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CHARACTERISTICS OF PATIENTS RECEIVING PHYSIOTHERAPY FROM DIFFERENT HOSPITALS

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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.

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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 declare that for any publication, presentation or dissemination of information of the study. I would be bound to take written consent from Department of Physiotherapy of Bangladesh Health Professions Institute (BHPI).

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Acronyms

CTS - Carpal Tunnel Syndrome

DBE - Deep breathing exercise

EST - Electrical stimulation Therapy

FD - Foot Drop

GBS - Guillain Barre Syndrome

IFT - Interferential Therapy

IRR - Infra red radiation

LBP - Low back pain

MWD- Micro wave diathermy

PCID - Prolapsed Lumbar Intervertebral Disc

PD - Parkinson's Disease

PNF - Propioceptive neuromuscular facilitation

PLID – Prolapsed Lumbar Intervertebral Disc

SWD - Short wave diathermy

UST - Ultra Sound Therapy

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Abstract

Purpose: To identify the characteristics of patients receiving physiotherapy from different hospitals. *Objectives:* To explore the socio-demography (age, sex, occupational status, and living area) of the participants. To find out what physiotherapy service is prescribed for what condition and what service is being provided. *Methodology*: The study design was cross-sectional. Total 190 samples were selected conveniently for this study from Dhaka Medical College and BSMMU. Data was collected by using semi structured questionnaire. Descriptive statistic was used for data analysis which focused through table, pie chart and bar chart. *Results:* Among the 190 participants 50 (26.3%) participants were in age group between 10-30 years, 84 (44.2%) were in age group between 31-50 years, 52 (27.4%) participants were in age group 51-70 years and 4 (2.1%) participants were in age group 71-80 years. There mean age was 42.46 years. In this study, 139 (73.2%) participants were male and 51 (26.8%) participants were female. Most of the participants 49 (25.8%) were service holder, 37 (19.5%) were businessman, 39 (20.5%) were housewife, 18 (9.5%) were students and about 123 (64.7%) people were lived in urban area about 67 (35.3%) people were lived in rural areas. Off the 190 respondents, participants with musculoskeletal problem were 162(85.27%) and neurological problem 28(14.73%). Most of the musculoskeletal complain was pain in neck 11(5.8%), Low back pain 50(26.3%), Lumbar Spondylosis 9(4.7%), PLID 8(4.2%). Osteoarthritis had 13(6.8%) respondents. CVD had 8(4.2%). Mostly used modalities was SWD 38(20%). Isometric exercise of back was the mostly prescribed and received therapy. Laser therapy were seen lessly used. Most of the patients were referred by physical medicine and rehabilitation department 132(69.5%). 29(15.3%) were referred by neurologist. It also prescribed physiotherapy for 152(80%) respondents.

CHAPTER-I INTRODUCTION

1.1 Background

Physiotherapy is a health care profession that cares about human function and to maximize 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 (WCPT, 2011).

‘Physiotherapy is an internationally recognised health profession which may be practised by qualified and, where required by state or national legislation, duly registered or licensed physiotherapists only (WCPT, 2011).

The titles and terms most frequently used in this profession include physical therapist, physiotherapist and physical therapy and physiotherapy. 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 notwithstanding investigating the job of the physiotherapist inside the triage arrangement of emergency department (WCPT, 2011).

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 re establish work and avoiding incapacity from disease, injury or trauma (CHWN, 2002).

Bangladesh has a populace of 143.8 million, living in around 147 570 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 (a populace of around 65 million), 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 (Martinello et al., 2017).

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 practising in these areas represents 40 and 33 per cent of the labour 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 (Martinello et al., 2017).

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).

1.2 Rationale

To explore the patient profile attending for physiotherapy service in government hospitals, what physiotherapy service is prescribed and what physiotherapy service the clients are receiving. As most of the clients are dependent on government hospital's services, current physiotherapy practice is not regulated in our country. Physiotherapy profession now a days have became enriched through research and updating practice guideline. Comparing with other developed country, physiotherapy profession in Bangladesh is not well structured. In most cases diagnosis and prescribing physiotherapy has lack of interventions. Physiotherapy service in government hospitals are not closed to the mainstream in practice field. 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 will be understood.

1.3 Research question

What is the status of the patients receiving physiotherapy and what type of services they are getting?

1.4 Objectives

1.4.1 General objective

To find out the characteristics of patients receiving physiotherapy from government hospitals.

1.4.2 Specific objectives

I. To find out the referral system

II. To identify the disease condition and what treatment is prescribed for the specific condition.

III. What service 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 (Abrandt, 1997).

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 Jahn have made important contributions to this philosophical movement which also influenced the development of physical education and physiotherapy in the Nordic countries (Abrandt, 1997).

According to Lundbladh et al., (1993) Per Henrik Ling (1776-1839), known as "the founding father of Swedish gymnastics". In 1813, Ling started the Kungliga Gymnastiska Central Institutet, 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 (Lundbladh et al., 1993).

Each exercise was to be performed with military rigor with the maximum of movement. The underlying 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 (Abrandt, 1997).

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 programmes at KGCI covered three directions; the pedagogical/medical direction, the strictly pedagogical, and the military direction (Abrandt, 1997).

The fourth dimension of Ling's classification of physical exercise according to its purpose, aesthetical physical exercise, was never realized in any educational programme at KGCI. The pedagogical/medical educational programme comprised three years for men and two years for women. In both cases, successful completion of the programme 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 Orthopaedic Section of the APTA being formed for those physical therapists specializing in

orthopaedics. 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 (Broberg et al., 2003).

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, Guillain-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 state that physiotherapy provides services to people and populations to develop, maintain and restore maximum movement and functional ability throughout the lifespan (Broberg et al., 2003).

According to Broberg et al., 2003 physiotherapy profession is conceptualized by three basic terms, body, movement and interaction. 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 environ that possiblilities for the person to cope with situations and to fulfil individuals goals. The capacity to move is accordingly seen as an 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 (Caar and Shepard 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 (Eraut, 1994) , (Higgs and 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 (Broberg et al., 2003).

Another key component is research that enriched physiotherapy profession and still ongoing 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 puzzels 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 and 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 mensurable 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 practised 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 (WHO, 1985). 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 (Higgs et al., 1999). 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 a range 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 (AWP) 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 (WCPT, 1996). 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 (WCPT, 1996). In Ethiopia there are approximately 14 physiotherapists for 60 million people.

Physiotherapy is still predominantly a female based profession in most countries, although the proportions of males and females are slowly equalising. Countries such as Japan and Indonesia the profession has 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 practising 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 physiotherapist 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 a 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 (Mamin and 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 it

is 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, restoring 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 (Bültmann et al., 2009).

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 and Hayes, 2018)

CHAPTER-III METHODOLOGY

3.1 Study design

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

3.2 Study site and study area:

This study is conducted in different hospitals, e.g BSMMU, DMC, in both indoor and outdoor unit where physiotherapy 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.

3.4 Sample size

Conventionally through calculation sample size is determined as 384, lack of time 190 samples have taken.

