



Faculty of Medicine

**University of Dhaka**

**PERCEPTION TOWARDS MEDICATION AND PHYSIOTHERAPY  
INTERVENTION AMONG THE PATIENTS WITH CHRONIC  
OSTEOARTHRITIS ATTENDED AT CRP**

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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

**PERCEPTION TOWARDS MEDICATION AND  
PHYSIOTHERAPY INTERVENTION AMONG THE PATIENTS  
WITH CHRONIC OSTEOARTHRITIS ATTENDED AT CRP**

Submitted by **Khairul Islam** for partial fulfillment of the requirements for the degree of Bachelor of Science in Physiotherapy (B. Sc. in 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 declare that for any publication, presentation or dissemination of the study. I would be bound to take written consent from the Department of Physiotherapy of Bangladesh Health Profession Institute (BHPI).

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## Acronyms

<b>ADL</b>	Activity of daily living
<b>BMI</b>	Body Mass Index
<b>BHPI</b>	Bangladesh Health Professions Institute
<b>CRP</b>	Centre for the Rehabilitation of the Paralysed
<b>IRB</b>	Institutional Review Board
<b>MRI</b>	Magnetic Resonance Imaging
<b>NSAIDs</b>	Non Steroidal Anti-Inflammatory Drugs
<b>OA</b>	Osteoarthritis
<b>PROM</b>	Passive Range of Motion
<b>ROM</b>	Range of Motion
<b>SWD</b>	Short Wave Diathermy
<b>TENS</b>	Transcutaneous Electrical Nerve Stimulation
<b>WHO</b>	World Health Organization

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## Abstract

**Purpose:** To explore perceptions towards medication and physiotherapy intervention among the patients with chronic osteoarthritis attended at CRP.

**Methodology:** A qualitative study design was used to conduct the study. Eleven subjects with chronic osteoarthritis from the musculoskeletal unit of the Centre for the Rehabilitation of the paralyzed (CRP) outpatient physiotherapy department were interviewed in this study. The samples were selected by convenience sampling method. The data were collected by using a semi-structured questionnaire form and coded by six themes; finally, the coded data were analyzed and presented qualitative analysis.

**Results:** Following themes have emerged based on data analysis 1. Impact of chronic osteoarthritis on patient's activities of daily living 2. Patients experience on medication for chronic osteoarthritis 3. Patient's thought and experience about physiotherapy intervention in chronic osteoarthritis 4. Patient's preference of treatment method 5. Patient's perspective towards physiotherapist 6. Patient's opinion on services of CRP.

**Conclusion:** This study explores the perception of medicine and physiotherapy treatment among chronic osteoarthritis patients who attended CRP. The study results show medication does not work for a long time and it has short-term benefits for chronic osteoarthritis. Moreover, it has some side effects and very often patients are not aware of those. So awareness regarding side effects should raise among the general population. In mechanical problems, the study shows that medicine has no longer effective. Early Physiotherapy can prevent secondary complications.

**Keywords:** Patients Perception, Medication, Physiotherapy, Chronic Osteoarthritis.

## 1.1 Background

Osteoarthritis is a common degenerative disease characterized by gradual degradation of the articulate cartilage, subchondral bone, and synovium ( Jin et al., 2021). Osteoarthritis is a prevalent chronic degenerative condition of the articular cartilage that is accompanied by bone hypertrophy. It affects the joint and surrounding musculature, causing joint structural and functional failure, resulting in pain, disability, and diminished quality of life (Bennell, 2013). Additionally, it is also called degenerative arthritis. It is associated with advancing age, obesity, articular cartilage degradation, strain, trauma, congenital joint abnormalities, and joint deformities caused by a variety of reasons, including the degradation of injured articular cartilage and bony edges in reactive hyperplasia. Clinical signs include the gradual onset of joint discomfort, soreness, stiffness, edema, restricted mobility, and deformity (Gu et al., 2017).

OA is categorized by joint pain and loss of joint mobility. It is accompanied by a lack of joint cartilage and modifications in underlying bone surfaces often go with trauma or degenerative change. It is the principal cause of pain and disability in public, is connected with substantial loss of quality of life, and is the principal circumstance for joint substitute surgical procedures of the hip and knee (Williams et al., 2010). It is a prevalent and disabling disorder that imposes a significant and growing health burden on individuals, healthcare systems, and wider socioeconomic expenses. With the combined consequences of global population aging and increased obesity, as well as an increase in joint injuries, this already burdensome syndrome is becoming more frequent (Hunter et al., 2014).

Osteoarthritis is a debilitating condition. It results in significant, chronic morbidity as a result of pain, exhaustion, sleep disturbance, depression, and disability, placing a tremendous strain on people's daily functioning and quality of life. Economic costs are large and increasing. Osteoarthritis significantly impairs people's mobility (walking) and hence their ability to engage in sufficient physical exercise. The prevalence of

osteoarthritis is growing, in part, as the prevalence of osteoarthritis risk factors such as obesity, physical inactivity, and joint injury increases. Joint pain associated with osteoarthritis results in functional limits, insufficient sleep, weariness, depression, and loss of independence. In comparison to age- and sex-matched peers, OA patients have greater out-of-pocket health care costs and significant costs associated with lost productivity. The majority of persons with OA (59–87%) have at least one other chronic illness, most commonly cardiometabolic (Hawker, 2019).

According to one study, osteoarthritis was most prevalent in the 30-65 age group in Bangladesh, with females being the most affected. Among them, housewives accounted for 39% of the population. They are more precarious (Jahan et al., 2017). In lower-middle and low-income nations, the prevalence of osteoarthritis was 16.4 % in South Asia, 15.7 % in East Asia and the Pacific, and 14.2 % in Sub-Saharan Africa. The burden of disease in low- and middle-income countries (LMICs) is rapidly shifting from communicable to non-communicable diseases (NCD). This presents a substantial challenge for governments and health care systems that are already under strain as a result of HIV/AIDS epidemics, other infectious diseases, and underdeveloped health systems. NCD prevalence continues to rise, accounting for 70% of deaths globally in 2016. Additionally, NCDs accounted for 61% of worldwide disability-adjusted life years (DALYs) in 2016, a figure that is around 20% higher than in 1990 (Yahaya et al., 2021).

A scoping review paper was published in 2019, about this topic, a comprehensive search of academic journals published from 2008 to 2018 (English) was conducted. A total of 30 studies were selected in this review from 221,510 studies screened from electronic databases. The overall prevalence of OA is in the range of 20.5% to 68.0%. Most of the Asian populations reported having knee OA in a range of 13.1% to 71.1% in various Asian countries. Risk factors that have been associated with OA are advanced age, being female, and obesity. Osteoporosis, higher body mass density, low level of education, family history of OA, smoking, and environmental factors appeared as significant risk factors for OA. A strategic method of primary prevention for OA through lifestyle modification is reducing obesity and treating concomitant cardiovascular disease (Zamri et al., 2019).

Arthritis is the most chronic disorder producing severe long-term pain and physical disability in the Australian community, affecting 14% of the overall population in 2001. The incidence of arthritis progresses with oldness. In 2001, the circumstance was reported by 43% of people aged 65 to 74 years and over half (52%) of people aged 75 years and over. OA is considered the third largest contributor to life years lost due to disability, with 4.8% of total life lost due to disability. The rate of OA is higher among women than men in all age groups (Williams et al., 2010).

In the world, osteoarthritis (OA) is one of the most common musculoskeletal complaints where it affects 2693 of every 100,000 women and 1770 of every 100,000 men (Kirthika et al., 2018). Worldwide, 9.6% of men and 18% of women over the age of 60 are estimated to have symptomatic OA. According to the Framingham Osteoarthritis Study, 27% of people aged 63 to 70 years had radiographic evidence of knee OA, increasing to 44% in those over 80 years. Worldwide, osteoarthritis (OA) is endemic. OA affects an estimated 30.8 million adults in the United States and 300 million people worldwide. It is the main cause of disability in older persons, resulting in pain, functional loss, and a lower quality of life (Abramoff & Caldera, 2020).

It's been anticipated that the getting old population will provide rise to a better incidence of disabling OA, as globally the number of humans aged over 60 years is predicted to increase by way of 20% to 33% using 2030. Osteoarthritis is a main universal cause of financial loss. Getting old population, along with increases in weight problems and physical state of being inactive could increase the monetary burden to society of disablement because of OA (Wright et al., 2011). Pain from OA is an important sign in the decision to seek medical care and is a vital marker of disability. Due to its high dominance and the frequent disability that accompanies disease in most important joints such as the knee and hip, OA is responsible for more difficulty with climbing stairs and walking than any other disease. OA is similarly the most common cause of total hip and total knee replacement (Zhang & Jordan, 2010).

Presently, no cure for OA is recognized. But disease-related factors such as impaired muscle function and reduced fitness are possibly agreeable to exercise therapy (Fransen et al., 2015). The most important treatment goals for OA are to lessen and control pain,

increase function, recover or maintain joint mobility, and decrease or prevent physical disability. Weight loss with exercise and dietary changes may reduce the direct loads concerning the affected joints, with the hip and knee in the individual (Verma & Agarwal, 2013). Recommendations are based on an appropriate provider's application of physical, psychological, and/or pharmaceutical therapy. Management objectives and principles for achieving them apply to a wide variety of patients. However for some patients at some moments in time, a single physical, psychosocial, mind-body, or pharmaceutical intervention may be sufficient to control symptoms; for others, numerous interventions in sequence or combination may be utilized. Which interventions and in what order they are utilized will vary according to the patient. They emphasized the need for oral non-steroidal anti-inflammatory medicines, topical non-steroidal anti-inflammatory drugs, and intraarticular glucocorticoid injection. They advised acetaminophen, duloxetine, and tramadol on a conditional basis. Additionally, they strongly suggested exercise, self-efficacy, and self-management programs, as well as weight loss and Tai chi. They supported cognitive behavioral therapy and acupuncture on a conditional basis (Kolasinski et al., 2020).

According to the NICE guideline 2020, healthcare practitioners should consider prescribing paracetamol in addition to standard treatments for pain relief. Regular doses may be required. Paracetamol and/or topical nonsteroidal anti-inflammatory medications (NSAIDs) should be examined first, followed by oral NSAIDs, COX-2 inhibitors, and opioids. If paracetamol or topical NSAIDs are ineffective at relieving pain in patients with osteoarthritis, opioid analgesics should be tried. Consider the risks and advantages, particularly for older adults. If none of these options are sufficient, an oral NSAID/COX-2 inhibitor should be used. Utilize oral NSAIDs/COX-2 inhibitors at the lowest effective dose possible for the shortest duration possible. While all oral NSAIDs/COX-2 inhibitors have similar analgesic effects, they differ in their propensity for gastrointestinal, liver, and cardio-renal damage. When prescribing these medications, proper assessment and/or continuous monitoring of these risk factors should be considered. Offer no rubefacients for the treatment of osteoarthritis.

Guidelines for the management of lower limb OA completely recommend exercise as the most effective intervention for pain and function. Interventions in self-management education are also advised. Other conventional physiotherapy modalities are not recommended. NICE recommends considering manual therapy techniques and TENS in addition to exercise therapies, however, OARSI says that there is inadequate evidence to evaluate the effectiveness of manual techniques and that there is insufficient data to support or reject the use of TENS. NICE concludes that acupuncture is not advised, however, OARSI indicates that the evidence is inconclusive, based on statistically significant findings from trials but a dearth of clinically meaningful outcomes recorded. Additionally, OARSI judged that the evidence supporting the use of TUS was insufficient, owing to the presence of low-quality trials; NICE did not include this intervention in their guidelines (Walsh et al., 2017).

