Quality of Life of Patients Suffering from Knee Osteoarthritis in Bangladesh.

Faculty of Medicine

University of Dhaka

Submitted by

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DU Roll no:1303

Reg. no:10249

Session: 2017-2018

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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

Quality of Life of Patients Suffering from Knee Osteoarthritis in Bangladesh.

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DECLARATION

This work has not previously been accepted in substance for any degree and isn't concurrently submitted in candidature for any degree. This dissertation is being submitted in partial fulfillment of the requirements for the degree of B.Sc. in Physiotherapy.

I confirm that if anything identified in my work that I have done plagiarism or any form of cheating that will directly awarded me fail and I am subject to disciplinary actions of authority. I confirm that the electronic copy is identical to the bound copy of the Thesis.

In case of dissemination the finding of this project for future publication, research supervisor will highly concern, it will be duly acknowledged as graduate thesis and consent will consent taken from the physiotherapy department of Bangladesh Health Professions Institute (BHPI).

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Acknowledgement

First of all, I would like to pay my gratitude to **Almighty Allah** who has given me the ability to complete this project in time with success. The second acknowledgement must go to my parents, my younger sister who have always inspired me for preparing the project properly. I am extremely grateful to my honorable and praiseworthy Supervisor **Zahid Bin Sultan Nahid**, Assistant Professor and head of the Department of Physiotherapy, Saic College of Medical Science and Technology (SCMST) for giving me his valuable time, his keen supervision and excellent guidance without which I could not be able to complete this project.

I am also very thankful to **Dr. Abul Kasem Mohammad Enamul Haque**, Principal, SCMST; **Md. Shahidul Islam**, Assistant Professor & consultant outdoor, Department of Physiotherapy, SCMST; **Abid Hasan Khan,** Lecturer, Department of Physiotherapy, SCMST; **Md. Furatul Haque**, Lecturer, Department of Physiotherapy, SCMST; **Zakia Rahman** Lecturer, Department of Physiotherapy and also all of my respected teachers for helping me in this study.

I wish to thanks to all respectable Physiotherapy staff working at Saic Physiotherapy Outdoor Department for helping me in collection of my data.

I am grateful to the intern physiotherapists, Department of Physiotherapy, SCMST, Mirpur-14, Dhaka for their support throughout the period of this study. I wish to thank the Librarian of SCMST and his associates for their kind support to find out related books, journals and also access to internet.

Finally, I would like to thanks all the participants who willingly participated as the study population during the conduction of my study and the entire individual who were directly or indirectly involved with this study.

Acronyms

B.sc.PT: Bachelor of Science in physiotherapy.

BMI: Body mass index

DU: Dhaka University

EBR: Ethical Review Board

HRQoL : Health related quality of life questionnaire.

KOA: Knee osteoarthritis

OA: osteoarthritis

QoL : Quality of life.

SAIC: Student admission information center.

SCMST : Saic college of medical science and technology.

SF: Short form

SPSS : Statistical Package for Social Science.

WHO : World Health Organization

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Abstract

Background: Aim of the study was to determine the quality of life knee osteoarthritis patients among the Bangladesh. Osteoarthritis was a continual degenerative joint disorder that reasons impaired joint feature and incapacity particularly amongst older patients. **Objective:** Objective of the study to assess the level of quality of life of patients with knee osteoarthritis in different part of Bangladesh. **Methodology:** It was a descriptive type of cross-sectional study. The patients with knee osteoarthritis attended in different physiotherapy center constituted the study population for the present study. This study sample size was 160, Data was analyzed with Microsoft office, excel 2019 using SPSS 25 version software program and test use of study chi-square test. **Result:** Result were showed by domains because during the interval the majority of patients had changed in the SF-36 domains and only a small minority demonstrated improvement. According to that, 91 (56.9%) participants had moderate emotional problems, 34 (21.3%) participants had severe emotional problems and 31 (19.4%) participants had slightly emotional problems. About frequency distribution of the participants by physical health, 108 (67.5%) participants said that they were healthy some of the time, 28 (17.5%) participants said that it was most of the time, 8 (5.0%) participants said that they were healthy none of the time and 14 (8.8%) participants said that they were healthy a good bit of the time. **Conclusion:** the SF-36 item short form health survey was proper to evaluated quality of life of patient suffering with knee osteoarthritis of Bangladesh. The analyzed knee osteoarthritis patients assessed their quality of life as being then the examined controls in both physical and emotional health realms.

