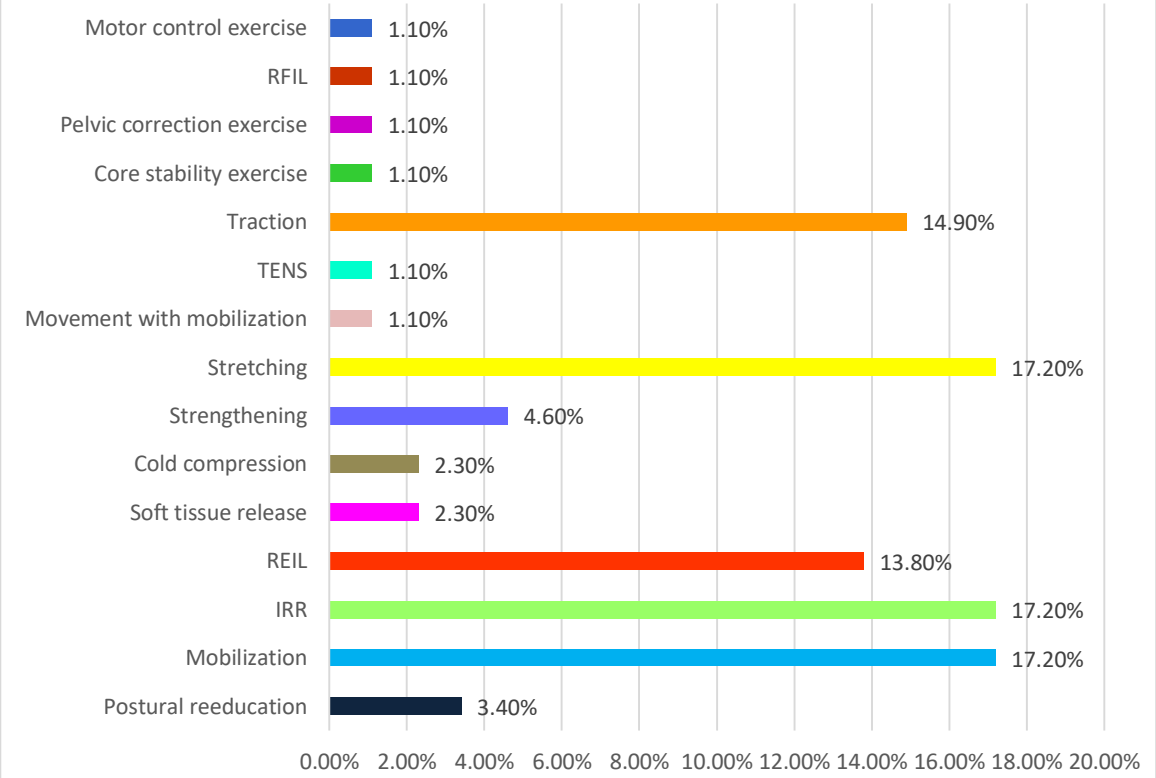

Figure 10: Treatment for mechanical LBP

4.2.7 Treatment for PLID:

Among 78 participants, 4 participants were diagnosed with PLID. Out of 4 participants, 10.5% (n=2) participants received postural reeducation, 15.8% (n=3) participants received mobilization, 10.5% (n=2) participants received IRR, 5.3% (n=1) participants received REIL, 5.3% (n=1) participants received soft tissue release, 5.3% (n=1) participants received rest, 5.3% (n=1) participants received cold compression, 10.5% (n=2) participants received strengthening exercise, 10.5% (n=2) participants received stretching, 5.3% (n=1) participants received progressive ROM, 5.3% (n=1) participants received side flexion, 5.3% (n=1) participants received TENS, 5.3% (n=1) participants received traction.