3.5 Selection Criteria

3.5.1 Inclusion criteria:

I. Age range 10-80 years
II. Both male and female participants

3.5.2 Exclusion criteria:

I. Age range less than 10 or more than 80 years.
II. Willingness of the patient.
III. Patient with cognitive problem.

3.6 Data collection methods and tools

Data will be collected by face to face interview. A predefined pretested questionnaire will be used to collect the data.

3.7 Data analysis

Descriptive statistics will be used to analyze the data. Data is analyzed with the software named Statistical Package for Social Science (SPSS) version 25.0 . The variables will 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 will be cleaning new data files to check the inputted data set to ensure that all data has been accurately transcribed from the questionnaire sheet to the SPSS data view. Then the raw data will be ready for analysis in SPSS. Data will be analyzed by descriptive statistics and calculated as percentages and presented by using table, bar graph, pie charts etc. Microsoft office Excel 2016 will be used to decorating the bar graph and pie charts. The result of this study will be consisted of quantitative data.

3.8 Ethical consideration

The research was submitted to the Institutional Review Board (IRB) of Bangladesh Health Profession Institute (BHPI) and after defense the research approval was permittted 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 is to find out the patient's characteristics those who attended to government hospitals,

4.1 Subjective Information

4.1.1 Age of the participants

Off the 190 participants, minimum age was 10 and maximum 80 years. Mean age was calculated 42.46 years. Ages from (31-50) were mostly seen 84(44.2%). Here SD was calculated 14.77.

Age (year)	Frequency	Percentage (%)
10-30	50	26.3%
31-50	84	44.2%
51-70	52	27.4%
71-80	4	2.1%
Total	190	100.0%

Table-1: Age of the participants

4.1.2 Sex of the participants

In this study among 190 participants 139 (73.2%) participants were male and 51 (26.8%) participants were female (Figure-1).

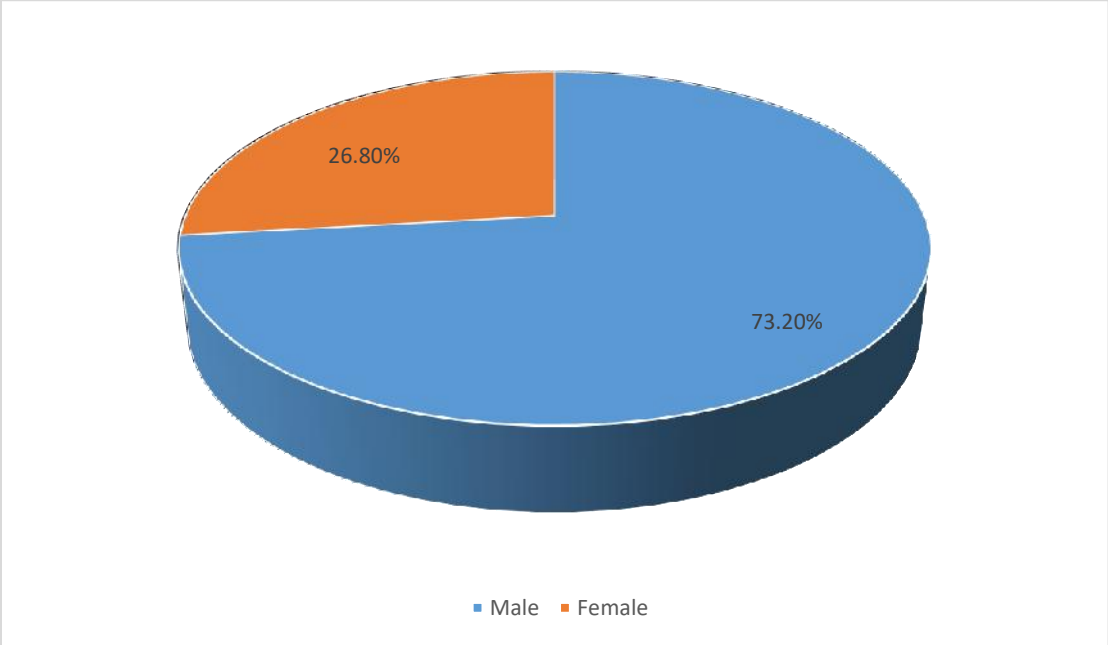

Figure-1: Sex of the participants

4.1.3 Educational Status

Among the 190 participants, 31(16.3%) had no institutional education, 44(23.2%) had primary education, secondary education had 41(21.6%) participants, 45(23.7%) had higher secondary education, 20(10.5%) had completed graduation, post-graduation had 9(4.7%).

Educational Qualification	**Percentage**	**Frequency**
No Institutional Education	16.3%	31
Primary	23.2%	44
Secondary	21.6%	41
Higher Secondary	23.7%	45
Graduation	10.5%	20
Post Graduation	4.7%	9
Total	**100%**	**190**

Table-2: Educational Status

4.1.3 Occupation

About 190 participant were involved as sample in this study. Most of the participants 49(25.8.%) were service holder, 37 (19.5%) were businessman, 39 (20.5%) were housewife, 11(5.8%) were retired, 18(9.5%) were student, 11(5.8%) were labourer, others were 25(13.2). The study shows about the details information of the occupations of the participants.

Table-3: Occupation of the participants

Occupation	**Number(n)**	**Percentage (%)**
Service Holder	49	25.8
Businessman	37	19.5
Retired	18	9.5
Housewife	39	20.5
Student	18	9.5
Labourer	11	5.8
Others	25	13.2
Total	190	100

Table-3: Employment

4.1.4 Family Member

Amongst the 190 participants, family consisting with 4 members are 64(33.7%) mostly seen, 57(30%) are members with 5, 6 member of family are 26 in frequency (13.7%), 19(10%) are members with 7. 2, 3 and 8, 9 are below 10%.

Family Member	**Percentage**
Below Four(04) Members	9.4%
Four(04) Members	33.7%
Five(05) Members	30%
Six(06) Members	13.7%
More than Seven(07) Members	3.2%
Total	**100%**

Table-4: Family Member

4.1.5 Monthly Income

Analyzing 190 data, Participants lowest income were 8000 BDT 1(.5%), highest 70,000 1(.5%) Middle ranged income (21000-40000) BDT 49.5%. From (11000-20000) BDT was 41.6%.

Income	**Percentage**
5000-10000 BDT	4.7%
11000-20000 BDT	41.6%
21000-40000 BDT	49.5%
41000-70000 BDT	4.2%
Total	**100%**

Table-5: Monthly Income

4.1.7 Area Of Residence

Amongst 190 participants, 123(64.7%) are living in urban area, 67(35.3%) living in rural area.