Certain etiological causes are surgically treatable. Reorientation of the acetabulum successfully delays the advancement of osteoarthritis owing to hip dysplasia. Along with prolonged clinical improvement, hip survival rates at 10 years surpass 80%. Arthroscopic hip surgery to recontour the proximal femur and prevent femoral acetabular impingement has demonstrated symptomatic improvement beyond five years and may reduce the chance of developing osteoarthritis in the long term. Numerous surgical techniques are used to treat localized cartilage lesions. Certain treatments include the transplantation of autologous cartilage, while others aim to encourage regeneration. Cartilage repair is unlikely to be successful if the joint environment remains physiologically or mechanically unfriendly, although it may be a valuable adjunct to addressing underlying causes (Glyn et al., 2015).

## **1.2 Rationale**

Worldwide OA is the leading cause of chronic disability in individuals and has been designated a 'priority disease' by the World Health Organization (WHO). OA is one of the ten most disabling diseases in developed countries. In a study by Global Burden of Disease (2010), hip and knee OA were ranked as the eleventh-highest contributor to global disability. According to WHO, it is estimated worldwide that there are 9.6% of men and 18.0% of women aged over 60 years with symptomatic osteoarthritis. Approximately 80% of people with osteoarthritis will have limitations in movement and 25% cannot perform their major daily activities. Prevalence of OA is increasing because of the growing aging of the population in developed and developing countries as well as an increase in risk factors leading to OA (Zamri et al., 2019).

Individuals with this disease have little benefit from prescribed medications but primarily from exercise therapy and recently manual therapy is considered an effective treatment for osteoarthritis patients. There are many physiotherapy treatment programs for osteoarthritis in the musculoskeletal unit in CRP). It is usually authorized that quality services are those, which gratify the people. Finding the perception of the patient towards medication and physiotherapy intervention will include the patient's thoughts, opinions, beliefs, needs, and recommendations. This study help to identify the socio-demographic characteristics and clinical manifestations of chronic osteoarthritis in Bangladesh. In this study patient reflection on concepts and ideas are very much important because this is a qualitative study that allows an explanation of the concept of the participants. This study may help to exclude or include, modify, redesign or continue the treatment approach for chronic osteoarthritis. Patients who will get benefits in the future will help to develop physiotherapy services in Bangladesh. As health professionals research improves our knowledge and makes the profession stronger. So there is no alternative option to do research as a professional to develop the profession. For that reason, the researcher is interested to conduct this research to find out osteoarthritis patients' perception towards medication and physiotherapy intervention.

### **1.3 Research Question**

What is the perception towards medication and physiotherapy intervention among patients with chronic osteoarthritis?



## **1.4 Objectives**

### **1.4.1 General objective:**

To explore patients' perception towards medication and physiotherapy intervention for chronic osteoarthritis attended at CRP.

### **1.4.2 Specific objectives:**

1. To demonstrate the socio-demographic profile of the participants.
2. To identify the impact on ADLs due to chronic OA.
3. To delineate the patient's experience regarding medication.
4. To explore participant's thought and experience about the physiotherapy intervention.
5. To discover patient's preference of treatment method.
6. To know the patient's perspective toward the physiotherapist.
7. To determine patient's opinion about the services of CRP.

## **1.5 Operational definition**

### **Osteoarthritis**

It is a type of degenerative joint disease that results from the breakdown of joint cartilage and underlying bone creating stiffness, pain, and impaired movement.

### **Chronic Osteoarthritis**

Osteoarthritis persists for more than 3 months duration.

### **Medication**

Medication is the pain relief treatment option that has good evidence of short-term effectiveness for pain and these drugs have many adverse effects that produce harmful effects on the body.

### **Physiotherapy**

Physiotherapy is a health care profession that works with people to identify and maximize their ability to move and function. Functional movement is a key part of what it means to be healthy. This means that physiotherapy plays a key role in enabling people to improve their health, well-being, and quality of life.

### **Perception**

Perception is the ability to see, hear, or become aware of something through the senses or how something is regarded, understood, or interpreted.

Osteoarthritis (OA) also known as osteoarthrosis or degenerative joint disease is the most usual form of arthritis which is a leading cause of chronic disability between the fourth and fifth decade of life. The name osteoarthritis is derived from the observation of the striking overgrowth of marginal and subchondral bone by pathologists and radiologists (Radha & Gangadhar, 2015). OA indicates articular cartilage damage, bony osteophyte formation, and sclerosis of the subchondral bone and subchondral cyst formation may be seen pathologically in advanced cases (Lespasio et al., 2017). The so-called mechanism leading to joint damage is poorly understood but it may be multi factorial including oxidative damage, thinning of cartilage, muscle weakening, and a reduction in proprioception (Palazzo et al., 2016).

Osteoarthritis (OA) commonly results in pain, fatigue, functional limitations, increased healthcare utilization, and high economic costs to society. Joint pain, stiffness; decreased range of joint movement, muscle weakness of the quadriceps, and alterations in proprioception are the chief clinical manifestations. Reduced strength in the muscle groups including the joints is important because it causes progressive loss of function. The symptoms of OA in the knee can significantly restrict the individual's ability to get up from a chair, walk, or climb stairs. Walking with a limp, poor orientation of the limb and instabilities can be noticeable in individuals with OA. During movements, crepitation may be heard as a result of arthritis of the irregular joint surfaces (Hafez et al., 2014).

The World Health Organization (WHO) states that osteoarthritis is a disease related to an aging population and the leading cause of chronic disability in middle-aged and older populations. The risk of osteoarthritis increases from 1 % in 30 years old people to almost 10 % in people over the age of 40 years and 50 % in people over the age of 60 years (Moura et al., 2016). The incidence of musculoskeletal conditions is rising globally, and OA is thought one of the most common reasons for severe long-term pain and disability. Disability is accompanied by a lack of function, which in turn has harmful consequences

for the individual's daily living activities and as well as health-related quality of life (Kruger et al., 2016).

The etiological factors have been separated into three main sub-groups: sex, anatomy, and body mass recently (Hafez et al., 2014). There is an association between the influence of DM on OA and its therapeutic outcomes suggesting that DM may heighten the development and severity of OA and clinical review suggest that DM rises risks associated with joint replacement operation (King et al., 2015). Including a low level of vitamins D, C, and K several dietary factors are supposed to increase the development of OA. Still, further studies are needed to better define the association between OA and these dietary factors (Palazzo et al., 2016). There is various classification of osteoarthritis and often dependent on several factors, there is clear evidence for major risk factors including age, obesity, joint trauma, and heavy workload (Hafez et al., 2014).

The occurrence of hip, knee, and hand OA is greater in females than in men, and the incidence increases nearby menopause. The role of hormonal factors in the development of OA have suspected by several authors (Palazzo et al., 2016). According to the Global Burden of Disease (GBD) Study 2010, OA was the 11th leading cause of years lived with disability in the world but only 15th in 1990. Osteoarthritis (OA) is a highly prevalent, disabling disease, with a commensurate tremendous individual and socioeconomic burden. OA accounted for approximately 0.6% of all disability-adjusted life-years (DALYs) and 10.0% of DALYs due to musculoskeletal conditions. OA also accounted for 2.2% of global years lived with disability (YLDs) and 10% of all YLDs from musculoskeletal disorders. As a group, musculoskeletal disorders cause 21.3% of all YLDs, second only to mental and behavioral disorders. OA is the fastest increasing major health condition in terms of YLD ranking; For individuals, the burden of OA includes pain, activity limitations, and markedly reduced quality of life. OA is a disease that does not resolve and is typically accompanied by chronic pain. This pain comes in two common forms: one that is intermittent but generally severe or intense, and another that is persistent background pain or aching (Hunter et al., 2014).

To develop diagnostic criteria for OA several attempts were previously undertaken and combined patient-reported joint pain in conjunction with consistent radiographic findings.

OA usually can be subcategorized into primary (idiopathic) and secondary OA. Even though the etiology of primary OA remains largely undefined, genetic factors, age-related physiological changes, ethnicity, and biomechanical factors likely play a vital role. Post-traumatic OA, caused by previous fractures of the distal femur and proximal tibia is considered one of all secondary OA, constitutes the plurality of causes but accounts for only 12% of symptomatic OA (Lespasio et al., 2017). Post-traumatic, dysplastic, infectious, inflammatory, or biochemical etiologies are the most common causes of secondary OA that are relatively well understood (Kohn et al., 2016).

The health care practitioner should first want to know by asking questions directed to chronic health conditions, history of known injury or trauma, previous surgery, medications, occupation, and symptoms (eg, pain level and location, morning stiffness) when diagnosing OA. A focused physical examination should be done after the history evaluation. The presence of an effusion, loss of range of motion, and loss of smooth mechanical movement should be examined in the cases of each patient. The examination should be assessed for tenderness to palpation of the joint, crepitus (a grating sensation inside the joint) with movement, pain when pressure is placed on the joint, ability to ambulate (with the description of any problems with ambulation), along with signs of injury to muscles, tendons, and ligaments surrounding the joint. As well, the examiner should describe a passive range of motion (assisted) and active (self-directed) range of motion of the affected joint (Lespasio et al., 2017).

The most commonly used and cost-effective modality for imaging of OA is radiography. It helps to detect OA which is associated with bony features, such as osteophytes, subchondral sclerosis, and cysts. Radiography can also able to determine joint space width (JSW), which is a surrogate marker for cartilage thickness and meniscal integrity in knees, but still, direct visualization of these articular structures is impossible using radiographic techniques (Crema et al., 2014). Approximately one-third of all adults have radiological symptoms of osteoarthritis, even though clinically substantial osteoarthritis of the knee, hand, or hip in only 8.9% of the adult population (Verma & Agarwal, 2013).

MRI has played a vital role in understanding the natural history of the disease and in the search for new therapies in osteoarthritis research. The clinical significance of MRI

findings associated with osteoarthritic joints is not well defined because of the high prevalence in asymptomatic persons but ultrasound may be thought a useful imaging technique for osteoarthritis, especially for small joints of the hand (Hayashi et al., 2017). There is strong evidence that combinations of high-frequency ultrasound-based parameters exhibit the potential to distinguish different, particularly very early, degeneration stages of hyaline cartilage. Concurrent estimation of multiple ultrasound-based parameters is recommended by variable sensitivities towards different degeneration stages which are diagnostically valuable. In vivo application of the present findings is understandable in both minimally invasive arthroscopic ultrasound and high-frequency transcutaneous ultrasound (Mannicke et al., 2014).

In one study including 6 nations, a total of 1512 questionnaires were completed. 84,2 percent of respondents reported discomfort or soreness, and 91.1 percent indicated physical activity limits. The influence of osteoarthritis on patients' everyday activities and their willingness to take an active part in disease management is substantial. Patients are seeking new therapies, particularly those that are neither pharmaceutical nor surgical, highlighting the need to engage in clinical research (Vitaloni et al., 2020). A unique study of 3750 people with OA across five major EU countries captured a large amount of information on the impact of OA and its contemporary treatment. As per recent reports, most respondents reported OA-related pain in more than one joint (Sarah et al., 2014).

Different scientific organizations have published several recommendations and guidelines for the management of osteoarthritis. But, most of them are produced by national organizations or are limited to the use of specific interventions like physical therapy in many instances, or selected drug classes many OA management recommendations through organizations and controversies remain and are related to the use of some non-pharmacological interventions (e.g. acupuncture, knee braces, heel wedges) and, within pharmacological treatments, to the pharmacological class of symptomatic slow-acting drugs in osteoarthritis mainly characterized by glucosamine sulfate and chondroitin sulfate, and to some extent by intra-articular hyaluronic acid (Reginster et al., 2015).

Current research supports physiotherapy as an effective treatment modality for managing OA. A questionnaire was created to collect this information. A total of 30% of patients

with osteoarthritis of the hip or knee reacted. Twenty-four general practitioners (46 percent) out of a total of fifty-two, and twenty out of seventy-six, 26% of orthopedic surgeons answered the survey. 51% of patients with OA had undergone physiotherapy, with the majority referred to by their physician or surgeon. Common physiotherapy interventions proved to be consistent with best practices. Practice evidence 49% of participants who did not receive physiotherapy were not informed of the treatment's benefits. Those individuals with hip and knee OA who had easy access to PT services received care by current best practices. GPs frequently refer patients to physiotherapy but less frequently to occupational therapy. Surgeons who specialize in orthopedic surgery Further changes in referral patterns may be achievable if the advantages of exercise are well understood together with physical treatment for OA (Reid et al., 2014).