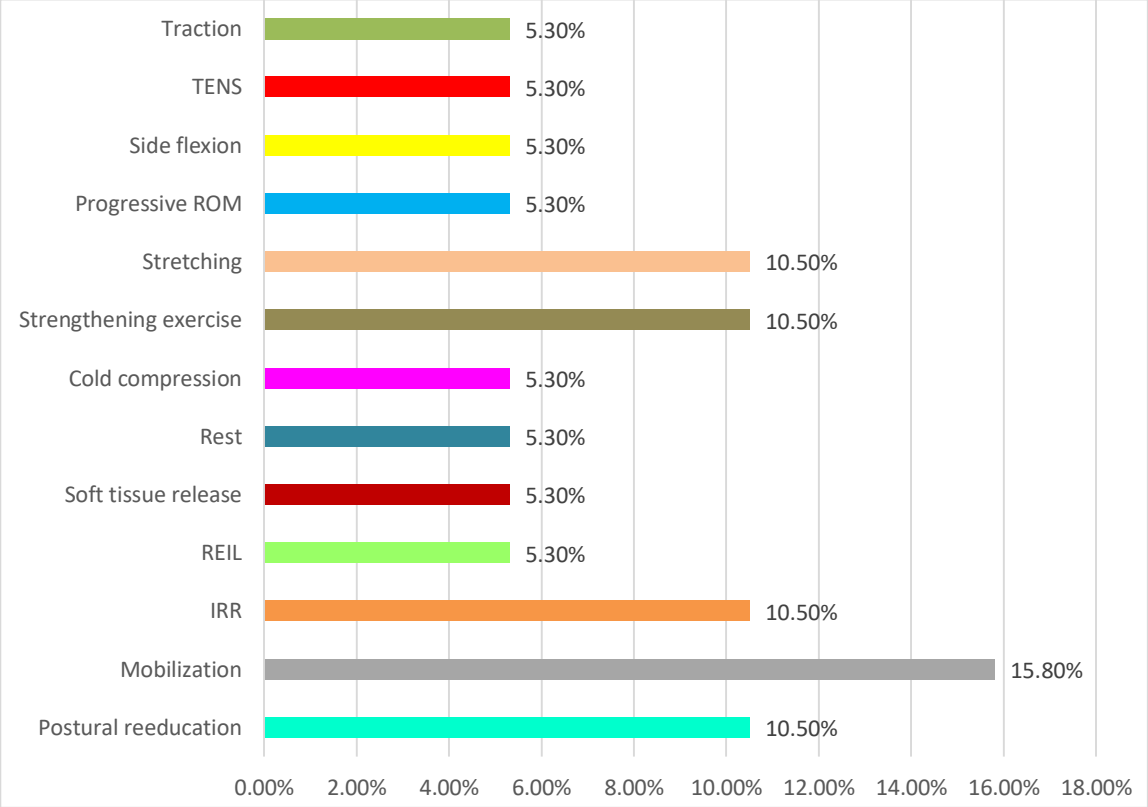

Figure 11: Treatment for PLID

4.2.8 Treatment for shoulder pain:

Out of 78 participants, 10 participants were diagnosed with shoulder pain. Among the 10 participants, 16.2% (n=6) participants received mobilization, 13.5% (n=5) participants received IRR, 8.1% (n=3) participants received rest, 21.6% (n=8) participants received cold compression, 2% (n=6) participants received strengthening exercise, 13.5% (n=5) participants received stretching, 2.7% (n=1) participants received movement with mobilization, 2.7% (n=1) participants received progressive ROM exercise, 2.7% (n=1) participants received side flexion, 2.7% (n=1) participants received TENS, 2.7% (n=1) participants received capsular stretching, 2.7% (n=1) participants received elbow bag, 5.4% (n=2) participants received UST, 2.7% (n=1) participants received positioning.

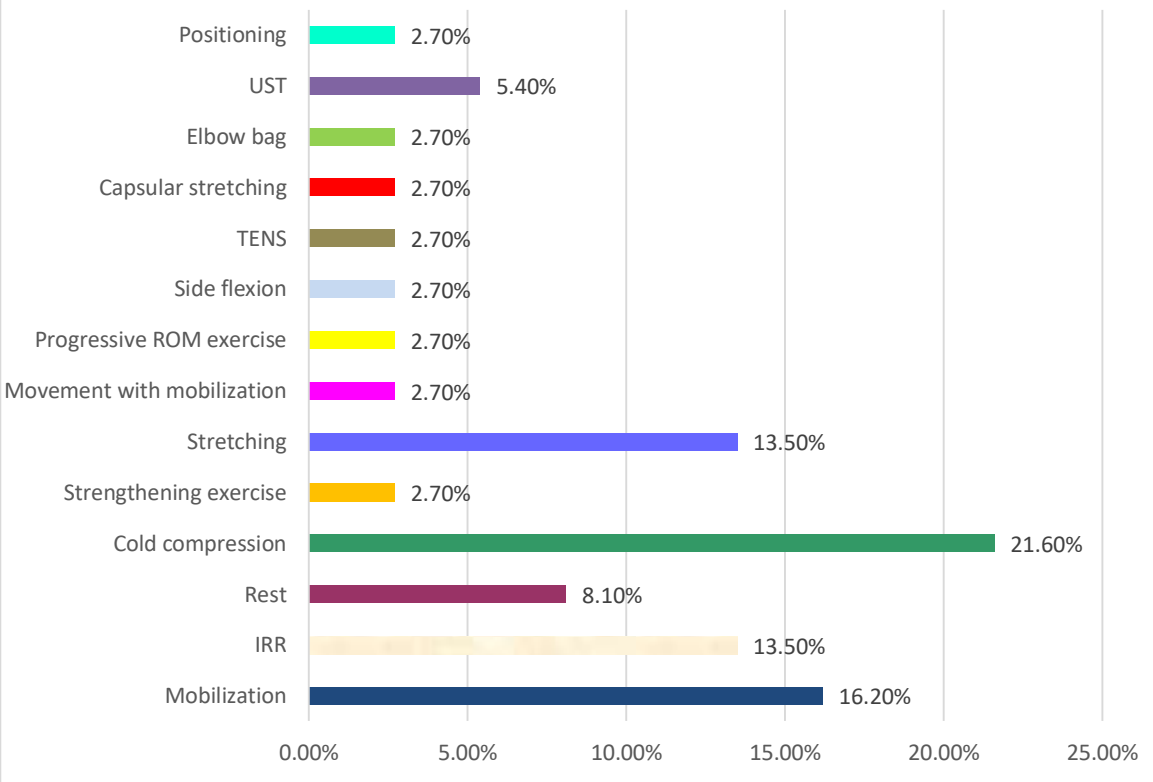

Figure 12: Treatment for shoulder pain

4.2.9 Treatment for knee OA:

Out of 78 participants, 13 participants were diagnosed with knee OA. From 13 participants, 4% (n=2) participants received postural reeducation, 22% (n=11) participants received mobilization, 14% (n=7) participants received IRR, 8% (n=4) participants received REIL, 2% (n=1) participants received Soft tissue release, 2% (n=1) participants received rest, 8% (n=4) participants received cold compression, 6% (n=3) participants received strengthening exercise, 2% (n=1) participants received isometric exercise, 18% (n=9) participants received stretching, 2% (n=1) participants received mobilization with movement, 2% (n=1) participants received progressive ROM exercise, 8% (n=4) participants received traction and 2% (n=1) participants received capsular stretching.