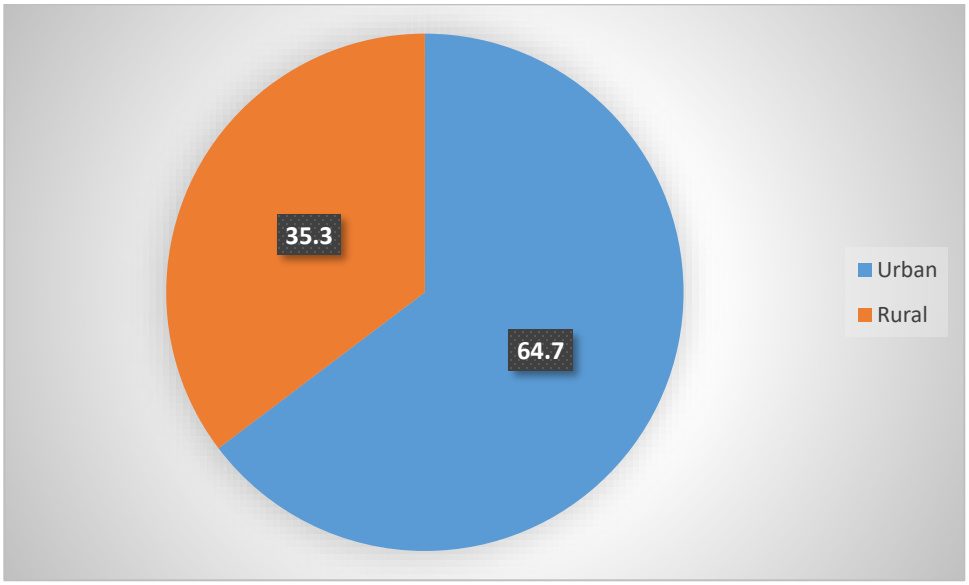

Figure 2: Area Of Residence

4.2.1 Disease Information

Off the 190 participants came to receive physiotherapy service was grossly divided into two major groups, Musculoskeletal and Neurological. Patients with Musculoskeletal complain were 162(85.27%) and with Neurological complain 28(14.73%) showed in a pie chart below.

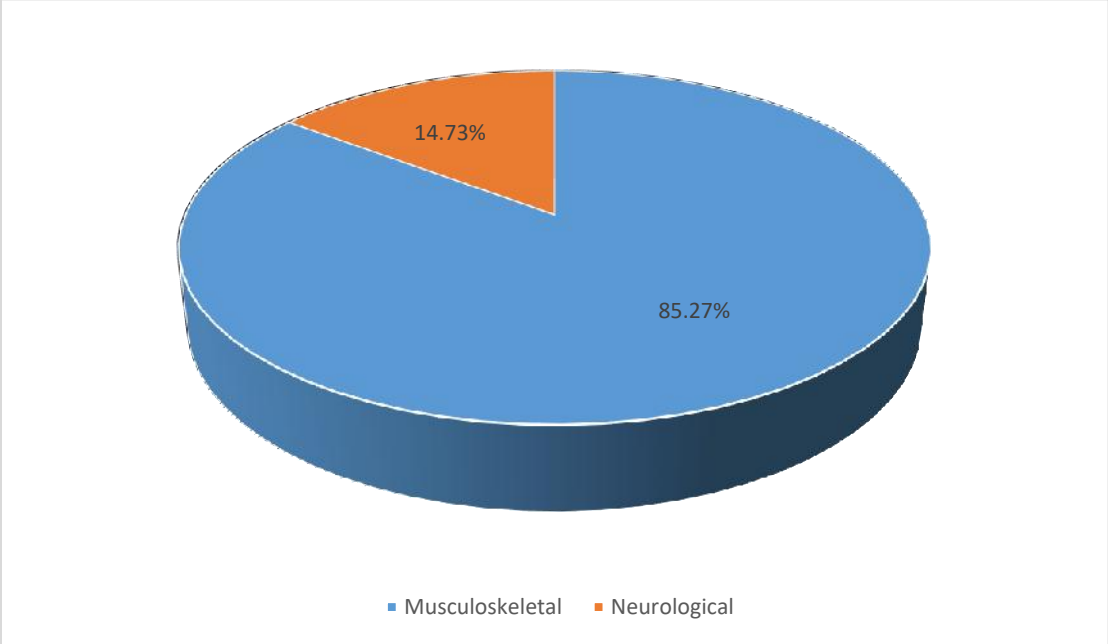

Figure 3: Diagnosis of patients

In musculoskeletal, 45 condition have been included according to the prescription, amongst them, neck pain was 11(5.8%), Low Back Pain 50(26.3%), Adhesive Capsulitis 12(6.3%), Joint pain 1(.5%), Lumbar Spondylosis 9(4.7%) Neck pain with degenerative change in cervical spine 1(.5%), Prolapsed Lumbar Intervertebral Disc 8(4.2%), DC 1(.5%), Anterior shoulder dislocation 1(.5%), Ankle sprain 1(.5%), Hip pain 1(.5%), Back and shoulder pain 1(.5%), AT 2(1.1%), Shoulder pain 3(1.6%), Cervical disc prolapse with Adhesive capsulitis 1(.5%), Supraspinatus tear following Road Traffic Accident 2(1.1%), Elbow pain 1(.5%), Osteo Arthritis 13(6.8%), KP 3(1.6%), Brachial plexopathy 2(1.1%) MJP 2(1.1%), Tingling sensation with neck pain 1(.5%), Osteoarthritis with Frozen Shoulder 1(.5%), Flexed Finger Deformity 3(1.6%), Cervical spondylosis 2(1.1%), Meniscus injury 1(.5%), Prolapsed Cervical Intervertebral Disc 1(.5%), Cervical strain 3(1.6%), Plantar Fasciitis 5(2.6%), Foot pain 1(.5%), Back strain with Plantar Fasciitis 1(.5%), Muscle spasm 1(.5%), Foiled back syndrome 2(1.1%), Rheumatoid Arthritis 1(.5%), Cervical strain with rediculopathy 1(.5%), AS 1(.5%), Cervical contusion 1(.5%), Post traumatic stiffness 3(1.6%), OA with LBP 1(.5%), Piriformis syndrome 1(.5%), Colles Fracture 1(.5%), Cervical rediculopathy with chronic lumbago 1(.5%), Coccydynia with s-1 rediculopathy 1(.5%).

In neurological, 11 condition have been included according to the prescription collected from the participants, there were Cerebro Vascular Disease 8(4.2%), Bell's Palsy 9(4.7%), Facial Palsy 2(1.1%), Motor Neuron Disease 1(.5%), Herpes Simplex Encephalitis 1(.5%), Limb Girdle Myopathy 1(.5%), Guillain Barre Syndrome 1(.5%), Pontine caveroma 1(.5%), PD 2(.1.1%), FD 1(.5%).