In another study where a total of 1262 and 1877 individuals with hip and/or knee osteoarthritis pain were analyzed and from them about 41% had been recommended to seek physiotherapy or exercise treatment subsequently, 83% of those recommended sought these treatments (Smith et al., 2019). In a meta-analysis, it was proven that a 5% to 10% weight loss significantly improved pain, self-reported disability, and quality of physical life (Chu et al., 2018). To improve musculoskeletal function and pain by addressing impaired kinematics of the joint manual therapy is performed, which in OA can be affected by joint capsule contracture, loss of peri articular flexibility, and increased intra-capsular pressure (Abbott et al., 2013). In a systematic review, it is found that accelerated physiotherapy regimens were effective for reducing acute hospital length of stay whereas technology-assisted physiotherapy did not show any difference in activity. It is also found that from high-quality individual studies pain, activity, and range of motion improved with accelerated physiotherapy regimens, and activity improved with hydrotherapy (Henderson et al., 2018).

A qualitative study on patient and physician perspectives of knee and hip osteoarthritis treatment was published. The purpose of this study was to elicit physician and patient perspectives on Osteoarthritis barriers and facilitators. Patients believed that symptoms improved using an integrative approach with multiple therapies. Two-thirds (63.6%) incorporated diet changes, weight loss programs, physical therapy, and regular physical

activity to ease stiffness and pain. Others who were physically restricted used a mix of injections, heat, ice, and oral and topical analgesics. While 54.5% of patients felt these approaches improved their symptoms overall, 27.3% considered them a temporary solution due to symptom recurrence. They feared joint pain and frequently altered their actions to avoid it. Many believed that encouraging patients to alter their lifestyles to lose weight and exercise was difficult and unachievable. Patients identified numerous barriers to receiving guideline-based recommendations from their physicians including lack of time during appointments, not understanding their disease or prognosis due to poor patient education, and lack of shared-decision making between patients and physicians. Both physicians and patients identified some similar barriers including the cost of treatments, feeling that no effective treatments exist and that the guideline-recommended treatments were either ineffective or had temporary benefits and thus not worth the effort. Physicians and patients both have demonstrated an interest in osteoarthritis education. To address these obstacles, better educational resources and new models of care may lead to enhanced osteoarthritis management (Miller et al., 2020).

Another qualitative study regarding “Patients’ and Practitioners’ views of knee osteoarthritis and its management” identified that patients’ complaints are not taken seriously. They also feel that practitioners act as technicians, paying more attention to the knee than to the individual, and they consider that not enough time is spent on information and counseling. They have negative perceptions of drugs and a feeling of medical uncertainty about OA, which leads to less compliance with treatment and a switch to alternative medicine. Patients believe that knee OA is an inevitable illness associated with age that not much can be done to modify its evolution, that treatments are of little help and that practitioners have not much to propose. They express unrealistic fears about the impact of knee OA on daily and social life. Practitioners’ views differ from those of patients. Physicians emphasize the difficulty in elaborating treatment strategies and the need for a tool to help in treatment choice (Alami et al., 2011). According to healthcare practitioners, multiple challenges restrict non-pharmacological and non-surgical care for patients with knee and hip OA. To address these difficulties education centered on beginning and supporting lifestyle changes, promotion of therapies



based on evidence-based recommendations, and improved organization of care are advocated to overcome these obstacles (Selten et al., 2017).

**3.1 Study design.**

Qualitative methodology was selected for this study because it is helpful to describe the perceptions of people and to understand their perspective. Qualitative research is exploratory in nature by which the researcher can gain insights into another person's view's, opinion, feeling and beliefs within their own natural setting.

**3.2 Study settings**

Musculoskeletal out patients unit of the Centre for the Rehabilitation of the Paralysed (CRP), Savar, Dhaka-1343, Bangladesh.

**3.3 Population**

All osteoarthritis patients of Centre for the Rehabilitation of the Paralysed.

**3.4 Sample Size**

Eleven samples with chronic Osteoarthritis from musculoskeletal unit of Centre for the Rehabilitation of the Paralysed (CRP) outpatient department was included in this study based on preset eligibility criteria.

**3.4.1 Sampling technique**

The samples were selected by convenience sampling method. It can be useful when the researcher has limited resources, time and workforce.

### **3.4.2 Inclusion criteria**

- Patient having at least 5 sessions of physiotherapy treatment, After five sessions it can be understandable the treatment outcome, and effectiveness (Skou et al., 2018).
- Age group 30-65 years. Because most people Bangladeshi people are affected in this age range (Jahan et al., 2017).
- Male and female both were included.
- The participants were diagnosed by qualified practitioners because without a confirmed diagnosis there may be chosen wrong participants (Lespasio et al., 2017).
- Willingness - Because the participant's willingness helped cooperate with them and avoid bias (Cronstrom et al., 2018).
- Participant who took both medication and physiotherapy intervention.

### **3.4.3 Exclusion criteria**

- Patients who are not interested.
- Patients with any other pathological condition (Kohn et al., 2016).

### **3.5 Data collection**

The researcher was taken qualitative data concerning the subject of the study.

#### **3.5.1 Duration of data collection**

Data was collected from 1st April 2022 to 30th April 2022. Each data was collected carefully and confidentiality was maintained. Each participant provides a particular time to collect data.

#### **3.5.2 Materials of data collection**

A semi-structured questionnaire was mainly used to collect the data. All other materials were a mobile recorder, pen, paper, pencil, and consent form. A recorder was used to record the interview. It is a fundamental data-recording strategy in naturalistic inquiry that is primarily used when conducting face-to-face interviews. It is especially important to conduct an open-ended interview. In an open ended interview, participants provide a long detailed answer which is difficult to write verbatim by the researcher. Other materials had been used as support when needed.

#### **3.5.3 Pilot study**

Before the start of collecting final data, a pilot study was conducted with 2 participants. Carrying out a pilot study is a preparation for starting final data collection. It helped to make a plan that how the data collection procedure can be carried out, sort out the difficulties during questioning, make a basic plan of questioning, and if there is needed any modification to the questionnaire. The collected data by the pilot study was firstly transcribed from the audio tape recording. Then the transcription copy was translated into English. The pilot study helped the researcher to make the plan on how the ways can be for collect data, how a question can be asked in different ways and what can be the probing question to find out the participant's actual response to the event.

#### **3.5.4 Data collection procedure**

The researcher conducted a face-to-face interview with a semi-structured questionnaire for data collection. With a semi-structured questionnaire, participants get more freedom to explain their opinions. Face-to-face interviews helped the researcher to determine participants' understanding of the questions by observing their facial expressions. Before starting the formal interview, the researcher ensured a quiet place by contacting the authorities and building understanding with the participants and making them comfortable for the interview. The researcher explained the research question and aim of the study. Then the researcher used an information sheet and consent form to take the permission of the participants. The interview was recorded using a recorder by taking permission from the patients. The interview was conducted in Bengali as though they can understand the questions easily. The interview was conducted during the daytime and every interview lasted for 20-30 minutes. The interview continue until the saturation point was reached.

#### **3.5.5 Data analysis**

The researcher selected the Qualitative Thematic Analysis (QTA) method to analyze the data. It enables a coding framework to be designed to help identify common themes in the data. The first step of the analysis was a transcription of data from the recorder. The transcription was done verbatim and it was written in Bengali. There was some general information on the questionnaire which was also filled up by the researcher and was used for generating the main theme. Each of the transcripts was translated into English by 3 different individuals, one is the researcher and another two were such people who were not present in the study setting and don't know about the aim or objectives of the research question. After completing the transcription, the researcher verified those to check the consistency of each of the participants' transcripts individually. Initially, the questions of the questionnaire were categorized into different meaning units. Under each of those categories, the interviewed data were coded by line-by-line analysis of the sentences and phrases. Then according to the meaning and insights, the categorized data were formed together to make the final category. Then the interpretation of those data by progression and reduction process was ended into forming a theme.

### **3.6 Ethical consideration**

The research proposal was submitted to the ethical committee named Institutional Review Board (IRB) of Bangladesh Health Professions Institute (BHPI) and approval was granted from the board. World Health Organization & Bangladesh Medical Research Council (BMRC ) guideline was followed to conduct the study.

For this study, a consent form was given and the purpose of the research and consent form would be explained to the subject verbally. Participants were fully voluntary and they have the right to withdraw at any time. Participants were also ensured that their confidentiality would be maintained. Information might be published in any presentation or writing but it would not be identified. The study results might not have any direct effects on them but the members of the physiotherapy population may be benefited from the study in the future. They would not be embarrassed by the study.

### **3.7 Rigor**

Trustworthiness or maintaining a rigorous manner in a qualitative study is an important thing to ensure the accuracy of the process. The concept of trustworthiness deals with whether the process of the study is bias-free or there is the fabrication of the researcher in the final interpretation. The researcher maintained the rigor of the study. The total study was supervised by an experienced supervisor, there were no biases in the selection of the participants, the data were collected and recorded with awareness, there was no leading question during data collection and there was no presupposition of the researcher. The transcription was done verbatim and the translated copies were checked by the researcher to check the consistency of meaning. The result of the study was not influenced by the researcher and the final result or the theme of the study is neutral.

**Socio demographic information of the participants**

In this study, the number of participants was eleven with chronic osteoarthritis. Among the participants, there were six female and five male participants. The age range was minimum of thirty years and the maximum age was sixty-three years. The two participants lived in the rural area and nine participants lived in the urban area. All of the participants were married. Among them one participant had primary education, four participants had secondary education, one participant had higher secondary education, three participants had graduation, and two participants had post-graduation. Of the eleven participants, four participants were service holder, two participants were housewives, one participant was businessman and one participant was teacher and three of them were involve in others occupation. Among them four of them were healthy weight, five of them over weight and two of them were obesed. Three of them monthly family income range of 5000-10000 BDT, four of them monthly family income range of 10000-20000 BDT, and four of them monthly family income range of 21000-50000 BDT.