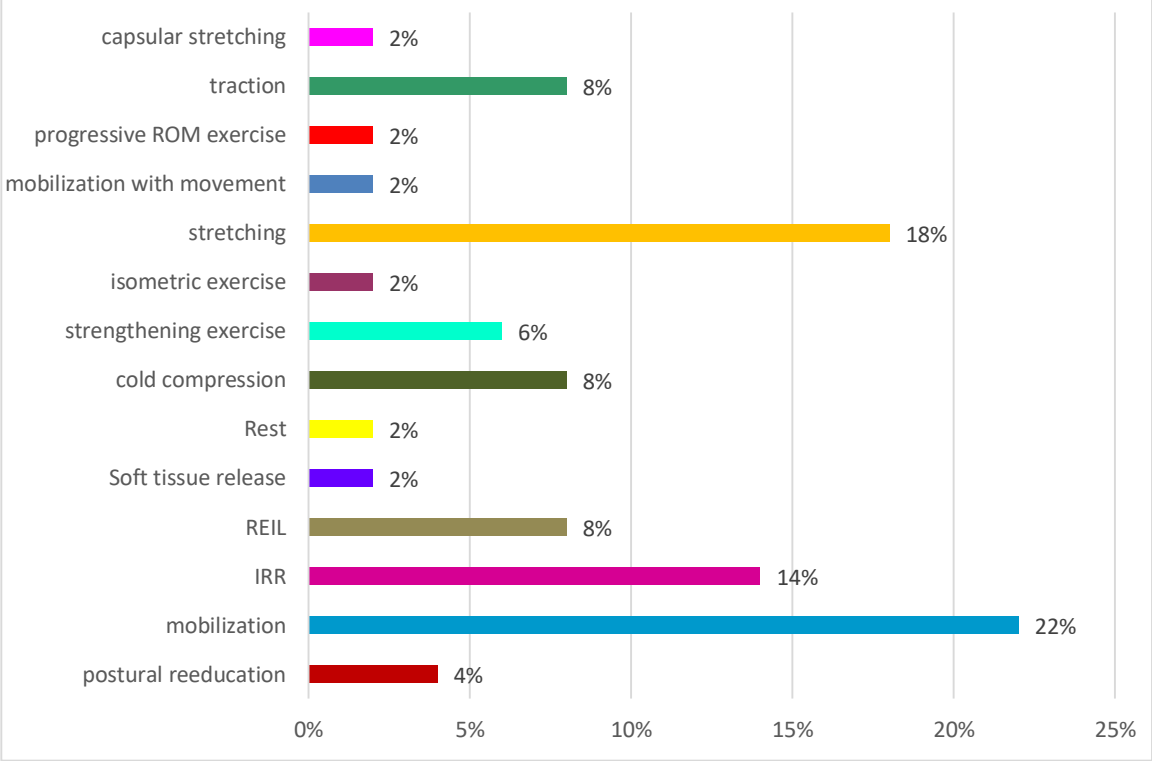

Figure 13: Treatment for knee OA

4.2.10 Treatment for cervical radiculopathy:

Out of 78 participants, 3 participants were diagnosed with cervical radiculopathy. Among 3 participants, 20% (n=2) participants received mobilization, 10% (n=1) participants received soft tissue release, 10% (n=1) participants received rest, 20% (n=2) participants received cold compression, 10% (n=1) participants received strengthening exercise, 10% (n=1) participants received stretching, 10% (n=1) participants received TENS and 10% (n=1) participants received traction (Table 5).

Table 5: Treatment for cervical radiculopathy

Treatment for cervical radiculopathy	Number of participants	Percentage
Mobilization	2	20%
Soft tissue release	1	10%
Rest	1	10%
Cold compression	2	20%
Strengthening exercise	1	10%
Stretching	1	10%
TENS	1	10%
Traction	1	10%

Treatment for stroke:

Out of 78 participants, 4 participants diagnosed with stroke. Among 4 of them, 8.3% (n=1) participants received mobilization, 8.3% (n=1) participants received cold compression, 25% (n=3) participants received strengthening, 33.3% (n=4) participants received stretching and 25% (n=3) participants received TENS.

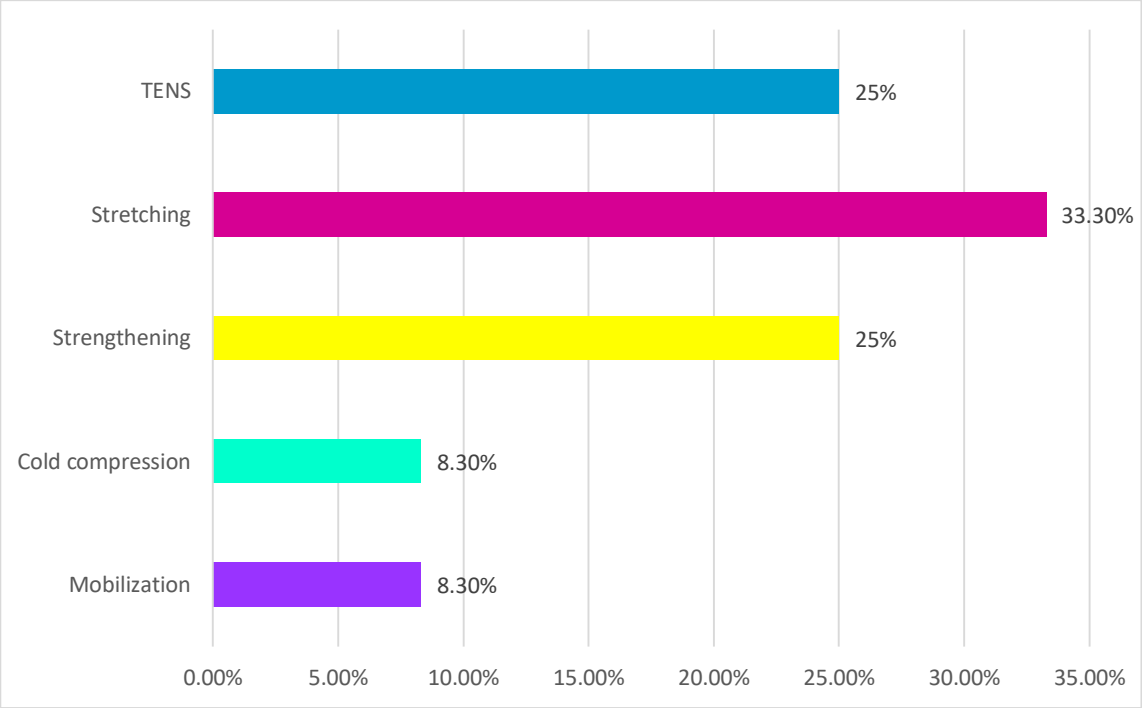

Figure 14: Treatment for stroke

Treatment for trauma:

Out of 78 participants, 12 participants diagnosed with trauma. Among the 12 of them, 21.3% (n=10) participants received mobilization, 12.8% (n=6) participants received IRR, 8.5% (n=4) participants received rest, 14.9% (n=7) participants received cold compression, 6.4% (n=3) participants received strengthening exercise, 14.3% (n=7) participants received stretching, 4.3% (n=2) participants received TENS, 6.4% (n=3) participants received traction, 2.1% (n=1) participants received elbow bag, 4.3% (n=2) participants received UST, 2.1% (n=1) participants received knee cap and 2.1% (n=1) participants received positioning (Table 6).

Table 6: Treatment for trauma

Treatment for trauma	Number of participants	Percentage
Mobilization	10	21.30%
IRR	6	12.80%
Rest	4	8.50%
Cold compression	7	14.90%
Strengthening exercise	3	6.40%
Stretching	7	14.90%
TENS	3	4.30%
Traction	2	6.40%
Elbow bag	1	2.10%
UST	2	4.30%
Knee cap	1	2.10%
Positioning	1	2.10%

Treatment for lumber radiculopathy:

Out of 78 participants, 4 participants diagnosed with lumber radiculopathy. From 4 of them, 5.3% (n=1) participants received postural reeducation, 21.1% (n=4) participants received mobilization, 10.5% (n=2) participants received IRR, 15.8% (n=3) participants received REIL, 5.3% (n=1) participants received soft tissue release, 5.3% (n=1) participants received strengthening, 15.8% (n=3) participants received stretching, 5.3% (n=1) participants received TENS and 15.8% (n=3) participants received traction.