Table-6: Diagnosis Of Patient

Condition	Disease Name	Frequency	Percentage
Musculoskeletal	Neck Pain	11	5.8
	LBP	50	26.3%
	Joint Pain	1	.5
	Lumbar Spondylosis	9	4.7
	Neck pain, Degenerative change in cervical spine	1	.5
	PLID	8	4.2
	Dupuytren's Contracture	1	.5
	Anterior Shoulder Dislocation	1	.5
	Ankle Sprain	1	.5
	Hip Pain	1	.5
	Back and Shoulder Pain	1	.5
	Achilles Tendinitis	2	1.1
	Shoulder Pain	3	1.6
	Adhesive Capsulitis	12	6.3

Disease Name	Frequency	Percentage
Elbow pain	1	.5
Cervical disc prolapse with Adhesive capsulities	1	.5
Supraspinatus tear following RTA	2	1.1
Osteoarthritis	13	6.8
Knee pain	1	.5
Brachial Plexopathy	2	1.1
Multiple Joint Pain	2	1.1
Tingling Sensation with Neck Pain	1	.5
OA, Frozen Shoulder	1	.5
FFD	3	1.6
Cervical Spondylosis	2	1.1
Post. Ope. Stiffness	2	1.1
CTS	1	.5
Meniscus Injury	1	.5
PCID	1	.5
Cervical Strain	3	1.6

Disease Name	Frequency	Percentage
Plantar Fasciitis	5	2.6
Foot Pain	1	.5
Back Strain with PF	1	.5
Muscle Spasm	1	.5
Foiled Back Syndrome	2	1.1

Rheumatiod Arthritis	1	.5
Cervical Strain with rediculopathy	1	.5
Ankylosing Spondylitis	1	.5
Cervical Contusion	1	.5
Post Traumatic Stiffness	3	1.6
Osteoarthritis with LBP	1	.5
Piriformis Syndrome	1	.5
Collis Fracture	1	.5
Cervical radiculopathy with C.L	1	.5
Coccydynia with s-1 rediculopathy	1	.5

	Disease Name	**Frequency**	**Percentage**
Neurological	Cerebro Vascular Disease	8	4.2
	Bells Palsy	9	4.7
	Facial Palsy	2	1.1
	Motor Neuron Disease	1	.5
	Herpes Simplex Encephalitis	1	.5
	Limb Girdle Myopathy	1	.5

	Pontine Caveroma	1	.5
	Foot Drop	1	.5
	Guillain Barre Syndrome	1	.5
	Parkinson Disease	1	.5
	TOTAL	**190**	**100**

4.2.2 Presenting Symptoms

Participants attended at the hospitals for receiving physiotherapy service, complained of pain 29(15.3%), 8(4.2%) had experiencing that their pain was radiating in nature. 1(.5%) only complained off paresthesia, 6(3.2%) stated that they faced difficulties in performing daily activity. Pain radiating in nature along with paresthesia were 4(2.1%) participants complain. Radiating pain and difficulty in performing daily activities had a frequency of 6 (3.2%), pain and faced difficulties in performing daily activities were 9(4.7%), 2(1.1%) complained of having radiating pain, heavyness and burning sensation. Pain, paresthesia and difficulties in performing 3(1.6%), pain, difficulty in performing activities, can't sleep on affected side 2(1.1%), radiating pain, difficulties in performing activity, can't sleep on affected side 2(1.1%), pain, can't sleep on affected side 2(1.1%), difficulty in walking 1(.5%), pain, difficulty in performing activity and walking 3(1.6%), pain, difficulty in walking 34(17.9%) , muscular stiffness and flexed joint 1(.5%), radiating pain, paresthesia, heavyness 1(.5%), radiating pain, numbness 1(.5%), pain, paresthesia, heavyness 8(4.2%), weakness 7(3.7%), depressed mental state 1(.5%), difficulty in walking, weakness 4(2.1%) pain, weakness 7(3.7%) difficulty in chewing and closing eyes 7(3.7%) radiating pain, heavyness, difficulties in performing activity 11(5.8%), pain, range of motion loss 3(1.6%), pain, tingling sensation 3(1.6%), pain, paresthesia 3(1.6%), pain, heavyness 2(1.1%), radiating pain, paresthesia 1(.5%), pain, stiffness 13(6.8%), radiating pain, difficulty in walking 3(1.6%), pain, paresthesia, difficulty in walking 1(.5%), pain, stiffness, loss of range of motion 1 (.5%).

Table-7: Presenting Symptoms

Presenting Symptoms	**Frequency and Percentage**
Pain and associated symptoms (eg . radiating pain, heavyness, paresthesia, stiffness, burning sensation, difficulties in walking etc.	164 (86.5%)
Others symptoms excluding pain (eg. difficulties in performing activity, sleeping, walking, weakness, depressed mental status, loss of range of motion)	26 (13.5%)

4.2.3 Patient Referral

Participants prescription show that, out of 190, 18(9.5%) were referred by General Physician, 11(5.8%) by orthopaedic surgeon, 29(15.3%) by Neurologist. Most patients were referred by Physical Medicine and Rehabilitation department 132(69.5%).