**Table 01: Socio demographic information**

<b>Variable</b>	<b>Frequency</b>
<b>Age</b>	
30-49 years	5
50-63 years	6
<b>Gender</b>	
Male	5
Female	6
<b>Educational status</b>	
Primary	1
Secondary	4
Higher Secondary	1
Graduate	3
Post Graduate	2
<b>BMI</b>	
Healthy weight	4
Over weight	5
Obesity	2
<b>Occupation</b>	
Service holder	4
Businessman	1
Housewife	2
Teacher	1
Others	3
<b>Residential Area</b>	
Urban	9
Rural	2
<b>Marital Status</b>	
Married	11
Unmarried	0
Divorce	0



<b>Monthly Family Income</b>	
5000-10,000 BDT	3
11,000-20,000 BDT	4
21,000-50,000 BDT	4

## Coding and Categorizing

**Table 2.1 : Impact on patients ADLs**

<b>Code Number</b>	<b>Impact on patients ADLs</b>
<b>P1</b>	Difficulty in praying Difficulty in fast walking Difficulty in staring up and down Difficulty on getting up from floor or low commode
<b>P2</b>	Difficulty in praying Difficulty on getting up from floor or low commode
<b>P3</b>	Difficulty in praying Problem in heavy work Difficulty in fast walking
<b>P4</b>	Difficulty in staring up and down Problem in heavy work
<b>P5</b>	Could not wash dress, tie hair, eat rice by hand
<b>P6</b>	Difficulty in cross sitting
<b>P7</b>	Difficulty in praying Difficulty in staring up and down
<b>P8</b>	Difficulty in praying Difficulty in fast walking Difficulty in staring up and down Difficulty on getting up from floor or low commode
<b>P9</b>	Difficulty in praying Difficulty in fast walking

	Difficulty on getting up from floor or low commode
<b>P10</b>	Difficulty in praying Difficulty in staring up and down
<b>P11</b>	Difficulty in cross sitting Difficulty in fast walking Difficulty in staring up and down

**Table 2.2 : Patients experience on medication and physiotherapy intervention and their preference of treatment method**

<b>Code Number</b>	<b>Medication</b>	<b>Physiotherapy</b>	<b>Preference of treatment method</b>
<b>P1</b>	Pain is reduced for sometimes then starts, Not aware about side effects of medication	Pain reduced Reduced complication Improve functional activity	Both Medication and Physiotherapy
<b>P2</b>	Pain is reduced for sometimes then starts, Not produce side effect but aware about it	Pain reduced Reduced complication Improve functional activity	Physiotherapy
<b>P3</b>	Pain is reduced for sometimes then starts Not produce side effect but aware	Pain reduced Reduced complication Improve functional activity	Both Medication and Physiotherapy
<b>P4</b>	Pain is not changed Not aware about side effects	Pain reduced Reduced complication Improve functional activity	Both Medication and Physiotherapy
<b>P5</b>	Pain is reduced for sometimes then starts Not aware about side effects	Pain reduced Reduced complication Improve functional activity	Both Medication and Physiotherapy
<b>P6</b>	Pain is reduced Not aware about side effects	Pain remain same	Both Medication and Physiotherapy

<b>P7</b>	Pain is not changed Produced side effects	Pain reduced Reduced complication Improve functional activity	Physiotherapy
<b>P8</b>	Pain is reduced for sometimes then starts Produced side effects	Pain reduced Reduced complication Improve functional activity	Both Medication and Physiotherapy
<b>P9</b>	Pain is reduced Not aware about side effects	Pain reduced Reduced complication Improve functional activity	Both Medication and Physiotherapy
<b>P10</b>	Pain is reduced for sometimes then starts Not produce side effect but aware	Pain reduced Reduced complication Improve functional activity	Both Medication and Physiotherapy
<b>P11</b>	Pain is reduced Not produce side effect but aware	Pain reduced Reduced complication Improve functional activity	Both Medication and Physiotherapy

**Table 2.3 : Physiotherapists behavior toward the patients and patients opinion on services of CRP**

<b>Code Number</b>	<b>Physiotherapists behavior</b>	<b>Services of CRP</b>
<b>P1</b>	Supportive Enough time given Good communication	Systematic service Quality service Neat and clean Environment is very good Well behavior of supporting staff
<b>P2</b>	Supportive Sincere Well behavior Enough time given Good communication	Systematic service Quality service Neat and clean Environment is very good

<b>P3</b>	Good communication Well behavior Enough time given	Well maintained system Quality service Neat and clean Environment is good Well behavior of supporting staff
<b>P4</b>	Supportive friendly Enough time given Qualified	Systematic service Quality service Neat and clean
<b>P5</b>	Supportive Qualified friendly Enough time given Good communication	Quality service Systematic service Well behavior of supporting staff
<b>P6</b>	Qualified Supportive Enough time given	Systematic service Quality service Neat and clean Environment is very good Well behavior of supporting staff
<b>P7</b>	Friendly Supportive Well behavior Good communication	Quality service Systematic service Neat and clean Environment is very good Well behavior of supporting staff
<b>P8</b>	Supportive Well behavior Enough time given	User friendly supporting staff Environment is very good
<b>P9</b>	Friendly Well behavior Good communication	Quality service Systematic service Environment is very good Well behavior of supporting staff
<b>P10</b>	Supportive Well behavior Enough time given Good communication	Quality service Systematic service Neat and clean Environment is very good Well behavior of supporting staff
<b>P11</b>	Supportive Enough time given	Systematic service Environment is very good Well behavior of supporting staff

### **Summary of theme that emerged from data analysis**

**Theme 1:** Impact of chronic osteoarthritis on patient's activities of daily living.

**Theme 2:** Patient's experience on medication for chronic osteoarthritis.

**Theme 3:** Patient's thought and experience about physiotherapy intervention in chronic osteoarthritis.

**Theme 4:** Patient's preference of treatment method.

**Theme 5:** Patient's perspective towards physiotherapist.

**Theme 6:** Patient's opinion on services of CRP.

**Theme 1: Impact of chronic osteoarthritis on patients activities of daily living.**

This theme relates to the patient's activities of daily living. How does chronic OA affect patients' ADLs, and how does it hamper patient's daily life? According to the transcripts, most of the participants faced difficulties in their activities of daily living due to chronic Osteoarthritis. It hampered their daily life. They faced difficulty in praying, they couldn't do their daily work properly for chronic osteoarthritis. The responses of the participants are presented in the table below:

**Table 3.1 : Impact of chronic osteoarthritis on patients activities of daily living.**

Coding	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	Response
Difficulty in praying	✓	✓	✓		✓		✓	✓	✓	✓	✓	9
Problem in heavy work		✓	✓	✓		✓	✓	✓			✓	7
Difficulty in getting up from floor or low commode	✓	✓		✓	✓	✓	✓	✓	✓			8
Facing difficulty in fast walking	✓		✓					✓	✓		✓	5
Difficulty in staring up and down	✓	✓		✓	✓		✓	✓		✓	✓	8
Could not wash dress, tie hair, eat rice					✓							1

by hand												
Difficulty in cross sitting			✓	✓		✓		✓			✓	5

**Theme 2 : Patients experience on medication for chronic osteoarthritis.**

This theme relates to the patient's perspective of the results of medical treatment for chronic osteoarthritis provided by a physician. Also, the patient's concerned about the side effect of drugs. According to the transcripts, most of the participants stated that pain is reduced for some time and then starts again. Improvement is not sustainable with medicine for chronic Osteoarthritis. The researcher also found from the transcripts that long-time use of drugs produced side effects and most of the participants were not aware of the side effect of drugs. The responses of the patients are presented in the table below.

**Table 3.2 : Patients experience on medication for chronic osteoarthritis.**

Coding	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	Response
Pain is reduced						✓			✓		✓	3
Pain is reduced for sometimes then starts	✓	✓	✓		✓			✓		✓		6

Pain is not changed							✓					1
Produced side effects for long time use	✓			✓	✓	✓	✓	✓	✓			7
Not produce side effect but aware		✓	✓							✓	✓	4
Not aware about side effects	✓			✓	✓	✓	✓	✓	✓			7



**Theme 3: Patients thought and experience about Physiotherapy intervention in chronic osteoarthritis.**

Here the researcher wanted to know about the participant's understanding of physiotherapy intervention for managing chronic osteoarthritis, and also the participant's concern about the effectiveness of physiotherapy. Every participant was asked the same question. From the transcripts, the maximum number of participants stated that physiotherapy reduced their pain, reduced their complications arising due to pain, and improve functional activity. Physiotherapy is an effective treatment approach for managing chronic Osteoarthritis. The participant responses are displayed below.

**Table 3.3 : Patients thought and experience about physiotherapy intervention**

<b>Coding</b>	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>	<b>P6</b>	<b>P7</b>	<b>P8</b>	<b>P9</b>	<b>P10</b>	<b>P11</b>	<b>Response</b>
Pain reduced	✓	✓	✓	✓		✓	✓		✓	✓	✓	9
Pain remain same					✓			✓				2
Reduced complication	✓	✓	✓	✓		✓	✓		✓	✓	✓	9
Improve functional activity	✓	✓	✓	✓		✓	✓		✓	✓	✓	9

#### **Theme 4: Patients preference of treatment method.**

Here the researcher wanted to know strategies followed by the patients to relieve present pain. Every participant was asked the same question-what strategy do they follow or control their present pain? This table represents the participant's views about treatment sickness behavior to get relief from present pain. According to the transcripts, most of them stated that they take both physiotherapy and medication for managing their present pain. Two of them stated that they take physiotherapy only, no one said only medication for managing their pain. Patients prefer a multi-dimensional treatment approach for managing their present pain. The participant responses are displayed below:

**Table 3.4 : Patients preference of treatment method**

<b>Coding</b>	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>	<b>P6</b>	<b>P7</b>	<b>P8</b>	<b>P9</b>	<b>P10</b>	<b>P11</b>	<b>Resp onse</b>
Medication												0
Physiotherapy		✓					✓					2
Both Medication and Physiotherapy	✓		✓	✓	✓	✓		✓	✓	✓	✓	9

### Theme 5: Patients perspective towards physiotherapist.

Here the researcher wanted to know about the physiotherapist's behavior, communication skill, approaches, and services to patients. Every participant was asked the same question. From the transcripts, the researcher found that most of the participants were positive toward the physiotherapist's attitude. Most of them stated that physiotherapists behave well, their communication skill was good, enough time is given during treatment session and they were very supportive. Participants were very happy with the professional behavior of the physiotherapists. The participant responses are displayed below:

**Table 3.5 : Patients perspective towards physiotherapist**

Coding	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	Response
Supportive	✓	✓		✓	✓	✓	✓	✓		✓		8
Well behavior		✓	✓				✓	✓	✓	✓	✓	7
Good communication	✓	✓	✓	✓	✓		✓		✓	✓		8
Enough time given	✓	✓	✓	✓	✓	✓		✓		✓	✓	9
Qualified				✓	✓	✓						3
Friendly				✓	✓		✓		✓			4

**Theme 6 : Patients opinion on services of CRP.**

The researcher wanted to know the opinion of the patients regarding treatment place, environment, the behavior of supporting staff, and overall experiences of service of CRP. According to transcripts the different opinions regarding the services of CRP. Most of the participants are impressed with the environment of the CRP. They are positive towards the behavior of CRP supporting staff, and most of them found no bad side. The environment of CRP is user-friendly. The participant responses are displayed below:

**Table 3.6 : Patients opinion on services of CRP**

<b>Coding</b>	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>	<b>P6</b>	<b>P7</b>	<b>P8</b>	<b>P9</b>	<b>P10</b>	<b>P11</b>	<b>Response</b>
Systematic service	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	10
Quality service	✓	✓	✓	✓	✓	✓	✓		✓	✓		9
Well behavior of supporting staff	✓		✓		✓	✓	✓		✓	✓	✓	8
Neat and clean	✓	✓	✓	✓		✓	✓	✓		✓		8
Environment is very good	✓	✓	✓			✓	✓	✓	✓	✓	✓	9

In this chapter, the results of the study are discussed about the research questions and objectives of the study. The discussion focuses on the patient's perception of medication and physiotherapy intervention for chronic osteoarthritis attended at CRP. The analysis and discussion are about identifying published papers and determining the relevance of the acquired data. Discussion according to the themes is provided below:

**Impact of chronic osteoarthritis on patient's activities of daily living:**

According to the transcripts, most of the participants faced difficulty in their activities of daily living due to chronic Osteoarthritis. It hampered their daily life. They faced difficulty during their prayer, could not do heavy work, found difficulty getting up from the floor or toilet, could not stare up and down easily, it feels pain at the cross sitting.

A population-based cross-sectional study where 3097 subjects were included in the Australia health interview survey was performed. People with musculoskeletal conditions were significantly more often affected by ADL problems than people without these diseases. The ADL domain which caused problems in the highest proportion of people was “doing heavy housework, bending or kneeling, climbing stairs up and down” (Stamm et al., 2016).

A participant stated that,

*“ It is hard to use the stairs and to get up and sit in prayers. Getting up and sitting at any work is the most difficult for me. It hurts to walk fast ”.*

Another participant stated that,

*“ I cannot sit in a cross sitting. I cannot eat sitting on the floor, I have to sit on the chair. I cannot use the stairs and cannot walk fast ”.*

A Cohort Study was held in the UK in 2019 where there were 222 men and 221 female participants included. The study found that

lower limb OA is strongly related to the ability to undertake ADL in older adults. It has been demonstrated that in both men and women a clinical diagnosis of hip or knee OA

and a radiological diagnosis of knee OA in women are associated with difficulties in mobility, ability to self-care, and performing usual activities (Clynes et al., 2019).