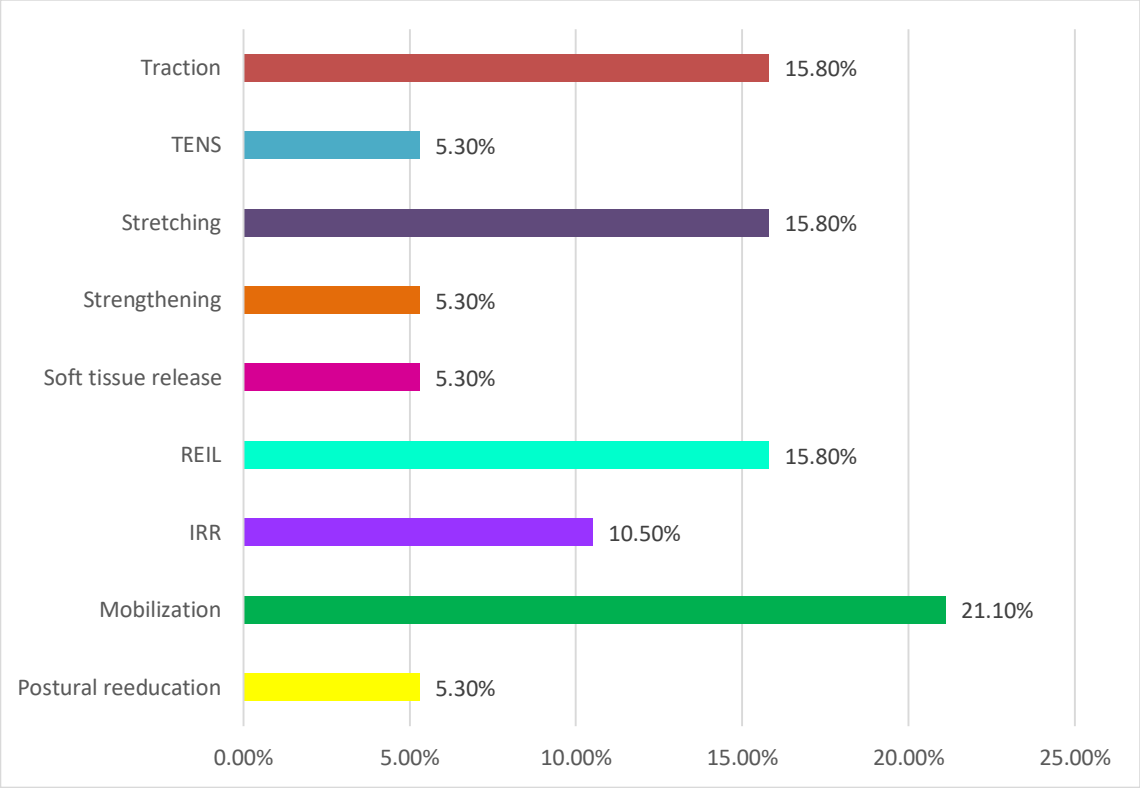

Figure 15: Treatment for lumber radiculopathy

Patient perspective:

Among 78 participants, 2.6% (n=2) participants had dissatisfied, 11.5% (n=9) had average, 42.3% (n=33) participants had satisfied and 43.6% (n=34) participants had very much satisfied with physiotherapy service.

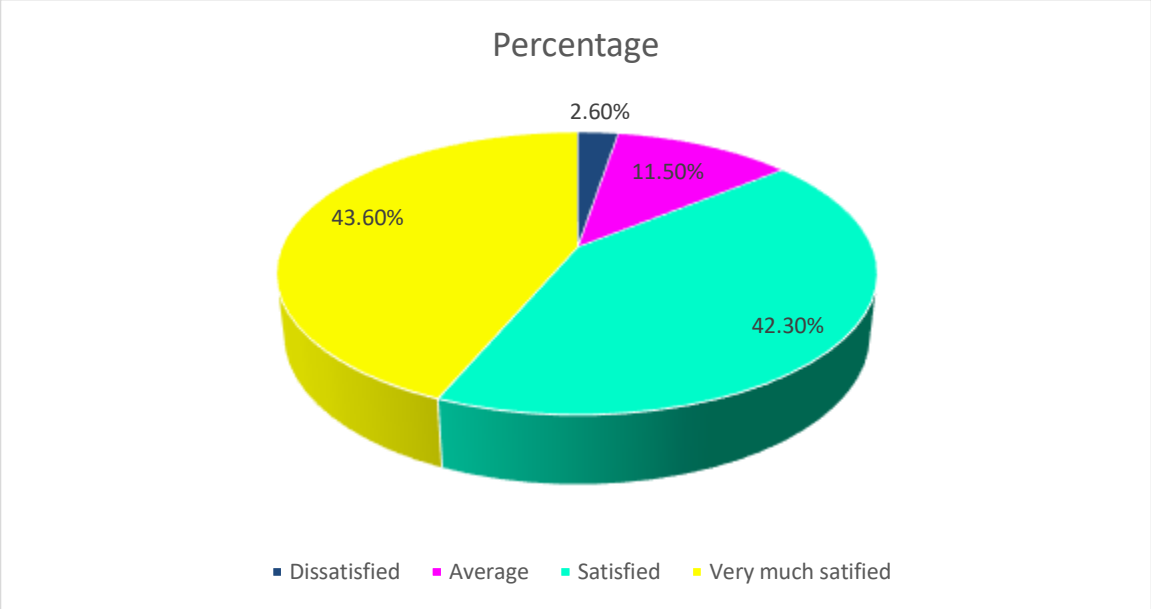

Figure 16: Patient perspective

Challenges:

Out of 78 participants, 24 participants said that, they have financial crisis. Among 24 participants, patient who had been diagnosed with mechanical LBP, had highest number (n=10) of participants.

Out of 78 participants, 3 participants said that, they had difficulties with journey. Among 3 participants, patients who had been diagnosed with trauma, had highest number (n=2) of participants.