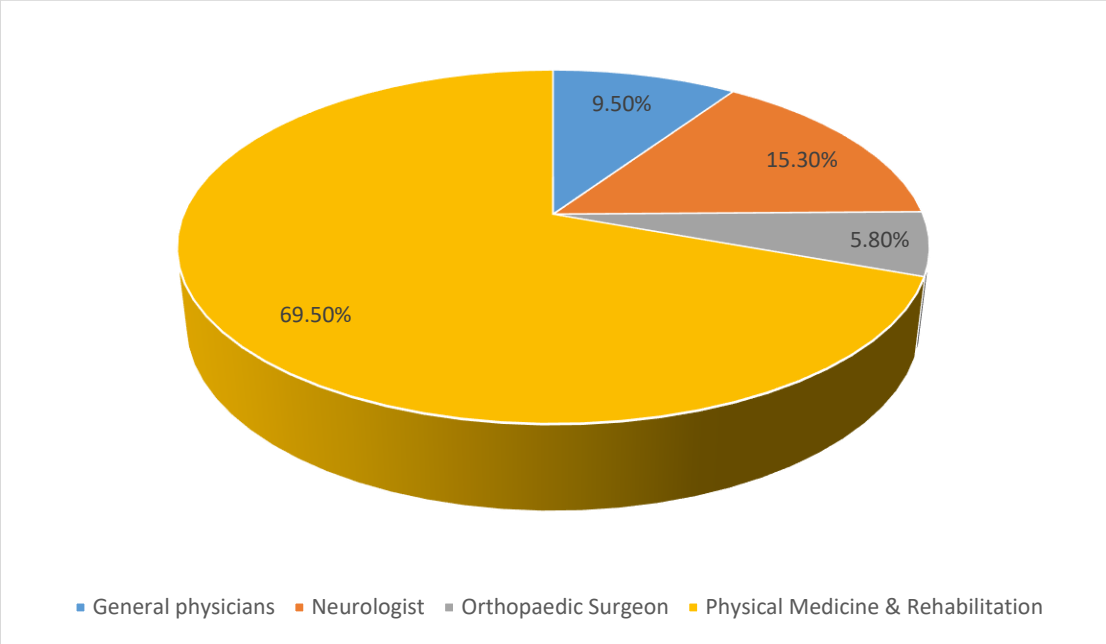

Figure 4: Patients Referral

4.2.4 Prescribed Physiotherapy

Amongst the 190 participants, UST was prescribed for 37(19.5%), 153(80.5%) wasn't prescribed. SWD for 38(20%) participants, 152(80%) wasn't, MWD for 33(17.4%), 157(82.6%) was not. IFT was prescribed for 15(7.9%) participants, 175(92.1%) was not. IRR was prescribed for 19(10%), 171(90%) not prescribed. Isometric exercise of neck was prescribed for 20(10.5%) participants, 170(89.5%) was not, isometric exercise of back for 51(26.8%) participants, 139(73.2%) was not prescribed. Back extension for 33(17.4%) participants, 157(82.6%) was not prescribed. Traction was prescribed for 8(4.2%) participants, 182(95.8%) was not. Active movement was for 30(15.8%), not for 160(84.2%), passive movement for 13(6.8%), not for 177(93.2%), shoulder mobilization was for 14(7.4%), not for 176(92.6%). Wall pressing exercise was prescribed for 1(.5%) participant, not for 189(99.5%). Resisted exercise for 4(2.1%), not for 186(97.9%), pulley exercise for 8(4.2%) participants, not for 182(97.9%). Hot compression for 21(11.1%), not for 169(88.9%). Bridging exercise for 2(1.1%), not for 188(98.9%). Frenkel's exercise was prescribed for 1(.5%) participant, not for 189(99.5%). Balance exercise was prescribed for 8(4.2%0, not prescribed for 182(95.8%). PNF for 14(7.4%) participants, not for 176(92.6%), deep breathing exercise for 7(3.7%), not for 183(96.5%). Isometric exercise of quadriceps for 26(13.7%), not for 164(86.3%), strengthning exercise for 20(10.5%), not for 170(89.5%). Wax therapy was prescribed for 9(4.7%) participants, not for 181(95.3%), laser therapy for 2(1.1%), not for 188(98.9%). Tens for 5(2.6%) not for 185(97.4%), extrinsic and intrinsic foot muscle exercise was prescribed for 4(2.1%) not for 186(97.9%). EST for 4(2.1%), not for 186(97.9%). Wall climbing exercise was prescribed for 7(3.7%) participants, not prescribed for 182(95.8%).

Table-8: List of treatment

Exercise or modalities	**Prescribed Therapy (Frequency, Percentage)**	**Received Therapy (Frequency, Percentage)**
UST	37(19.5%)	37(19.5%)
SWD	38(20%)	37(19.5%)
MWD	33(17.4%)	32(16.8%)
IFT	15(7.9%)	15(7.9%)
IRR	19(10%)	19(10%)
Isometric exercise of neck	20(10.5%)	17(8.9%)
Isomeric exercise of back	51(26.8%)	44(23.2%)
Back Extension	33(17.4%)	44(23.25%)
Traction	8(4.2%)	9(4.7%)
Active Movement	30(15.8%)	33(17.4%)
Passive Movement	13(6.8%)	13(6.8%)
Shoulder Mobilization	14(7.4%)	11(5.8%)
Wall Pressing Exercise	1(.5%)	3(1.6%)

Resisted Exercise	4(2.1%)	9(4.7%)
Pulley Exercise	8(4.2%)	9(4.7%)
Hot Compression	21(11.1%)	14(7.4%)
Bridging Exercise	2(1.1%)	7(3.7%)
Frenkels's Exercise	1(.5%)	1(.5%)
Balance Exercise	8(4.2%)	9(4.7%)
PNF Exercise	14(7.4%)	14(7.4%)
Deep Breathing Exercise	7(3.7%)	7(3.7%)
Isometric Exercise of quads	26(13.7%)	25(13.2%)
Strengthning Exercise	20(10.5%)	15(7.9%)
Wax Bath	9(4.7%)	9(4.7%)
Stretching Exercise	31(16.3%)	30(15.8%)
Laser	2(1.1%)	2(1.1%)
Tens	5(2.6%)	5(2.6%)
Foot Muscle Exercise	4(2.1%)	4(2.1%)
EST	4(2.1%)	4(2.1%)

Wall Climbing Exercise	7(3.7%)	7(3.7%)

4.2.5 Received Physiotherapy

Off the 190 participants, UST was received by 37(19.5%), was not for the rest 153(80.5%). SWD by 37(19.5%) participants, MWD therapy was received by 32(16.8%). IFT by 15(7.9%) participants. IRR by 19(10%). Isometric exercise of neck by 17(8.9%) participants, isometric exercise of back was received by 44(23.2%). Back extension by 44(23.2%) participants. Traction was received by 9(4.7%) participants. Active movement by 33(17.4%), passive movement by 13(6.8%), shoulder mobilization by 11(5.8%). Wall pressing exercise was received by 3(1.6%) participants. Resisted exercise received by 4(2.1%), pulley exercise by 9(4.7%) participants. Hot compression received by 14(7.4%), bridging exercise by 7(3.7%). Frenkel's exercise was received by 1(.5%) participant. Balance exercise by 9(4.7%). PNF by 14(7.4%), deep breathing exercise by 7(3.7%). Isometric exercise of quadriceps by 25(13.2%), strengthning exercise by 15(7.9%). Wax therapy was received by 9(4.7%) participants, laser therapy by 2(1.1%). Tens by 5(2.6%), extrinsic and intrinsic foot muscle exercise was received by 4(2.1%) participants. EST by 4(2.1%). Wall climbing exercise was received by 7(3.7%).

4.2.6 Prescribed Physiotherapy

Amongst the 190 participants, 152((80%) were prescribed by Physical Medicine and Rehabilitation Department, 28(14.7%) by Neurologist, 5(2.6%) by General Physician and 5(2.6%) by Orthopaedic Surgeon.