A participant stated that,

*“ I can't sit down and pray, I sit in the chair and pray. I can't use the low commode toilet, I can't walk fast, I can't stand for a while. I have difficulty getting up and down the stairs, I have difficulty getting on the high rickshaw ”.*

These statements reflect that people with chronic OA faced difficulty in their activities of daily living.

### **Patients experience on medication for chronic osteoarthritis:**

According to the transcripts, maximum of the participant stated that pain is reduced for some time and then starts again. Some of them stated that their pain has reduced and some of them stated that their pain has not changed. As the pain was the main problem for the patient and they received medical treatment, for this reason, they made different comments on it. Although there is no known cure for osteoarthritis various treatments are available to reduce pain, minimize functional impairment and improve joint mobility.

A prospective, explorative study including 55 patients fulfilling the American College of Rheumatology clinical criteria, stated that there are no disease-modifying drugs for OA are available, mainly because pathophysiology and relation with subsequent signs and symptoms are not completely understood. OA affects the entire joint including soft tissue structures like menisci and synovium and it is not just a disease of bone and cartilage (Bever et al., 2014).

A participant stated that,

*“ When I took medicine it reduced my pain immediately but after a few days my pain is back again when I stopped taking medicine ”.*

Another participant stated that,

*“I have suffered for the last 5 years, the medicine reduces my pain for 1 to 2 days but it goes back again after 5 to 7 days. I did not get my expected result from medicine, now I am only dependent on physiotherapy”.*

These statements reflect that Pain killers or analgesic drugs relieve pain for sometimes when its action stops the pain starts again. In this way, all participants mentioned the

efficacy of drugs. Improvement is not sustainable with medication. And most of them are disappointed with this care.

From the transcripts, the Researcher also found that medication has produced side effects and most of them are not aware of side effects.

A meta-analysis found a significantly increased risk of lower GI, nausea, vomiting loss of appetite, CNS, and rash and/or pruritus. In addition, they found a significantly increased risk of dry mouth and oral ulceration (Welsch et al., 2020).

A participant stated that,

*“I knew the side effect, after taking medication I felt bad, felt nausea, urine turned yellow, felt dizzy and restless”.*

Another participant stated that,

*“I have no idea about side effects or adverse effects of medicine and my doctor did not explain to me about this side effect”.*

These statements reflect the analgesic effects of drugs and the awareness of the participants.

### **Patient's thought and experience of physiotherapy intervention in chronic osteoarthritis:**

According to the transcripts, maximum participants stated that physiotherapy reduced their pain, reduced the complications that arise due to pain, and also improve functional activity. They think physiotherapy is an effective treatment approach for managing chronic Osteoarthritis.

Current research supports physiotherapy as an effective treatment modality for managing OA. A questionnaire was created to collect this information. A total of 30% of patients with osteoarthritis of the hip or knee reacted. Twenty-four general practitioners out of a total of fifty-two and twenty out of seventy-six, 26% of orthopedic surgeons answered the survey. 51% of patients with OA had undergone physiotherapy, with the majority referred to by their physician or surgeon. Common physiotherapy interventions proved to be consistent with best practices. It is found that exercises have beneficial effects in terms of reducing pain and improving physical function for patients with OA. All types of strengthening exercises like isometric, isotonic, and isokinetic as well as the different

forms of aerobic activities which include walking, and jogging have the same important impact to improve quality of life (Kon et al., 2012).

One participant stated that,

*“I think physiotherapy is a more effective treatment than medication for me because I have taken medication for a long time but the ultimate result is not good. I have taken physiotherapy for up to 12 sessions. I could not fold my legs, move my legs and match my legs but after receiving physiotherapy I can fold my legs, move my legs and match my legs”.*

The benefits of exercise therapy in people with hip and knee OA are substantial and supported by high-quality evidence, underlining that it should be part of first-line treatment in clinical practice. Furthermore, unlike other treatments for OA, such as analgesia and surgery, exercise therapy is not associated with a risk of serious harm. Helping people with OA become more physically active, along with structured exercise therapy targeting symptoms and impairments (Skou et al., 2018).

One participant stated that,

*“ I prefer physiotherapy because the medicine that I took caused me side effects. after taking that medicine for some time, I did not take it anymore, I just continue physiotherapy and my pain is decreasing also I think medicine is effective for short time reducing pain but physiotherapy treatment is a long-term effect”.*

This statement reflects that patients are well known about the effectiveness of physiotherapy and their experience with physiotherapy is very good, they prefer to take physiotherapy to reduce their problems and improve functional ability.

### **Patient's perspective towards physiotherapist.**

The researcher tried to find out the participant's perspective toward physiotherapists. Physiotherapists' professional behavior because through this the participant's view towards the service is strongly influenced. Most of the participants were satisfied with the professional behavior of their physiotherapists. Here most of the participants agreed that the physiotherapists were well-behaved and had good communication skills, PT gave them enough time during the treatment session and they were supportive too and they were satisfied with their professional attitude.



One study found that patient satisfaction and improvement with physiotherapy care are influenced by an interaction between the therapist and the patient (Kidd et al., 2011).

Among the participants, one of them said that,

*“Physiotherapist’s behavior is good, therapists were very communicative during treatment time”.*

Another one told that,

*“I am satisfied. They are very good.”*

In another study, there was a significant association between time factor and patient satisfaction and positive change. It is found that positive patient-therapist interactions in physical therapy settings are linked with reduced pain, reduced disability, and higher treatment satisfaction (O’Keeffe et al., 2016).

One of the participants stated that,

*“Physiotherapists are so good and give sufficient time. They are sincere enough ”.*

Another participant added that,

*“ Physiotherapists are quite good and have given me enough time ”.*

Those statements reflect that physiotherapists gave enough time to solve the patient's problem which influenced and motivated participants to continue treatment and recovery. Participants are pleased with the professional behavior of the physiotherapists.

### **Patient's opinion on services of CRP.**

Environmental factors which include clinic location, parking, and time spent waiting for therapy, have associations with quality of treatment and satisfaction in rehabilitation settings, especially when compared with interpersonal aspects of treatment and outcomes and some elements of the physical environment such as cleaning, privacy have stronger associations (Medina et al., 2013).

Most of the participants are impressed with the environment of the CRP. They found the environment to be very good, among them one stated that,

*“The environment of CRP is very good. I like the environment”.*

Another one stated that,

*“ I feel better about this environment here”.*

Another study found a safe place is important during patient treatment. If the place is not quiet or safe then the treatment may be hampered and the patient may feel comfortable and also the patient may be de-motivated. So it is very essential to have a neat and clean, safe and quiet environment for providing better service (Berkowitz, 2016).

One participant said that,

*“I feel convenient. It is good for me. The environment is good here. The rooms are clean and beautiful.”*

Another one added that,

*“The environment is fine. Cleanliness is good.”*

If the treatment place is peaceful and quiet the patient may feel comfortable and also the patient may be motivated to take physiotherapy. So these are very important to achieve patient goals. Lastly, observing the participants' opinions, among eight participants most described the environment as very good and that they like the environment. Almost all of the participants are positive about the user-friendly environment of CRP and pleased with its services of CRP.

**Limitations:**

In this study, I tried my level best to conduct the research systemically. As the researcher was a 4th-year B.Sc. in physiotherapy student and this was his first research project so he had limited skill with techniques and strategies in terms of the practical aspects of research to conduct. For that reason, there were some errors or faults which overlooked by the honorable supervisor and the teachers. Though there are many strong points of this study there are also some limitations that can be easily overcome by others. Maximum patients were knee osteoarthritis because of patient availability. The impacts of limited time and resources have a vital role in this study. Another limitation was the latest and recent literature especially the recently issued journals were not accessible. As no research has been done before on this topic for that reason there was little evidence to support the result of this research project in the context of Bangladesh.

**6.1 Conclusion**

This study explores the perception of medication and physiotherapy intervention among chronic osteoarthritis patients who attended CRP. The study results show medication does not work for a long time and it has short-term benefits for chronic osteoarthritis. Moreover, it has some side effects and very often patients are not aware of those. So awareness regarding side effects should raise among the general population. In mechanical problems, the study shows that medicine has no longer effective. The researcher found the effectiveness of physiotherapy, early physiotherapy can also prevent secondary complications.

## **6.2 Recommendations**

The study aims to explore perceptions towards medication and physiotherapy intervention among chronic osteoarthritis patients who attended CRP. From this study, it is concluded the effectiveness of physiotherapy treatment and no longer the efficacy of the medication. There are several issues come out of this study like improvement is not sustainable with medicine for chronic osteoarthritis, analgesic produces side effects, the patient prefers multidimensional intervention, the patient is highly satisfied with the professional behavior of the physiotherapist, physiotherapist provides much time to solve patients problem, The service of CRP is satisfactory, environment is user friendly and physiotherapy is an effective treatment for chronic osteoarthritis. Patients were satisfied with physiotherapy treatment care and disappointed with medication. In this study, it is mentioned that participants are not aware of the side effects of the medicine. So it is very essential to increase awareness among patients about the adverse effect of drugs. This study has some limitations that, as maximum patients were knee osteoarthritis because of patient's availability it is recommended that took all type of osteoarthritis patient's in further study, another limitation, the research area are relatively new, that is why researcher did not get a lot of literature addressing this area. So to conduct further study in this area, more resources should be included. As the patient's perception was the outcome of physiotherapy treatment is effective and their expectation of the outcome raised very high. So it is recommended to do further research on patient's perception of evidence-based physiotherapy treatment for chronic osteoarthritis and it is also recommended that the next generation of physiotherapy members continue to study in this area, this may involve the use of large sample size and participants form the different institute of Bangladesh where physiotherapy service is available.

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## APPENDIX

- A. Institutional Review Board (IRB)
- B. Permission letter
- C. Questionnaire (Bangla)
- D. Questionnaire (English)
- E. Transcription



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

Ref:

Date:

CRP/BHPI/IRB/03/2022/591

21/03/2022

Khairul Islam  
4<sup>th</sup> Year B.Sc. in Physiotherapy  
Session: 2016 – 2017  
BHPI, CRP, Savar, Dhaka- 1343, Bangladesh.

**Subject:** Approval of the research project proposal “Perception towards Medication and Physiotherapy intervention among the patients with Chronic Osteoarthritis attended at CRP”- by ethics committee.

Dear Khairul Islam,  
Congratulations.

The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application to conduct the above-mentioned dissertation, with yourself, as the principal investigator and Ehsanur Rahman as thesis supervisor. The Following documents have been reviewed and approved:

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

The purpose of the study is to explore perception towards medication and physiotherapy intervention among the patients with chronic Osteoarthritis. Should there any interpretation, typos, spelling and grammatical mistakes in the title, it is the responsibilities of the investigator. Since the study involves questionnaire that takes maximum 20-30 minutes and have no likelihood of any harm to the participants, the members of the Ethics committee approved the study to be conducted in the presented form at the meeting held at 09:00 AM on 12<sup>th</sup> October, 2021 at BHPI (30<sup>th</sup> 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

Permission letter

March 23, 2022

The Head of the Physiotherapy Department

Centre for the Rehabilitation of the Paralyzed (CRP)

Chapain, Savar, Dhaka-1343.

Through: Head, Department of Physiotherapy, BHPI

**Subject: Seeking permission for data collection of 4<sup>th</sup> year Physiotherapy Research Project.**

Sir,

With due respect and humble submission to state that I am Khairul Islam, student of 4<sup>th</sup> year B.Sc. in Physiotherapy at Bangladesh Health Professions Institute (BHPI). In 4<sup>th</sup> year course curriculum, I have to conduct a research project. The ethical committee has approved my research project entitled on " **Perception towards Medication and Physiotherapy intervention among the patients with Chronic Osteoarthritis attended at CRP** " under the supervision of Ehsanur Rahman, Associate Professor, Physiotherapy Department, Bangladesh Health Professions Institute (BHPI). I would like to collect data, for which I need your kind approval. I assure that anything of my study will not be harmful for my participants.