Out of 78 participants, 15 participants said that, treatment center was far from their living places. Among 15 participants, patients who had been diagnosed with knee OA, had highest number (n=4) of participants.

Out of 78 participants, 6 participants said that, they had family issues. Among 6 participants, patients who had been diagnosed with mechanical LBP, had highest number (n=2) of participants.

Out of 78 participants, 2 participants said that, their health condition is not good. Among 2 participants, patients who had been diagnosed with knee OA (n=1) and trauma (n=1) were facing this challenge.

Remaining 28 participants faced no such challenges to continue physiotherapy (Table 7).

Table 7: Challenges

Challenges	Number of participants
Financial crisis	24
Difficulties with journey	3
Far from living places	15
Family issues	6
Poor health condition	2
No challenges	28

3.1 Association between age and PLID:

In the below table, it showed that age was not significantly co-related with PLID ($p > 0.05$).

Table 8: Association between age and PLID

	PLID	
Age	Chi-square	P-value
	4.348	0.361

3.3 Association between Occupation and mechanical LBP:

In the below table, it showed that occupation was not significantly co-related with mechanical LBP ($p > 0.05$).

Table 9: Association between Occupation and mechanical LBP

	Mechanical LBP	
Occupation	Chi-square	P-value
	7.957	0.195

3.2 Association between monthly income and challenges like financial crisis:

In the below table, it showed that monthly income was significantly co-related with challenges like financial crisis ($p < 0.05$).

Table 10: Association between monthly income and challenges like financial crisis

	Financial crisis	
Monthly income	Chi-square	P-value
	14.154	0.003

CHAPTER-V DISCUSSION

The aim of this study was to find out the patients characteristics attended at different non-government organizations in Dhaka, Bangladesh. The researcher took 78 samples and tried to identify patients profile, which group of people are coming for receiving physiotherapy, their exact condition for receiving physiotherapy, how they are referred, what treatment they are receiving for their individual conditions, what challenges they are facing and their perspectives regarding physiotherapy intervention.

In this dissertation, age was one of a variable. Here, the mean age was 38.86 years, Std. deviation was 16.394, participants with 40 years of age was frequently found 10.3% (n=8), 50 years of age were 9% (n=7), 30 were 7.7% (n=6). In Zimbabwe mean age was 36 years and Std. deviation 16.6 (Tadyanemhandu & Manie, 2015).

Off the 78 participants, attended at hospital for receiving physiotherapy service was grossly divided into three major groups, Musculoskeletal, Neurological and Others. Patients with Musculoskeletal complain were 94.9% (n=74), with Neurological were 3.8% (n=3) and with others were 1.3% (n=1).

A study conducted in Ireland finding out the satisfaction level of patients from private physiotherapy services, there were 131 respondents where male participants were 53.4%(n=70), rest were female with 37.7 years mean age had 66 (51.5%) had complaints of musculoskeletal pain (Casserley-Feeney et al., 2008).

Off the 78 respondents, 11.3% (n=9) complaint off neck pain, they received mobilization, IRR, stretching, postural reeducation, strengthening exercise, Isometric exercise of neck and traction as physiotherapy intervention.

Allison et al ., 2002 described treatment for neck pain as followed, Neural mobilization in comparison with articular mobilization, Thoracic mobilization, stretching and strengthening exercise was included in articular mobilization.

Walker et al., (2008) stated manual technique including thrust and non-thrust mobilization, muscle energy and stretching exercise are effective and absolute treatment protocol.

Jull et al., (2007) described treatment for neck pain was, mobilization, muscle reeducation (flexor and extensor group), patient education.

26.3% (n=21) participants complaint off mechanical low back pain. They received Back extension exercise, Isometric exercise of back, Mobilization, Traction, Postural reeducation, Strengthening exercise and IRR.

Dutch Physiotherapy guideline for Low back pain was specified as strong evidence unclear evidence. For acute low back pain, being active is regarded as strong evidence. For chronic low back pain, exercise and traction indicated as strong evidence for good out come and using electrical modalities like UST, Laser, TENS, various kind of massage have unclear evidence (Bekkering et al., 2003).

Amin, Akhter & Rahman (2015) conducted a study in Dhaka city show that amongst 400 participants, 301(75.2%) participants had neck pain and for pain the participants were given UST (85%), SWD (97.95%), IRR (33.75%) and exercise (91.25%).

Amongst 78 participants, 5% (n=4) were stroke patients. They received TENS, Active movements, Passive movements, stretching, mobilization, cold compression and strengthening exercise.

Islam et al., (2012) stated Stroke as third leading cause of death, from 40-49 years of ages, prevalence was .20%, 50-59 years of age had prevalence of .30%, 60-69 years of age had prevalence of .20%. Overall prevalence of .30%. Male and female ratio were 3.44:2.41.

According to PEDro guideline 2010 of stroke rehabilitation including sitting, standing up, walking practice, Constrain induced modified therapy, Mirror therapy.

12.5% (n=10) participants complaint off Shoulder pain. They received cold compression, mobilization, stretching, rest, UST, capsular stretching, progressive ROM exercise.

Griggs et al., (2000) concluded that patient with phase II idiopathic adhesive capsulitis can be successfully treated by shoulder stretching. According to Vermeulen et al. (2006) high grade mobilization has much effectiveness in treating adhesive capsulitis.

Respondents with knee osteoarthritis were 16.3% (n=13) and they received Stretching, Isometric exercise of quads, strengthening exercise of quads, cold compression and soft tissue release.

Page, Hinman & Bennell (2011) stated that, Manual therapy is commonly used in clinical practice for OA with surveys revealing that 96% of Irish physical therapists and 64% of UK therapists include it in their management of patients with hip and knee OA, respectively. Manual therapy includes many techniques of which the most common is joint

mobilization and manipulation. Mobilization is a manual technique using repetitive passive movement of low velocity and varying amplitudes applied at different points through a range, while manipulation is defined as forceful small amplitude, high-velocity movements of a joint often applied at the end of the range.

Walsh & Hurley (2009) stated that knee OA usually managed in primary care, the guidelines' recommendations of exercise, patient education and self-management are observed by physiotherapists, but other modalities are often used despite poor or no research evidence supporting their efficacy. Whether any of these interventions are clinically beneficial is speculative as treatment outcomes were frequently under-evaluated. Out of 190 respondents, 1(.5%) had rheumatoid arthritis and only hot compression was prescribed, same for received therapy.