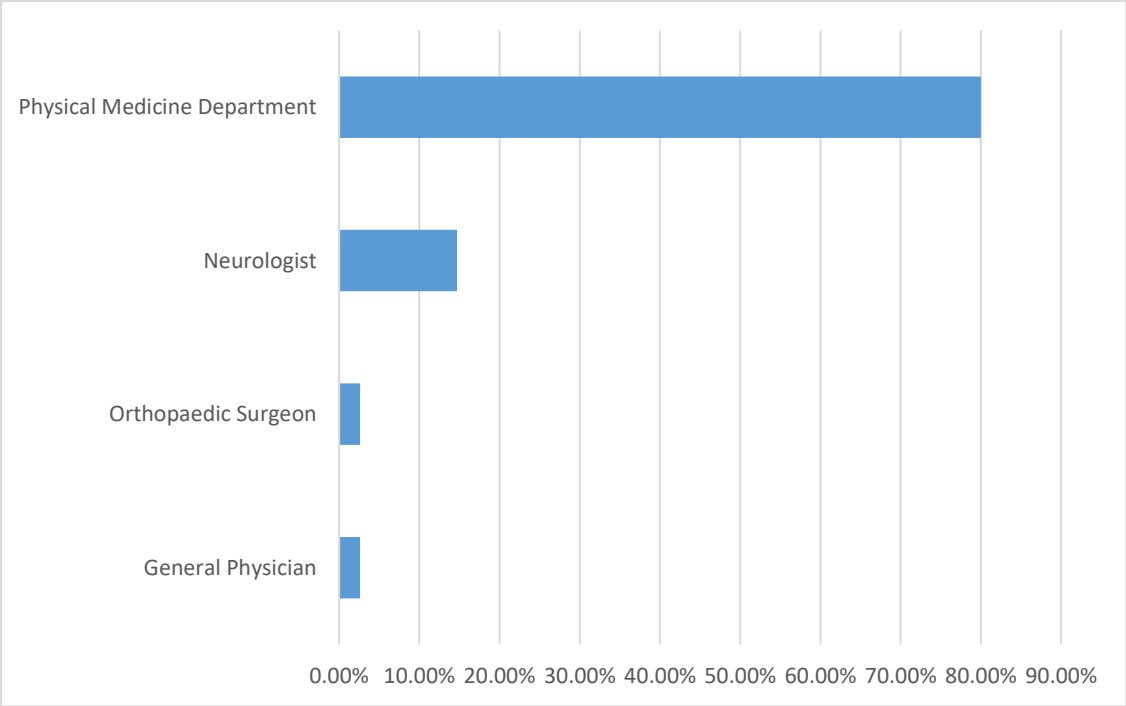

Figure 5: Physiotherapy Prescribed By

4.3.1 Treatment Section

For 190 respondents, prescribed and received therapy according to disease are as followed, for neck pain 11(5.8%), prescribed therapy were Micro wave diathermy, short wave diathermy, isometric exercise of neck and traction therapy, In received treatment, patient got Micro wave diathermy, short wave diathermy, isometric exercise of neck and traction therapy. Respondents with low back pain were 50(26.3%) and they were prescribed back extension exercise, isometric exercise of back, back strengthning exercise. Short wave diathermy, micro wave diathermy, interferential current and traction were also included whereas in received therapy, it was almost same as back extension, back strengthning exercise, isometric exercise of back muscle and short wave diathermy, micro wave diathermy and interferential current. Patient with adhesive capsulitis were 12(6.3%). They were prescribed ultra sound therapy, shoulder mobilization exercise, wall pressing exercise, interferential therapy, pendulum exercise and active movements of the limb, similarity found in received treatment. 9(4.7%) participants had came with Bell's palsy and they were prescribed irr therapy, and pnf exercise, received therapy were almost same. Same protocol have been followed for facial palsy also. Out off 190 respondents, 8(4.2%) had cerebro vascular disease and they were prescribed irr, balance exercise, active movements and passive movements of the limb, bridging exercise, PNF. In received treatment, was almost same. For lumbar spondylosis, protocol was as same as low back pain ,for prolapse lumbar intervertebral disc, same treatment were prescribed and given. 13(6.8%) respondents had osteoarthritis and they were prescribed strengthning exercise of quadriceps muscle and micro wave diathermy. For ankylosing spondylitis, isometric exercise of back, back extension and stretching exercise were prescribed, in received therapy, therapy was same.

Table-9: Treatment Section

Disease Name	Prescribed Therapy	Received Therapy
Neck pain	MWD Isometric exercise of neck SWD Traction	MWD Isometric exercise of neck SWD
Low Back Pain	Back Extension Back Strengthning SWD Isometric exercise of back MWD Traction IFT	Back Extension Back Strengthning SWD Isometric exercise of back MWD Traction IFT
Adhesive Capsulitis	UST Pendulum exercise Shoulder mobilization Wall pressing exercise Active movements IFT	UST Pendulum exercise Shoulder mobilization Wall pressing exercise Active movements IFT
Bell's Palsy	PNF Facial massage IRR	PNF Facial massage IRR
Facial Palsy	PNF Facial massage IRR	PNF Facial massage IRR
Cerebro Vascular Disease	IRR Active movements Passive movements Isometric exercise Strengthning exercise Balance exercise	Bridging exercise Balance exercise IRR Active movements Passive movements Isometric exercise Strengthning exercise
Lumbar Spondylosis	SWD Isometric exercise of back Back extension	SWD Isometric exercise of back Back extension

Osteoarthritis	Isometric exercise of quads Strengthning exercise MWD	Isometric exercise of quads Strengthning exercise MWD
Plantar Fasciitis	UST Foot massage Stretching exercise	UST Foot massage Stretching exercise
Prolapsed Lumbar Intervertebral Disc	SWD UST Traction Back extension	SWD UST Traction Back extension
Shoulder Pain	UST MWD Active movement Hot compression	UST MWD Active movement Hot compression
PCID	MWD Isometric exercise of neck Active movement	MWD Isometric exercise of neck Active movement
Pyriformis Syndrome	Isometric exercise of back Laser therapy Stretching	Isometric exercise of back Laser therapy Stretching
Ankylosing Spondylitis	Isometric exercise of back Back extension Stretching exercise	Isometric exercise of back Back extension Stretching exercise
GBS	IRR Active movement Strengthning exercise EST	IRR Active movement Strengthning exercise EST
Herpes Simplex Encephalitis	IFT Balance exercise Stretching exercise	IFT Balance exercise Stretching exercise
Limb Girdle Myopathy	Stretching exercise EST	Stretching exercise EST
Motor Neuron Disease	Active movement Balance exercise Stretching exercise Deep breathing exercise	Active movement Balance exercise Stretching exercise Deep breathing exercise

Foot Drop	UST Stretching exercise Strengthning exercise	UST Stretching exercise Strengthning exercise
Brachial Plexopathy	UST Passive movement	UST Passive movement
Carpal Tunnel Syndrome	UST Stretching exercise	UST Stretching exercise
RA **OA with LBP**	Hot compression Back Extension Back Strengthning SWD Isometric exercise of quads	Hot compression Back Extension Back Strengthning SWD Isometric exercise of quads
Cervical strain	MWD Traction	MWD Traction
Parkinson Disease	MWD Traction	MWD Traction
Foiled back syndrome	IFT Isometric exercise of back	IFT Isometric exercise of back
Ankle Sprain	UST Active movement Passive movement	UST Active movement Passive movement
Cervical disc prolapse with adhesive capsulitis	UST MWD Isometric exercise of neck	UST MWD Isometric exercise of neck
Knee pain	UST	UST
Elbow pain	UST	UST
Multiple joint pain	SWD	SWD

CHAPTER-V DISCUSSION

The aim of this study was to find out the patients characteristics attended at government hospitals in Dhaka, Bangladesh. The researcher took 190 samples and tried to identify patients profile, which group of people are coming for receiving physiotherapy, there exact condition for receiving physiotherapy, how they are referred, by whom they are prescribed and who are providing the service.

In this dissertation, age is one of the variable, here the mean age was 42.46 years, SD was 14.77, participants with 35, 40 and 55 years of age were frequently found 12(6.3%), 30 years of age were 12(5.8%), 50 and 60 were 10(5.3%). In Zimbabwe mean age was 36 years and SD 16.6 (Tadyanemhandu and Manie, 2015).