I therefore, pray and hope that you would be kind enough to grant my application and give me permission for data collection and oblige thereby.

Yours faithfully

*Khairul Islam*  
Khairul Islam

4<sup>th</sup> year, B.Sc. in Physiotherapy

Roll: 16, Session: 2016-2017, ID No: 112160338

Bangladesh Health Professions Institute (BHPI)

CRP, Chapain, Savar, Dhaka-1343.

*Forwarded*  
*E. Rahman*  
*23.03.2022*

*Recommended*

*Shafiq*  
*24.03.2022*

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

*Approved*  
*24/3/22*  
**MOHAMMAD ANWAR HOSSAIN**  
Senior Consultant &  
Head of Physiotherapy Dept  
Associate Professor, BHPI  
CRP Savar, Dhaka-1343

সম্মতিপত্র

(অংশগ্রহণ কারিকে পড়ে শোনাতে হবে)

আসসালামু আলাইকুম/ নমস্কার,

আমার নাম খাইরুল ইসলাম, আমি এই গবেষণা প্রকল্পটি বাংলাদেশ হেল্থ প্রফেশন্স ইন্সটিটিউট (বিএইচপিআই),(ঢাকা বিশ্ববিদ্যালয়ের চিকিৎসা অনুষদের অধীনে) পরিচালনা করছি যা আমার ফিজিওথেরাপির স্নাতক কোর্সের অধিভুক্ত। আমার গবেষণার শিরোনাম হল “সিআরপিতে চিকিৎসারত ক্রনিক অস্টিও-আর্থারাইটিস রোগীদের ঔষধ এবং ফিজিওথেরাপি সম্পর্কে উপলব্ধি”। আমার গবেষণার প্রকল্পটি পূরণে কিছু তথ্য সংগ্রহ করা প্রয়োজন। সুতরাং এই গবেষণার জন্য অংশগ্রহণ কারির সম্মতি প্রয়োজন এবং এতে আনুমানিক ২০-৩০ মিনিট সময় লাগবে।

আমি আপনাকে অবগত করছি যে, এটা একটি একাডেমিক গবেষণা এবং যা অন্য কোনও উদ্দেশ্যে ব্যবহৃত হবে না। এই গবেষণা আপনার বর্তমান, ভবিষ্যৎ পেশায় কোন প্রভাব ফেলবে না। আপনি যেসব তথ্য প্রদান করবেন তার গোপনীয়তা বজায় থাকবে। এই অধ্যয়নে আপনার অংশগ্রহন স্বেচ্ছা প্রণোদিত এবং আপনি যেকোন সময় এই অধ্যয়ন থেকে কোন নেতিবাচক ফলাফল ছাড়াই নিজে থেকে প্রত্যাহার করতে পারবেন। এছাড়াও কোন নির্দিষ্ট প্রশ্ন অপছন্দ হলে উত্তর না দেয়ার এবং সাক্ষাৎকারের সময় কোন উত্তর না দিতে চাওয়ার অধিকারও আপনার আছে।

শুরু করার আগে আপনার কি কোন প্রশ্ন আছে ?

হ্যাঁ.....

না.....

অংশগ্রহণকারির স্বাক্ষর ও তারিখ.....

গবেষকের স্বাক্ষর ও তারিখ.....

সাক্ষির স্বাক্ষর ও তারিখ.....



শিরোনাম “ সিআরপিতে চিকিৎসারত ক্রনিক অষ্টিও-আর্থরাইটিস রোগীদের ঔষধ এবং ফিজিওথেরাপি সম্পর্কে উপলব্ধি” ।

স্বাক্ষিত বিবরণঃ

১। তারিখঃ

২। কোড নংঃ

৩। রোগীর নামঃ

৪। বর্তমান ঠিকানাঃ

৫। মোবাইল নাম্বারঃ

আর্থ সামাজিক তথ্যাবলিঃ

১। বয়সঃ

২। লিঙ্গঃ

৩। শিক্ষাগত যোগ্যতাঃ

৪। পেশাঃ

৫। বসবাসের এলাকাঃ

৬। বৈবাহিক অবস্থাঃ

৭। বিএমআইঃ

৮। পরিবারের মাসিক উপার্জনঃ

## বাংলা প্রশ্নাবলী

প্রশ্ন ১ঃ

আপনি অষ্টিও আর্থাইটিস এর জন্য যে দৈনন্দিন কাজকর্মে অসুবিধার সম্মুখীন হচ্ছেন সে সম্পর্কে দয়া করে আমাকে বলুন?

প্রশ্ন ২ঃ

ক। এই সমস্যার জন্য আপনি ঔষধ খেয়েছেন?

খ। (যদি হ্যা হয়) কিভাবে আপনি ঔষধ সম্পর্কে জেনেছেন?

গ। ঔষধ খাওয়ার পর আপনার অভিজ্ঞতা ব্যাখ্যা করুন?

ঘ। আপনি ঔষধের পার্শ্ব প্রতিক্রিয়া সম্পর্কে জানেন?

হ্যা...../ না..... ।

যদি হ্যা..... দয়া করে ব্যাখ্যা করুন?

প্রশ্ন ৩ঃ

ক। আপনি ফিজিওথেরাপি সম্পর্কে কিভাবে জেনেছেন?

খ। ফিজিওথেরাপি সেবা সম্পর্কে আপনার অভিজ্ঞতা ব্যাখ্যা করুন?

গ। ফিজিওথেরাপি নেয়ার পর আপনি কোন জটিলতার সম্মুখীন হয়েছেন ?

প্রশ্ন ৪ঃ

ক। কিভাবে আপনি আপনার বর্তমান ব্যথা নিয়ন্ত্রণ করেন?

খ। ব্যথা নিরাময়ের জন্য এই কৌশল অবলম্বনের কারণ কি?

প্রশ্ন ৫ঃ

ক। দয়া করে আপনার ফিজিওথেরাপিস্ট সম্পর্কে আমাকে বলুন?

প্রশ্ন ৬ঃ

ক। সিআরপির সেবা সম্পর্কে দয়া করে আমাকে আপনার মূল্যবান মতামত দিন?

VERBAL CONSENT FORM

Assalamualaikum\Namashkar,

I am Khairul Islam , I am conducting a study for partial fulfillment of Bachelor of Science in Physiotherapy degree at Bangladesh Health Professions Institute (BHPI) (Under the Faculty of Medicine University of Dhaka). My research title is “**Perception towards Medication and Physiotherapy intervention among the patients with Chronic Osteoarthritis attended at CRP**”. I need some information to fulfill my research project. So participants consent need for this research and it will take approximately 20-30 minutes. I would like to inform you that this is a purely academic study and will not be used for any other purposes. I also 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 from this study. Besides you also have the rights to reject a particular question that you don’t like.

Do you have any questions before I start?

So, I can proceed with the interview.

Yes..... No.....

Signature of the participant and Date.....

Signature of the researcher and Date.....

Signature of the witness and Date.....

## **Questionnaire**

**(English)**

**Title: Perception towards medication and physiotherapy intervention among the patients with chronic osteoarthritis attended at CRP.**

### **Part-A:**

#### **Personal details**

1. Date:
2. Code:
3. Patient name:
4. Present address:
5. Personal mobile no:

#### **Socio-demographic information**

1. Age:
2. Gender:
3. Educational level:
4. Occupation:
5. Residential area:
6. BMI:
7. Marital status:
8. Family monthly income:

**Part-B: This part is designed to explore perception about medication and physiotherapy intervention for chronic osteoarthritis.**

**Q.1:**

- a) Could you please explain me about the difficulties in daily activities that you are facing for osteoarthritis?

**Q.2:**

- a) Did you take medicine for this problem?
- b) (If yes) How do you know about medication?
- c) Please explain your experiences with medication?
- d) Do you know adverse effect of drug?

Yes...../ No.....

If yes.....Please explain.....

**Q.3:**

- a) How do you know about physiotherapy?
- b) Explain your experience about physiotherapy service?
- c) Have you deal with any complication due to Physiotherapy?

**Q.4:**

- a) How can you control your present pain?
- b) What are the reasons behind to follow/continue this strategy?

**Q.5:**

- a) Could you please tell me about your physiotherapist?

**Q.6:**

- a) Would you please give your valuable opinion regarding services of CRP?

## Transcription

### Participant – 1

#### Part-A:

##### Personal details

1. Date: 20/04/2022
2. Code: 22.01.012982
3. Patient name: P1 (Code Name)
4. Present address: Sobujbagh, Savar
5. Personal mobile no: 01913440...

##### Socio-demographic information

1. Age: 39
2. Gender: Female
3. Educational level: Post Graduate
4. Occupation: Housewife
5. Residential area: Urban
6. BMI: 23.63 kg/m<sup>2</sup>
7. Marital status: Married
8. Family monthly income: 5000-10,000 BDT

#### Part-B:

##### Q.1:

Interviewer: Could you please explain me about the difficulties in daily activities that you are facing for osteoarthritis?

Patient: It is hard to use the stairs and to get up and sit in prayers. Getting up and sitting at any work is the most difficult for me. It hurts to walk fast also.

**Q.2:**

Interviewer: Did you take medicine for this problem?

Patient: Yes.

Interviewer: How do you know about medication?

Patient: I know about medicine by myself.

Interviewer: Please explain your experiences with medication?

Patient: Yes, the pain of mine was reduced and I got good results by taking medicine. So, medicine was positive for me. Although I felt better from the extra pain, it started again since I did not maintain to take medicine regularly.

Interviewer: Do you know adverse effect of drug?

Patient: No. I didn't know about the side effects of the medicine. But I did not face any side effects.

**Q.3:**

Interviewer: How do you know about physiotherapy?

Patient: My home is here at Savar. My Mother had a hip pain. She has recovered well by taking treatment from here at 8-9 years ago. I heard from there.

Interviewer: Explain your experience about physiotherapy service?

Patient: I heard from many others that physiotherapy didn't work properly but I got better. Now I feel easy going. I couldn't move my leg but after taking physiotherapy I can move. It reduced my complication which improve my functional activity.

Interviewer: Have you deal with any complication due to Physiotherapy?

Patient: No, it didn't make any complexity.

**Q.4:**

Interviewer: How can you control your present pain?

Patient: I am taking both medicine and physiotherapy to control my present pain.

Interviewer: What are the reasons behind to follow/continue this strategy?

Patient: My pain hasn't gone away yet so I continue both as suggested by the doctor.

**Q.5:**

Interviewer: Could you please tell me about your physiotherapist?

Patient: They are very supportive, well communicated, behaved very well with me and give enough time to me. Other places have to wait a long time and there are no rules but here it is. The physiotherapist spends so much time with patients.

**Q.6:**

Interviewer: Would you please give your valuable opinion regarding services of CRP?

Patient: Their services are done in a systematic way. The service of CRP is of top quality. The environment of the CRP is good. Everyone is very helpful including their supporting staff. The whole surrounding of CRP is very neat and clean. The behavior of supporting staff is well and user friendly and I am very pleased with their behavior.

**Participant – 2****Part-A:****Personal details**

1. Date: 21/04/2022
2. Code: 22.01.015715
3. Patient name: P2 (Code Name)
4. Present address: Baipail, Ashulia, Savar
5. Personal mobile no: 01815208...



### **Socio-demographic information**

1. Age: 42
2. Gender: Male
3. Educational level: Secondary
4. Occupation: Unemployed
5. Residential area: Urban
6. BMI: 25.50 kg/m<sup>2</sup>
7. Marital status: Married
8. Family monthly income: 5000-10,000 BDT

### **Part-B:**

#### **Q.1:**

Interviewer: Could you please explain me about the difficulties in daily activities that you are facing for osteoarthritis?