Hurkmans et al., (2011) stated exercise regimen for Rheumatoid arthritis as high intensity dynamic exercise, aerobic exercise, strengthening of muscle and patient education. Thermotherapy such as hot compression can relieve pain for short time but no prolong relief, TENS can also relieve pain but there remain lack of standardization.

What physiotherapy service the participants were receiving was another key value in my study, analyzing those data I had found that strengthening exercise, 0.7% (n=2) participants received isometric exercise, 15.5% (n=47) participants received stretching, 1% (n=3) participants received movement with mobilization, 1% (n=3) participants received progressive ROM exercise, 0.7% (n=2) participants received side flexion, 3.3% (n=10) participants received TENS, 8.9% (n=27) participants received traction, 0.3% (n=1) participants received capsular stretching, 0.3% (n=1) participants received elbow bag, 0.3% (n=1) participants received core stability exercise, 1.3% (n=4) participants received UST, 0.3% (n=1) participants received knee cap, 0.3% (n=1) participants received mild compression on cervical spine, 0.7% (n=2) participants received positioning, 0.3% (n=1) participants received pelvic correction exercise, 0.3% (n=1) participants received RFIL, 0.3% (n=1) participants received motor control exercise and 0.3% (n=1) participants received cervical stabilization.

For low back pain isometric exercise of back was much more effective (Rhyu et al., 2015). For traction, especially lumbar traction for low back pain and leg pain, there was no evidence along with extension oriented treatment that was superior than only

extension oriented treatment (Thackeray et al., 2016). PNF exercise for stroke had less clear evidence though some study showed it helped in functional recovery (Chaturvedi, 2017).

Limitation of the study

- Due to COVID situation and limited time, enough data was not possible to collect. More data would make the study more valuable.
- More sample would have shown more fruitful result
- Sample could have been collected from more broad area like from different districts.
- There may be limitation in extensive knowledge in research as a novice researcher

CHAPTER-VI CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

Bangladesh is a developing country, all the sectors including health is continuously changing and getting resourceful through man power, research and quality of service. Physiotherapy profession is a noble profession, recognized in worldwide, physiotherapist have the capability and legal rights to make a thorough assessment of a patient, reach a conclusion in diagnosis, create a treatment plan by setting goals, sub goals to achieve the success. In Bangladesh, physiotherapy profession is gradually entering into the main stream of health service, but through NGO or by charity organization. Government still now have not taken appropriate measures for development of profession, an act for council have been passed through parliament but still now it is on progress. Huge amount of patients with musculoskeletal or neurological complains visit different non-government organizations to receive physiotherapy treatment. As most of the patient in Bangladesh are living under the poverty level, most of them are unable to bear the expenses for physiotherapy treatment.

As huge amount of patients are seeking for treatment, government should take necessary initiatives to help all the patients, who are not being able to bear the expenses for receiving physiotherapy.

6.2 Recommendations

The aim of this study was to identify the patient characteristics attending at different non-government organizations and the result from the study had fulfilled the aim of the project. Following recommendations may be-

Sample should had collected from more hospital, clinic, institute and organization in different district of Bangladesh to generalize the result.

Physiotherapy services at govt. hospitals might be studied further.

A comparison between govt. and non-govt. hospital's physiotherapy services might be studied.

This was an undergraduate study and doing the same study at graduate level would give more precise output. There were some limitation of this study mentioned at the relevant section; it was recommended to overcome those limitations during further study.

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APPENDIX-1

Approval of Thesis Proposal

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

Ref: CRP/BHPI/IRB/06/2021/467

Date: 16/06/2021

To,
Md. Waliur Rahman Turja
4th year B.Sc. in Physiotherapy
Session: 2015-2016, Student ID: 112150309
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Subject: Approval of the thesis proposal **"Characteristics of patient receiving physiotherapy in different non-government organizations."** by ethics committee.

Dear Md. Waliur Rahman Turja,
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 (Bengali & English version)
3. Information sheet and consent form

The purpose of the study is to find out what type of patient is receiving physiotherapy and what actual treatment they are receiving. The study involves use of a questionnaire to explore that may take 20 to 30 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 from at the meeting held at 8.30am on 1st March, 2020 at BHPI (23rd IRB Meeting).

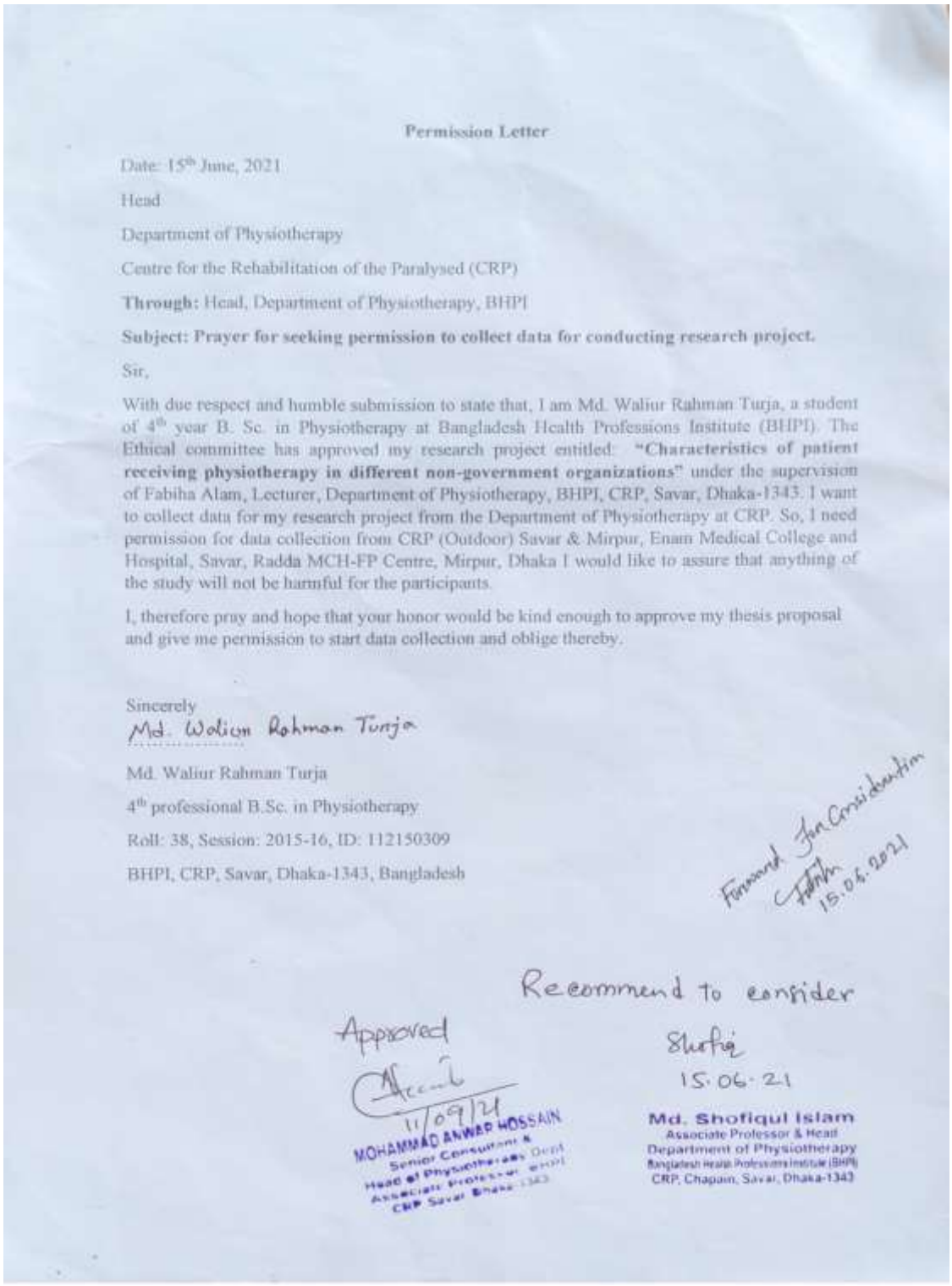
The Institutional Ethics committee expects to be informed about the progress of the study, any changes occurring in the course of the study, any revision in the protocol and patient information or informed consent and ask to be provided a copy of the final report. This Ethics committee is working accordance 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