Off the 190 participants, attended at hospital for receiving physiotherapy service was grossly divided into two major groups, Musculoskeletal and Neurological. Patients with Musculoskeletal complain were 162(85.27%) and with Neurological were 28(14.73%).

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 190 respondents, 11(5.8%) had complain off neck pain, they were prescribed MWD , SWD, Isometric exercise of neck and traction.

Allison et al ., 2002 described treatment for neck pain as followed, Neural mobilization in comparison with articular mobilization, Thoracic mobilization, stretching and strengthning 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 re education(flexor and extensor group), patient education.

50(26.3%) participants have complained off low back pain. They were prescribed Back extension exercise, Isometric exercise of back, MWD, SWD, Traction and IFT. They

received Back extension, exercise, Isometric exercise of back, MWD, SWD, Traction and IFT.

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 and 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 190 participants, 8(4.2%) were stroke patients. They were prescribed IRR, Active movements, Passive movements, Isometric exercise, Balance and strengthning exercise. In received therapy, IRR, Isometric exercise, Active movements, Passive movements, Balance exercise and bridging 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 prevalance 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(6.3%) participants complained off adhesive capsulitis. They were prescribed UST, Active movement, Pendulum exercise, IFT, Wall pressing exercise. Received therapy was almost same.

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

Respondents with knee osteoarthritis were 13(6.8%) and they were prescribed MWD, Isometric exercise of quads, strengthning exercise of quads.

(Page, Hinman and 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 and 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 off 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, strengthning 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.

GBS was diagnosed in 1(.5%) participants among 190 respondents.

What physiotherapy service the participants were prescribed was another key value in my study, analyzing those data I have found that UST was prescribed for 37(19.5%), 153(80.5%) wasn't prescribed. SWD for 38(20%) participants, 152(80%) wasn't, MWD for 33(17.4%), 157(82.6%) was not. IFT was prescribed for 15(7.9%) participants, 175(92.1%) was not. IRR was prescribed for 19(10%), 171(90%) not prescribed. Isometric exercise of neck was prescribed for 20(10.5%) participants, 170(89.5%) was not, isometric exercise of back for 51(26.8%) participants, 139(73.2%) was not prescribed. Back extension for 33(17.4%) participants, 157(82.6%) was not prescribed. Traction was prescribed for 8(4.2%) participants, 182(95.8%) was not. Active movement was for 30(15.8%), not for 160(84.2%), passive movement for 13(6.8%), not for 177(93.2%), shoulder mobilization was for 14(7.4%), not for 176(92.6%). Wall pressing exercise was prescribed for 1(.5%) participant, not for 189(99.5%). Resisted exercise for 4(2.1%), not for 186(97.9%), pulley exercise for 8(4.2%) participants, not for 182(97.9%). Hot compression for 21(11.1%), not for 169(88.9%). Bridging exercise for 2(1.1%), not for 188(98.9%). Frenkel's exercise was prescribed for 1(.5%) participant, not for 189(99.5%).

Balance exercise was prescribed for 8(4.2%0, not prescribed for 182(95.8%). PNF for 14(7.4%) participants, not for 176(92.6%), deep breathing exercise for 7(3.7%), not for 183(96.5%). Isometric exercise of quadriceps for 26(13.7%), not for 164(86.3%), strengthning exercise for 20(10.5%), not for 170(89.5%). Wax therapy was prescribed for 9(4.7%) participants, not for 181(95.3%), laser therapy for 2(1.1%), not for 188(98.9%). Tens for 5(2.6%) not for 185(97.4%), extrinsic and intrinsic foot muscle exercise was prescribed for 4(2.1%) not for 186(97.9%). EST for 4(2.1%), not for 186(97.9%). Wall climbing exercise was prescribed for 7(3.7%) participants, not prescribed for 182(95.8%).

What physiotherapy service the participants received was also analyzed, UST was received by 37(19.5%), was not for the rest 153(80.5%). SWD by 37(19.5%) participants, MWD therapy was received by 32(16.8%). IFT by 15(7.9%) participants. IRR by 19(10%). Isometric exercise of neck by 17(8.9%) participants, isometric exercise of back was received by 44(23.2%). Back extension by 44(23.2%) participants. Traction was received by 9(4.7%) participants. Active movement by 33(17.4%), passive movement by 13(6.8%), shoulder mobilization by 11(5.8%). Wall pressing exercise was received by 3(1.6%) participants. Resisted exercise received by 4(2.1%), pulley exercise by 9(4.7%) participants. Hot compression received by 14(7.4%), bridging exercise by 7(3.7%). Frenkel's exercise was received by 1(.5%) participant. Balance exercise by 9(4.7%). PNF by 14(7.4%), deep breathing exercise by 7(3.7%). Isometric exercise of quadriceps by 25(13.2%), strengthning exercise by 15(7.9%). Wax therapy was received by 9(4.7%) participants, laser therapy by 2(1.1%). Tens by 5(2.6%), extrinsic and intrinsic foot muscle exercise was received by 4(2.1%) participants. EST by 4(2.1%). Wall climbing exercise was received by 7(3.7%).

van der Windt et al., 1999 conducted a systemic review on ultra sound therapy whether it was useful or not for musculoskeletal pain, the result showed less evidence in reducing musculoskeletal related pain. Micro wave diathermy has no significant effectiveness either (Akyol et al., 2011). Buenavente, 2014 showed in a study that IFT is useful for reducing pain specially for knee osteoarthritis. Short wave diathermy is effectiveness for musculoskeletal conditions like sub acromial impingment (Yilmaz Kaysin et al., 2018). Khan, 2014 stated that isometric exercise of neck is effective than other general exercise.

For low back pain isometric exercise of back is much more effective (Rhyu et al., 2015). For traction, specially lumbar traction for low back pain and leg pain, there is no evidence along with extension oriented treatment that is superior than only extension oriented treatment (Thackeray et al., 2016). PNF exercise for stroke has less clear evidence though some study showed it helps in functional recovery (Chaturvedi, 2017). Here PNF exercise was prescribed for bell's palsy or facial palsy along with IRR therapy. Banu et al., 2017 showed in a study for bell's palsy IRR have a questionable effect though patient had good recovery but it also was stated that IRR with PNF exercise and drugs fast improvement.

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 world wide, 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, government hospitals like BSMMU, DMCH provide physiotherapy service here by opening a substantive department "Physical Medicine & Rehabilitation". Huge amount of patients with musculoskeletal or neurological complain come here for treatment. Here treatment cost is low than other physiotherapy service providing centers privately. Doctors attending here make the diagnosis of the patient and then refers to the responsible therapist, in the prescription, along with the diagnosis, therapy, exercise or instruction for using electrical modalities are mentioned.

There remain big gap between current practice and evidence based practice. There is no such established practice guideline. As huge amount of patients are seeking for treatment here, this gap between practice and established guideline or in comparison with other developed countries treatment management.