Patient: I don't do any hard work regularly, I used to drive a car. In that case, my only problem was that whenever I went to prayer, I would get a lot of pain in bowing or prostration. It hurts when I getting up from sitting on the toilet. Also, it hurts to get up after sitting on the floor for 10/15 minutes.

#### **Q.2:**

Interviewer: Did you take medicine for this problem?

Patient: Yes.

Interviewer: How do you know about medication?

Patient: I have become aware about medicine by myself.

Interviewer: Please explain your experiences with medication?

Patient: I am suffered for the last 5 years. The medicine reduces my pain for 1 to 2 days but it back again after 5 to 7 days. The medicine did not work for me.

Interviewer: Do you know adverse effect of drug?

Patient: Yes, I knew about the medicines' side effects that's why I am not in favor of taking medicine and I didn't take any medicine for a long time.

**Q.3:**

Interviewer: How do you know about physiotherapy?

Patient: My sister's husband had a problem with his left hand. If he raised his hand, his hand would be lowered alone, he could not hold it high. He came here and after 5-6 months of physiotherapy he recovered completely. From there, I thought I would get better if I went here, moreover, my mother-in-law is currently receiving treatment here. This is how I became aware of physiotherapy.

Interviewer: Explain your experience about physiotherapy service?

Patient: My experience here is much better. Physiotherapists are using a lot of good, giving enough time. It reduced my complication and improved my functional activity.

Interviewer: Have you deal with any complication due to Physiotherapy?

Patient: No, there is no complication created with me.

**Q.4:**

Interviewer: How can you control your present pain?

Patient: Now I am taking physiotherapy for controlling the pain.

Interviewer: What are the reasons behind to follow/continue this strategy?

Patient: I am not in favor of taking the medicine and I didn't get better results from receiving the medicine.

**Q.5:**

Interviewer: Could you please tell me about your physiotherapist?

Patient: Physiotherapists are so good and give sufficient time. They are sincere and supportive enough. Their behavior is well and they have good communication skills.

**Q.6:**

Interviewer: Would you please give your valuable opinion regarding services of CRP?

Patient: The quality of the service here in CRP is very good. Their service to the patients are done systematically. The supporting staff plays a vital role in following this system. I like the environment. Everything is so clean and tidy.

**Participant – 3**

**Part-A:**

**Personal details**

1. Date: 22/04/2022
2. Code: 19.01.004778
3. Patient name: P3 (Code Name)
4. Present address: Kishoreganj
5. Personal mobile no: 01780084...

**Socio-demographic information**

1. Age: 53
2. Gender: Female
3. Educational level: Graduate
4. Occupation: Teacher
5. Residential area: Urban
6. BMI: 26.90kg/m<sup>2</sup>

7. Marital status: Married

8. Family monthly income: 11,000-20,000 BDT

**Part-B:**

**Q.1:**

Interviewer: Could you please explain me about the difficulties in daily activities that you are facing for osteoarthritis?

Patient: I couldn't walk more time. Having problems at prayer times. Facing problems to do heavy work.

**Q.2:**

Interviewer: Did you take medicine for this problem?

Patient: Yes.

Interviewer: How do you know about medication?

Patient: By myself.

Interviewer: Please explain your experiences with medication?

Patient: Medicine reduced my problems.

Interviewer: Do you know adverse effect of drug?

Patient: Yes, If I took pain killer medicine then it can damage my kidneys and liver.

**Q.3:**

Interviewer: How do you know about physiotherapy?

Patient: My daughter-in-law's house is here. He told me to take physiotherapy.

Interviewer: Explain your experience about physiotherapy service?

Patient: Whenever I took physiotherapy it makes me well. It reduced my complication, I feel better , If I continue this it keeps me well but after coming back home and doing work as previously I feel problems.

Interviewer: Have you deal with any complication due to Physiotherapy?

Patient: No, it's not create any problems.

**Q.4:**

Interviewer: How can you control your present pain?

Patient: I am taking both medicine and physiotherapy for controlling my pain.

Interviewer: What are the reasons behind to follow/continue this strategy?

Patient: My pain is reducing so I am taking physiotherapy along side with medication

**Q.5:**

Interviewer: Could you please tell me about your physiotherapist?

Patient: The therapists are quite good and they give enough time to the patients. They are of good behavior and have very good communication skills.

**Q.6:**

Interviewer: Would you please give your valuable opinion regarding services of CRP?

Patient: Service here in CRP is of top quality. Because they follow their services through a well maintained system. Their supporting staff are so devoted to their duties in helping the patients. The environment here is good. Everything is so neat and clean which is very important for every patient.

## **Participant – 4**

### **Part-A:**

#### **Personal details**

1. Date: 26/04/2022
2. Code: 18.01.039906
3. Patient name: P4 (Code Name)
4. Present address: Dhamrai, Dhaka
5. Personal mobile no: 01983626...

#### **Socio-demographic information**

1. Age: 34
2. Gender: Male
3. Educational level: Secondary
4. Occupation: Farmer
5. Residential area: Rural
6. BMI: 22.39 kg/m<sup>2</sup>
7. Marital status: Married
8. Family monthly income: 5000-10,000 BDT

### **Part-B:**

#### **Q.1:**

Interviewer: Could you please explain me about the difficulties in daily activities that you are facing for osteoarthritis?

Patient: I can't use stairs. I can't do heavy work.

#### **Q.2:**

Interviewer: Did you take medicine for this problem?

Patient: Yes.

Interviewer: How do you know about medication?

Patient: I am informed about the medicine through the CRP doctor.

Interviewer: Please explain your experiences with medication?

Patient: After taking medicine the pain didn't reduce.

Interviewer: Do you know adverse effect of drug?

Patient: No, I don't know.

**Q.3:**

Interviewer: How do you know about physiotherapy?

Patient: My cousin and sister-in-law work here, they said to come.

Interviewer: Explain your experience about physiotherapy service?

Patient: I feel better after giving therapy, I think the whole thing is healthy. The pain subsides. But the pain comes back later. I can use stair now and do moderate work.

Interviewer: Have you deal with any complication due to Physiotherapy?

Patient: No, I didn't have any problems.

**Q.4:**

Interviewer: How can you control your present pain?

Patient: I am taking therapy and medicine.

Interviewer: What are the reasons behind to follow/continue this strategy?

Patient: For reducing my pain.

**Q.5:**

Interviewer: Could you please tell me about your physiotherapist?

Patient: Physiotherapists here in CRP are very supportive and friendly. They are very qualified. They gave me enough time.

**Q.6:**

Interviewer: Would you please give your valuable opinion regarding services of CRP?

Patient: The most overwhelming thing about CRP is its service which is done in a systematic way. I like the environment of CRP. Here all the patients lead a very comfortable day to day life. Because the surroundings are very clean. The supporting staff have got a helpful behavior.

**Participant – 5****Part-A:****Personal details**

1. Date: 26/04/2022
2. Code: 22.01.013555
3. Patient name: P5 (Code Name)
4. Present address: Satullahpur, Gaibandha
5. Personal mobile no: 01725823...

**Socio-demographic information**

1. Age: 63
2. Gender: Female
3. Educational level: Primary
4. Occupation: Housewife
5. Residential area: Rural
6. BMI: 25.41 kg/m<sup>2</sup>



7. Marital status: Married

8. Family monthly income: 5000-10,000 BDT

**Part-B:**

**Q.1:**

Interviewer: Could you please explain me about the difficulties in daily activities that you are facing for osteoarthritis?

Patient: I couldn't eat rice by hand. Couldn't wash the dress. I couldn't scratch the other hand with one hand. I couldn't tie my hair.

**Q.2:**

Interviewer: Did you take medicine for this problem?

Patient: Yes.

Interviewer: How do you know about medication?

Patient: Through my son.

Interviewer: Please explain your experiences with medication?

Patient: No, it did not reduce my pain.

Interviewer: Do you know adverse effect of drug?

Patient: No, I didn't know.

**Q.3:**

Interviewer: How do you know about physiotherapy?

Patient: My little grandson can't speak, he was brought here for treatment and I can know from there.

Interviewer: Explain your experience about physiotherapy service?

Patient: After taking physiotherapy, now I can move my hand. Can hand raise, put down, tie my hair, wash the dresses and do everything. Now I feel better.

Interviewer: Have you deal with any complication due to Physiotherapy?

Patient: No, I didn't have any problems.

**Q.4:**

Interviewer: How can you control your present pain?

Patient: To reduce the pain I am taking therapy and the calcium medicine.

Interviewer: What are the reasons behind to follow/continue this strategy?

Patient: To reduce my pain.

**Q.5:**

Interviewer: Could you please tell me about your physiotherapist?

Patient: The therapists are not only qualified but also friendly too. They support their patients to a great extent. The therapists give so much time. Their skill for communication can be of a high praise.

**Q.6:**

Interviewer: Would you please give your valuable opinion regarding services of CRP?

Patient: I feel better about this environment here. But their service is second to none. The main reason for that is they provide their services by following a system. They are by far the best when it comes to prioritizing the patients. Because their supporting staff are so cautious about this matter.

**Participant – 6**

**Part-A:**

**Personal details**

1. Date: 26/04/2022
2. Code: 22.01.014940
3. Patient name: P6 (Code Name)
4. Present address: Savar, Dhaka
5. Personal mobile no: 0179977...

**Socio-demographic information**

1. Age: 50
2. Gender: Male
3. Educational level: Secondary
4. Occupation: Business
5. Residential area: Urban
6. BMI: 23.52 kg/m<sup>2</sup>
7. Marital status: Married
8. Family monthly income: 21,000-50,000 BDT

**Part-B:**

**Q.1:**

Interviewer: Could you please explain me about the difficulties in daily activities that you are facing for osteoarthritis?

Patient: I can't sit in cross sitting. I can't eat sitting on the floor, I have to sit on the chair. I can't use the stairs and can't walk fast.

**Q.2:**

Interviewer: Did you take medicine for this problem?

Patient: Yes.

Interviewer: How do you know about medication?

Patient: I have known by an acquaintance relative.

Interviewer: Please explain your experiences with medication?

Patient: I didn't get the result as expected.

Interviewer: Do you know adverse effect of drug?

Patient: No.

**Q.3:**

Interviewer: How do you know about physiotherapy?

Patient: I live in Savar, that's why I know about CRP a long.

Interviewer: Explain your experience about physiotherapy service?

Patient: In general, I am taking physiotherapy, it hurts a little while taking it, after a while I feel a little better but I didn't improve as expected.

Interviewer: Have you deal with any complication due to Physiotherapy?

Patient: Increase temporary pain.

**Q.4:**

Interviewer: How can you control your present pain?

Patient: I am taking medicine besides physiotherapy.

Interviewer: What are the reasons behind to follow/continue this strategy?

Patient: I am continuing both because I didn't get improvement as expected.

**Q.5:**

Interviewer: Could you please tell me about your physiotherapist?

Patient: All the physiotherapists at CRP are very much qualified. Their dedication to their work is incomparable. Their first priority is the health of their patient. They are very supportive as well as sincere in managing their schedule to every patient.

**Q.6:**

Interviewer: Would you please give your valuable opinion regarding services of CRP?

Patient: In general, the environment of CRP is very good as well as neat and clean. When it comes to service, not a single place can be compared to CRP. A system is strictly followed by them before giving service to the patients. That's why patients are able to lead a very healthy life here. All the supporting staff here work together to maintain this quality of service.

**Participant – 7**

**Part-A:**

**Personal details**

1. Date: 26/04/2022
2. Code: 12.01.007603
3. Patient name: P7 (Code Name)
4. Present address: CRP, Savar
5. Personal mobile no: 01743482...

**Socio-demographic information**

1. Age: 42
2. Gender: Female

3. Educational level: Secondary
4. Occupation: Service Holder
5. Residential area: Urban
6. BMI: 32.46 kg/m<sup>2</sup>
7. Marital status: Married
8. Family monthly income: 11,000-20,000 BDT

**Part-B**

**Q.1:**

Interviewer: Could you please explain me about the difficulties in daily activities that you are facing for osteoarthritis?