CRP-Chapain, Savar, Dhaka-1343, Tel : 7745464-5, 7741404
E-mail : principal-bhpi@crp-bangladesh.org, Web: bhpi.edu.bd, www.crp-bangladesh.org

APPENDIX-2

Permission Letter



Permission Letter

Date: 15th June, 2021

Head

Department of Physiotherapy

Centre for the Rehabilitation of the Paralysed (CRP)

Through: Head, Department of Physiotherapy, BHPI

Subject: Prayer for seeking permission to collect data for conducting research project.

Sir,

With due respect and humble submission to state that, I am Md. Waliur Rahman Turja, a student of 4th year B. Sc. in Physiotherapy at Bangladesh Health Professions Institute (BHPI). The Ethical committee has approved my research project entitled: **"Characteristics of patient receiving physiotherapy in different non-government organizations"** under the supervision of Fabiha Alam, Lecturer, Department of Physiotherapy, BHPI, CRP, Savar, Dhaka-1343. I want to collect data for my research project from the Department of Physiotherapy at CRP. So, I need permission for data collection from CRP (Outdoor) Savar & Mirpur, Enam Medical College and Hospital, Savar, Radda MCH-FP Centre, Mirpur, Dhaka I would like to assure that anything of the study will not be harmful for the participants.

I, therefore pray and hope that your honor would be kind enough to approve my thesis proposal and give me permission to start data collection and oblige thereby.

Sincerely
Md. Waliur Rahman Turja

Md. Waliur Rahman Turja

4th professional B.Sc. in Physiotherapy

Roll: 38, Session: 2015-16, ID: 112150309

BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Forward for Consideration
15.06.2021

Recommend to consider

Approved
11/09/21
MOHAMMAD ANWAR HOSSAIN
Senior Consultant &
Head of Physiotherapy Dept.
Associate Professor, BHPI
CRP Savar Dhaka-1343

Shofiq
15.06.21
Md. Shofiqul Islam
Associate Professor & Head
Department of Physiotherapy
Bangladesh Health Professions Institute (BHPI)
CRP, Chapain, Savar, Dhaka-1343

APPENDIX-3

সম্মতিপত্র

আসসালামু আলাইকুম,

আমি, মোঃ ওয়ালিউর রহমান তুর্য বাংলাদেশ হেলথ প্রফেশন্স ইনস্টিউট এর বি.এস.সি. ইন ফিজিওথেরাপি বিভাগের ৪র্থ বর্ষের শিক্ষার্থী। আমি আমার গবেষণা প্রকল্পটি বাংলাদেশ হেল্‌থ প্রফেশন্স ইনস্টিটিউট এ পরিচালনা করছি যা আমার ৪র্থ বর্ষ বি.এস.সি. ইন ফিজিওথেরাপি কোর্সের অধিভুক্ত। নিম্নলিখিত অংশটুকু পড়ার পর আপনাকে আমার গবেষণায় অংশগ্রহণ করার জন্য অনুরোধ জানাচ্ছি।

আমি **"বিভিন্ন বেসরকারি হাসপাতালে ফিজিওথেরাপি নিতে আসা রোগীদের ধরন" -**এর উপর গবেষণা করছি। এই গবেষণার উদ্দেশ্য বিভিন্ন বেসরকারি হাসপাতালে কোন ধরনের রোগী ফিজিওথেরাপি চিকিৎসা নিতে আসে এবং তারা কী কী ফিজিওথেরাপি চিকিৎসা গ্রহণ করে তা বের করা। আমার গবেষণাটি সম্পন্ন করার জন্য, কিছু তথ্য নেওয়া প্রয়োজন। আমি এক্ষেত্রে আপনাকে কিছু ব্যক্তিগত, রোগসম্পর্কিত আনুষাঙ্গিক প্রশ্ন করতে চাচ্ছি। এতে ১০-১৫ মিনিট সময় লাগবে।

এই গবেষণা সম্পূর্ণভাবে কোর্সের কাজ ছাড়া অন্য কোন উদ্দেশ্যে ব্যবহার করা হবেনা। এ গবেষণায় অংশগ্রহন আপনার বর্তমান অথবা ভবিষ্যৎ চিকিৎসায় কোনো প্রভাব ফেলবে না। গবেষণাপত্র প্রকাশকালে অংশগ্রহণকারীর পরিচয় ও অন্যান্য তথ্যসমূহের গোপনীয়তা রক্ষা করা হবে। এই গবেষণায় অংশগ্রহণকারী স্বেচ্ছায় অংশগ্রহণ করছেন এবং অংশগ্রহণকারীগণ যে কোন সময় গবেষণার কার্যক্রম থেকে নিজেকে প্রত্যাহার করতে পারবেন।

এই অধ্যয়নে অংশগ্রহণকারী হিসেবে যদি আপনার কিছু জানার থাকে তাহলে আপনি আমাকে অথবা /এবং আমার সুপারভাইজার, ফাবিহা আলম, প্রভাষক, ফিজিওথেরাপি বিভাগ, বিএইচপিআই, সিআরপি, সাভার, ঢাকা-১৩৪৩ উনার সাথে যোগাযোগ করতে পারেন।

আমি কি এই সাক্ষাৎকার শুরু করতে পারি?