6.2 Limitation of the study

For limited time, enough data was not possible to collect. More data would make the study more valuable**.**

6.3 Recommendations

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

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

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

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APPENDIX

Institutional Review Board (IRB) Approval

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/05/19/1302 Date: 26/05/2019

To
Muhammad Zulkar Naine
B.Sc. in Physiotherapy
Session: 2014-15, Student ID:**112140246**
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Subject: Approval of the thesis proposal "Characteristics of patients receiving physiotherapy from different hospitals" by ethics committee.

Dear Muhammad Zulkar Naine,
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 version)
3	Information sheet & consent form.

The study involves use of a questionnaire to explore that may take 15 to 20 minutes to answer the specimen 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 11 AM on 18th 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

Permission Letter

25th May,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 Muhammad Zulkar Naine, 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, "**Characterestics of patients receiving physiotherapy from different hospitals**" under the supervision of Firoz Ahmed Mamin, Associate Professor of the Physiotherapy Department, BHPI, CRP, Savar, Dhaka-1343, Bangladesh.The purpose of the study is to find out what type of patient is receiving physiotherapy and what actual treatment they are getting through. 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,

Muhammad Zulkar Naine
4th professional B.Sc in Physiotherapy
Roll: 14, Session: 2014-15

BHPI,CRP,Savar,Dhaka-1343 ,Bangladesh

Recommendation from the thesis supervisor:

Firoz Ahmed Mamin

Associate Professor,

Department of Rehabilitation Science, BHPI,CRP,Savar, Dhaka-1343

Attachment: Thesis proposal including process and procedure for maintaining confidentiality, Questionnaire (English & Bangla version), Informed consent.

Consent Form

Assalamualaikum\ Namashker,

I am Muhammad Zulkar Naine, B.sc in Physiotherapy 4th year Student currently studying in Bangladesh Health Professions Institute, academic part of CRP, Savar, Dhaka under the Medicine faculty of Dhaka University. To obtain my Bachelor degree, I have to conduct a research project and it is a part of my study. The participants are requested to participate in the study after a brief the following.

My research title is **"Characteristics of patients receiving physiotherapy from different hospitals"**. Through this study I will try to find out the patients types that receiving physiotherapy and what service they are actually getting service. If I can complete this study successfully, it will help to find out the current status of physiotherapy service of in Bangladesh.

To fulfill my research project, I need to collect data. So, you can be a respected participant of this research. I want to meet you a couple of sessions. It would be safe for you.

I would like to inform you that this is a purely academic study and will not be used for any other purposes. I assure that all data will be kept confidential. Your participation will be voluntary. You may have the rights to withdraw consent and discontinue participation at any time of the experiment. You also have the rights to answer a particular question that you don't like.

If you have any query about the study or right as a participant, you may contact with researcher Muhammad Zulkar Naine or Feroz Ahmed Mamin , Associate Professor, Department of Rehabilitation Science, BHPI, CRP, Savar Dhaka.

Do you have any questions 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 witness and Date……..

Signature of the researcher and Date……

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

আসসালামু আলাইকুম / নমস্কার,

আমি যুলকার নাইন, ৪র্থ বর্ষ, ঢাকা বিশ্ববিদ্যালয়ের চিকিৎসা অনুষদের অধীনে বাংলাদেশ হেলথ প্রফেশন ইন্সটিটিউট (বিএইচপিআই) এর বিএসসি ইন ফিজিওথেরাপি বিভাগের একজন শিক্ষার্থী । অধ্যয়নের অংশ হিসেবে আমাকে একটি গবেষণা সম্পাদনা করতে হবে এবং এটা আমার প্রাতিষ্ঠানিক কাজের একটি অংশ । নিম্নোক্ত তথ্যাদি পাঠ করার পর অংশগ্রহণকারীদের গবেষণায় অংশগ্রহণের জন্য অনুরোধ করা হল ।

আমার গবেষণার শিরোনাম **"বিভিন্ন হাসপাতালে ফিজিওথেরাপি সেবা নিতে আসা রোগীদের ধরন।এই গবেষনার মাধ্যমে কি ধরনের রোগীরা ফিজিওথেরাপি সেবা নিতে আসে এবং তারা কি ধরনের সেবা পাচ্ছে তা দেখা হবে**। গবেষণাটি যদি আমি সফল ভাবে সম্পন্ন করতে পারি তবে বাংলাদেশে বর্তমানে ফিজিওথেরাপির কি অবস্থা তার সম্পর্কে একটা ধারনা পাওয়া যাবে

আমার গবেষণা প্রকল্প বাস্তবায়নের জন্য রোগীদের কাছ থেকে তথ্য সংগ্রহের প্রয়োজন । আমার গবেষণায় অংশগ্রহণে আপনার কোন বিপদ বা ক্ষতি হবে না । আপনি যেকোন সময় নিজেকে এ গবেষণা থেকে প্রত্যাহার করতে পারেন । এই গবেষণার প্রাপ্ত তথ্য সম্পূর্ণভাবে গোপনীয় থাকবে এবং অংশগ্রহণকারীর ব্যক্তিগত তথ্য অনুমতি ব্যতিরেকে অন্য কোথাও প্রকাশ করা হবে না ।

এই গবেষণা সম্পর্কে আপনার যদি কোনো জিজ্ঞাসা থাকে তবে আপনি অনুগ্রহপূর্বক যোগাযোগ কারতে পারেন – ফিরোজ আহমেদ, সহযোগী অধ্যাপক, ফিজিওথেরাপি বিভাগ, বিএইচপিআই, সি আর পি, সাভার, ঢাকা-১৩৪৩ ।

শুরু করার পূর্বে আপনার কোন প্রশ্ন আছে কি?

আমি কি শুরু করতে পারি? ☐ ☐

অংশগ্রহণকারীর স্বাক্ষর এবং তারিখ

.....

গবেষকের স্বাক্ষর এবং তারিখ

.....

পার্ট এক -সাধারন তথ্যবলি

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= চাকুরীজীবী** **2= ব্যবসায়ী** **3= অবসরপ্রাপ্ত** **4= গৃহিণী** **5= ছাত্র** **6= কৃষক** **7 = অন্যান্য**
পরিবারের সদস্য সংখ্যা	
উপার্জনক্ষম ব্যক্তির সংখ্যা	
মাসিক উপার্জন	
বসবাসের এলাকা	**1= শহর** **2= গ্রাম**

পার্ট দুই- রোগ সংক্রান্ত তথ্যবলি

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 তথ্যবলি

প্রশ্ন	**উত্তর**
রেফার্ড বাই	1=নিজ 2= জেনারেল ফিজীসিয়ান 3= অর্থপেডীক সার্জন 4= নিউরোলজিস্ট 5= অন্যান্য

প্রেসক্রিপশনকৃত ফিজিওথেরাপী	থেরাপী	**ফ্রিকোয়েন্সী**	**ইনটেনসিটি**	**সময়**

গ্রহনকৃত ফিজিওথেরাপী সেবা	**থেরাপী**	**ফ্রিকোয়েন্সী**	**ইনটেনসিটি**	**সময়**