Patient: I can't sit up. I can't do my prayers. I can go up and down the stairs but it is difficult.

**Q.2:**

Interviewer: Did you take medicine for this problem?

Patient: Yes.

Interviewer: How do you know about medication?

Patient: By myself.

Interviewer: Please explain your experiences with medication?

Patient: medicines didn't work.

Interviewer: Do you know adverse effect of drug?

Patient: Yes, I knew. I felt bad, felt nausea, urine turned yellow, felt dizzy and restless.

**Q.3:**

Interviewer: How do you know about physiotherapy?

Patient: After seeing the doctor, the doctor told me to take therapy.

Interviewer: Explain your experience about physiotherapy service?

Patient: My experience is good, I am taking therapy, I am improving. I like taking therapy.

Interviewer: Have you deal with any complication due to Physiotherapy?

Patient: No, it didn't.

**Q.4:**

Interviewer: How can you control your present pain?

Patient: I stopped taking the medicine and now I am just taking physiotherapy

Interviewer: What are the reasons behind to follow/continue this strategy?

Patient: My pain is decreasing so I am continuing physiotherapy.

**Q.5:**

Interviewer: Could you please tell me about your physiotherapist?

Patient: All the physiotherapists at CRP are very friendly to their patients. Not only that, they are also very supportive in every possible way. The way they communicate with their patients is a joy to watch. They look after their patients very carefully. They have a very good behavior.

**Q.6:**

Interviewer: Would you please give your valuable opinion regarding services of CRP?

Patient: The most significant thing about CRP is its service to the patients. Patients are able to lead a systematic life because CRP ensures the systematic service to all the patients. All the supporting staff of CRP work together to help a patient in his/her journey to recovery. CRP has a group of supporting staff of well behavior. The environment was

very good. The whole place was very neat and clean which is very important for a patient's recovery.

**Participant – 8**

**Part-A:**

**Personal details**

1. Date: 27/04/2022
2. Code: 12.01.007262
3. Patient name: P8 (Code Name)
4. Present address: Shimultola, Savar
5. Personal mobile no: 01682382...

**Socio-demographic information**

1. Age: 52
2. Gender: Female
3. Educational level: Graduate
4. Occupation: Service Holder
5. Residential area: Urban
6. BMI: 30.49 kg/m<sup>2</sup>
7. Marital status: Married
8. Family monthly income: 21,000-50,000 BDT

**Part-B:**

**Q.1:**

Interviewer: Could you please explain me about the difficulties in daily activities that you are facing for osteoarthritis?



Patient: I can't sit down and pray, I sit in the chair and pray. I can't use the low commode toilet, I can't walk fast, I can't stand for a while, I can't walk, I have difficulty getting up and down the stairs, I have difficulty getting on the high rickshaw.

**Q.2:**

Interviewer: Did you take medicine for this problem?

Patient: Yes.

Interviewer: How do you know about medication?

Patient: By myself.

Interviewer: Please explain your experiences with medication?

Patient: Reduced temporary pain

Interviewer: Do you know adverse effect of drug?

Patient: Yes, I knew. The doctor told me that my urination would become thicker, and I became normal after drinking more water

**Q.3:**

Interviewer: How do you know about physiotherapy?

Patient: I am a staff member of CRP. That is the source of knowledge about physiotherapy.

Interviewer: Explain your experience about physiotherapy service?

Patient: Their physiotherapy services are very good, you feel very comfortable after taking, I feel a little pain while taking the therapy. It is a little difficult to take the therapy but I feel much better after finishing the therapy. It gradually improve my condition.

Interviewer: Have you deal with any complication due to Physiotherapy?

Patient: Temporary pain increases during physiotherapy and goes away after a while.

**Q.4:**

Interviewer: How can you control your present pain?

Patient: Continuing with both medicine and physiotherapy.

Interviewer: What are the reasons behind to follow/continue this strategy?

Patient: To control pain.

**Q.5:**

Interviewer: Could you please tell me about your physiotherapist?

Patient: They give enough time. They are qualified enough. They take good care of their patients. They are very sincere to their duty and they are very supportive too. They behave in a friendly way to their patients.

**Q.6:**

Interviewer: Would you please give your valuable opinion regarding services of CRP?

Patient: The CRP environment is much better. Everything here is neat and clean. The quality of service here is second to none, which helps the patients to have a user friendly and a relaxed life. Not only the therapists but also the supporting staffs help the patient to a great extent.

**Participant – 9****Part-A:****Personal details**

1. Date: 27/04/2022
2. Code: 22.01.016881
3. Patient name: P9 (Code Name)
4. Present address: Ashulia, Savar, Dhaka
5. Personal mobile no: 01815015...

### **Socio-demographic information**

1. Age: 30
2. Gender: Male
3. Educational level: Higher Secondary
4. Occupation: Service Holder
5. Residential area: Urban
6. BMI: 25.60 kg/m<sup>2</sup>
7. Marital status: Married
8. Family monthly income: 11,000-20,000 BDT

### **Part-B:**

#### **Q.1:**

Interviewer: Could you please explain me about the difficulties in daily activities that you are facing for osteoarthritis?

Patient: It is difficult to pray. It used to be a problem to use the toilet but now it is not a problem. I am afraid to walk fast.

#### **Q.2:**

Interviewer: Did you take medicine for this problem?

Patient: Yes.

Interviewer: How do you know about medication?

Patient: By myself.

Interviewer: Please explain your experiences with medication?

Patient: Yes, the medicines reduced my problems.

Interviewer: Do you know adverse effect of drug?

Patient: No, I did not know.

**Q.3:**

Interviewer: How do you know about physiotherapy?

Patient: I consulted an MBBS doctor and he told me to take physiotherapy.

Interviewer: Explain your experience about physiotherapy service?

Patient: Yes, Alhamdulillah. Much better.

Interviewer: Have you deal with any complication due to Physiotherapy?

Patient: I have a problem with my right leg. I am taking therapy for my right leg but I am feeling a little pain in my left leg.

**Q.4:**

Interviewer: How can you control your present pain?

Patient: I am taking medicine and physiotherapy. The therapist gave me some exercises and I am doing them at home.

Interviewer: What are the reasons behind to follow/continue this strategy?

Patient: Both are working to control my pain.

**Q.5:**

Interviewer: Could you please tell me about your physiotherapist?

Patient: All the physiotherapists here at CRP are very friendly to all the patients, they are very sincere to their duties and they take good care of their patients. Because of their sincerity. Their communication skills are very good too as well as they have a well and friendly behavior.

**Q.6:**

Interviewer: Would you please give your valuable opinion regarding services of CRP?

Patient: The first and foremost thing to mention about CRP is the service. It is really second to none. This quality of service is of first grade. Only because of its system, they are able to ensure the healthiest life possible for a patient to lead. The environment is very good. All their supporting staff have a good behavior as well.

## **Participant – 10**

### **Part-A:**

#### **Personal details**

- 1.Date: 28/04/2022
- 2.Code: 12.01.007543
- 3.Patient name: P10 (Code Name)
- 4.Present address: CRP, Savar
- 5.Personal mobile no: 01730059...

#### **Socio-demographic information**

- 1.Age: 47
- 2.Gender: Male
- 3.Educational level: Post Graduation
- 4.Occupation: Service Holder
- 5.Residential area: Urban
- 6.BMI: 25.95 kg/m<sup>2</sup>
- 7.Marital status: Married
- 8.Family monthly income: 21,000-50,000 BDT

### **Part-B:**

#### **Q.1:**

Interviewer: Could you please explain me about the difficulties in daily activities that you are facing for osteoarthritis?

Patient: I can't pray, there is a problem and I can't go up and down the stairs.

**Q.2:**

Interviewer: Did you take medicine for this problem?

Patient: Yes.

Interviewer: How do you know about medication?

Patient: By myself.

Interviewer: Please explain your experiences with medication?

Patient: Yes, it reduced my pain a bit.

Interviewer: Do you know adverse effect of drug?

Patient: Yes, I knew. But I had to take the medicine.

**Q.3:**

Interviewer: How do you know about physiotherapy?

Patient: By myself.

Interviewer: Explain your experience about physiotherapy service?

Patient: Yes, my pain has reduced after taking physiotherapy. Previously I can't pray, there is a problem and I can't go up and down the stairs. Now I can.

Interviewer: Have you deal with any complication due to Physiotherapy?

Patient: No, I didn't have any problems after taking the therapy.

**Q.4:**

Interviewer: How can you control your present pain?

Patient: I am taking physiotherapy as well as taking medicine. I had severe pain for the last three days for which I have taken painkillers and today I have taken physiotherapy.

Interviewer: What are the reasons behind to follow/continue this strategy?

Patient: My pain was not completely cured for which I am taking physiotherapy and taking medicine.

**Q.5:**

Interviewer: Could you please tell me about your physiotherapist?

Patient: The behavior of the physiotherapists was very good and they have given me enough time. They are very supportive to their patients. Their behavior is user friendly and the patients can rely on them regarding their improvement of their health.

**Q.6:**

Interviewer: Would you please give your valuable opinion regarding services of CRP?

Patient: The environment of CRP is very good. Because everything is so neat and clean. The well being of the patient is the first priority here. Systematic service plays a very important role here. We feel so relieved here because of their service to us. The supporting staff act so friendly with the patients. That's why they maintain a high quality service.

**Participant – 11**

**Part-A:**

**Personal details**

1. Date: 28/04/2022
2. Code: 22.01.007044
3. Patient name: P11 (Code Name)
4. Present address: Uttara, Dhaka
5. Personal mobile no: 01552303...

**Socio-demographic information**

1. Age: 63

2. Gender: Female
3. Educational level: Graduation
4. Occupation: Retired
5. Residential area: Urban
6. BMI: 23.50 kg/m<sup>2</sup>
7. Marital status: Married
8. Family monthly income: 11,000-20,000 BDT

**Part-B:**

**Q.1:**

Interviewer: Could you please explain me about the difficulties in daily activities that you are facing for osteoarthritis?

Patient: I couldn't lengthen my knees, I couldn't even fold. It would be a little harder to go up the stairs than to go down. I couldn't sit still, I couldn't walk fast. But after giving physiotherapy, I can fold my legs and match my legs.

**Q.2:**

Interviewer: Did you take medicine for this problem?

Patient: Yes.

Interviewer: How do you know about medication?

Patient: By myself.

Interviewer: Please explain your experiences with medication?

Patient: Yes, it slightly reduced my problems.

Interviewer: Do you know adverse effect of drug?

Patient: Yes, I know. I did not have any problems.



**Q.3:**

Interviewer: How do you know about physiotherapy?

Patient: Through a staff of CRP.

Interviewer: Explain your experience about physiotherapy service?

Patient: Very good experience, everyone please obey the rules, I am getting a lot of benefits. Previously I couldn't lengthen my knees, I couldn't even fold. It would be a little harder to go up the stairs than to go down. I couldn't sit still, I couldn't walk fast. Now my condition is improved, I can do my daily work.

Interviewer: Have you deal with any complication due to Physiotherapy?

Patient: No.

**Q.4:**

Interviewer: How can you control your present pain?

Patient: I am taking medicine now as well as continuing physiotherapy, I will give up the medicine once the dose of the medicine is completed.

Interviewer: What are the reasons behind to follow/continue this strategy?

Patient: I am not well yet so I am continuing physiotherapy and medicine.

**Q.5:**

Interviewer: Could you please tell me about your physiotherapist?

Patient: Giving me as much time as I need. They never seem to be tired. They are always ready to help their patients through a satisfactory behavior. We can share any kind of problems with them and they try their best to help us in every possible way in a supportive manner.

**Q.6:**

Interviewer: Would you please give your valuable opinion regarding services of CRP?

Patient: The environment of CRP is very neat and tidy which helps the patients to lead a very healthy and hygienic life. The supporting staff here are so friendly. All of these are run through a systematic service.