হ্যাঁ ☐

না ☐

অংশগ্রহণকারীর স্বাক্ষর ও তারিখ.....

উপাত্তসংগ্রহকারীর স্বাক্ষর ও তারিখ.....

গবেষকের স্বাক্ষর ও তারিখ.....

APPENDIX-4

Consent Form

AssalamuAlaikum,

I am Md. Waliur Rahman Turja, 4th professional B.Sc. in Physiotherapy student of Bangladesh Health Professions Institute (BHPI) under the Medicine faculty of University of Dhaka. To obtain my Bachelor degree, I shall have to conduct a research which is a part of my study. The participants are requested to participate in the study after reading the following.

My research title is **"Characteristics of patient receiving physiotherapy in different non-government organizations".** Through this study I will find out what type of patient is receiving physiotherapy and what actual treatment they are receiving. To fulfill my research project, I need to collect data. Now I want to ask some related question. This will take approximately 10-15 minutes.

I would like to inform you that this is a purely academic study and will not be used for any other purpose. Your participation in the research will have no impact on your present or future treatment in this area. All 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 anonymous.

Your participation in this study is voluntary and you may withdraw yourself at any time during this study without any negative consequences. If you have any query about the study or right as a participant, you may contact with me and/or Fabiha Alam, Lecturer, Department of Physiotherapy, BHPI, CRP, Savar, Dhaka-1343.

Do you have any question before I start?

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

Yes ☐

No ☐

Signature of the participant and Date……..

Signature of the data collector and Date…….

Signature of the researcher and Date……..

APPENDIX-5

বিভিন্ন বেসরকারি হাসপাতালে ফিজিওথেরাপি নিতে আসা রোগীদের ধরন।

পার্ট এক -সাধারন তথ্যাবলি

প্রশ্ন	উত্তর
পেশেন্ট কোড	
বয়স	
লিঙ্গ	1= পুরুষ 2= মহিলা
শিক্ষাগত যোগ্যতা	1= কোনো প্রাতিষ্ঠানিক শিক্ষা নেই 2= প্রাথমিক শিক্ষা 3= মাধ্যমিক 4= উচ্চ মাধ্যমিক 5= স্নাতক 6= স্নাতোকোত্তর
পেশা	1= চাকুরিজীবী 2= ব্যবসায়ী 3= অবসরপ্রাপ্ত 4= গৃহিণী 5= ছাত্র 6 = অন্যান্য
পরিবারের সদস্য সংখ্যা	
উপার্জনক্ষম ব্যক্তির সংখ্যা	
মাসিক উপার্জন	
বসবাসের এলাকা	1= শহর 2= গ্রাম

পার্ট দুই- রোগ সংক্রান্ত তথ্যাবলি

প্রশ্ন	উত্তর
রোগের নাম	
রোগের বৃত্তান্ত	
বর্তমানে উদ্‌ভূত সমস্যাগুলো	
পূর্বে কোন রোগ থাকলে তার বিবরণ	
ওষুধের বিবরণ	
রেডিওলোজিকাল অনুসন্ধান	
প্যাথোলোজিকাল অনুসন্ধান	

পার্ট তিন- ফিজিওথেরাপি সংক্রান্ত তথ্যাবলি

<table>
<tr><th>প্রশ্ন</th><th>উত্তর</th></tr>
<tr><td>রেফার্ড বাই</td><td>1=নিজ
2= জেনারেল ফিজিশিয়ান
3= অর্থপেডিক সার্জন
4= নিউরোলজিস্ট
5= অন্যান্য</td></tr>
<tr><td>প্রেসক্রিপশনকৃত ফিজিওথেরাপি চিকিৎসা</td><td>
<table>
<tr><th>থেরাপি</th><th>ফ্রিকোয়েন্সি</th><th>ইনটেনসিটি</th><th>সময়</th><th></th></tr>
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গ্রহনকৃত ফিজিওথেরাপি চিকিৎসা	

থেরাপি	ফ্রিকোয়েন্সি	ইনটেনসিটি	সময়	

ফিজিওথেরাপি চিকিৎসা চালিয়ে না যাওয়ার কারণসমূহ	
ফিজিওথেরাপি চিকিৎসা গ্রহনের পর ফিজিওথেরাপির ব্যাপারে আপনার দৃষ্টিভঙ্গি	

APPENDIX-6

Questionnaire

Title: Characteristics of patient receiving physiotherapy in different non-government hospitals.

Part I- Subjective information

Questions	Answers
Patient code	
Age	
Sex	1=Male 2=Female
Educational Qualifications	1=Illiterate 2=Primary 3=Secondary 4=Higher Secondary 5=Graduation 6=Post graduation
Occupation	1=Service Holder 2=Businessman 3=Retired 4=House wife 5=Student 6=Others
Family Member	
Earning Member	
Monthly Income	
Area of Residence	1=Urban Area 2=Rural Area

Part-II Disease Information

Questions	Answers
Diagnosis	
Disease History	
History of present complain	
Past medical history	
Drug history	
Radiological Investigation	
Pathological Investigation	

Part-III Information on Physiotherapy

<table>
<tr><th>Questions</th><th colspan="4">Answers</th></tr>
<tr><td>Referred by</td><td colspan="4">1= Self
2= GP
3=Ortho.
4=Neuro logist
5=Others</td></tr>
<tr><td>Type of physiotherapy service Prescribed</td><td colspan="4"><table>
<tr><th>Therapy</th><th>Frequency</th><th>Intensity</th><th>Duration</th></tr>
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Type of physiotherapy service received		**Therapy**	**Frequency**	**Intensity**	**Duration**

Challenges or limitations that why they not receiving physiotherapy or not continuing physiotherapy treatment	
Patient's perspective after receiving physiotherapy	