Keyword: *Quality of life, knee osteoarthritis, physical health.*

CHAPTER – I INTRODUCTION

1.1 Background

Degenerative joint disorder, additionally called osteoarthrosis or osteoarthritis, is one of the maximum common pathological procedures of the human species and is taken into consideration a developing public fitness problem. It is a persistent ailment that particularly influences the joints of the knee, hip, palms and spine (Araujo et al., 2016).

In latest years, extra humans be afflicted by knee osteoarthritis all over the global with the developing populace of vintage humans, and this disorder will result in physiologic disorder in knee joints. The sufferers now no longer simplest be afflicted by ache and swelling of joints however additionally face the threat of absolutely dropping the knee function, so the interventional remedy ought to be finished as quickly as feasible to make sure their lifestyles and health (Zhang and Liu., 2021).

Knee osteoarthritis is one of the main reasons of incapacity withinside the world. Intra-articular hyaluronic acid is a remedy modality that gives a minimally invasive remedy choice for the control of osteoarthritis-associated symptoms (Roos and Arden., 2016).

Osteoarthritis impacts the articular cartilage and subchondral bone, compromising the joint as a whole. The knee joint is characterized as one of the primary web sites of involvement of osteoarthritis and the maximum large hazard elements for growing the sickness are aging, obese and women gender. Osteoarthritis is taken into consideration one of the maximum common reasons of disability, which might also additionally have an effect on the pleasant of lifestyles of the patients, favoring the onset of intellectual disorders (Ferreira et al., 2015).

Osteoarthritis is a debilitating multifactorial degenerative rheumatic disease, and one of the main reasons of purposeful obstacles and morbidity worldwide. Progressive degeneration of joints consequences in bodily incapacity affecting 250 million people across the globe. It has been expected that 9.6% of guys

and 18% of ladies over 60 years of age be afflicted by symptomatic osteoarthritis. it has been suggested that humans with osteoarthritis of the knee make contribution to the 3.8% occurrence of symptomatic osteoarthritis worldwide. The occurrence of osteoarthritis withinside the Arab global is notably high; contributing to 53.3% of fellows and 60.9% of girls among 30 and 93 years of age tormented by radiographically showed symptomatic knee osteoarthritis withinside the middle East (Al -Ajmi and Al-Ghamdi., 2021).

Osteoarthritis is a persistent degenerative disease which in general impacts the articular cartilage of synovial joints accompanied with the aid of using bony reworking and overgrowth on the margins of those joints. The outcomes of osteoarthritis are pain, joint stiffness, reduced muscle performance, and reduced cardio capacity, which sooner or later have an effect on the high-satisfactory of life and elevated danger of disability (Ferreira et al., 2015).

Quality of lifestyles is described as “an individual’s belief in their role in existence withinside the context of the way of life and fee structures wherein they stay and, on the subject of their goals, expectations, requirements and concerns”. Health-associated first-rate of lifestyles covers, amongst different factors, pain, useful ability and emotional well-being. Osteoarthritis notably decreases the pleasant of sufferers that suffer it. It is the maximum popular arthropathy at some point of the arena and knee involvement is the maximum not unusual place purpose for strolling incapacity most of the elderly, from all races and geographical areas. In industrialized countries, 80% of the populace elderly over 65 suffers osteoarthritis, with a better occurrence being located withinside the organization elderly among 70 and 79 years, and 33.7% of instances affecting the knee (Abbott et al., 2017).

The populace region of elders is steadily increasing, and its far expected that it’ll attain nearly one 0.33 of the entire populaces in 2025. Large wide variety of elders is stricken by knee osteoarthritis because the maximum typical rheumatic illnesses worldwide. Recently there may be a developing difficulty amongst researchers and fitness experts concerning the effect of knee osteoarthritis on elders and their excellent of life (Alkan et al., 2013).

Right now, the only methods available for diagnosing, treating, and predicting osteoarthritis are imaging-based evaluations and clinical assessments based on symptoms and indicators. Nonetheless, the intricacy of the effects osteoarthritis has on a patient's health renders this strictly medical approach obsolete. The condition is progressive, especially in the knees, and it can cause discomfort, inflammation, and joint damage. As a result, there will be a loss of walking ability and range of motion (Richmond et al., 2013).

Patients' functional impairments tend to get worse as the illness progresses. Because of their restricted range of motion and discomfort, these people's everyday activities are therefore more difficult for them, which negatively impacts their quality of life (QOL) at work, play, and lin social situations (Abbott et al., 2017).

The definition of quality of life is "a person's understanding of where they are in life in relation to their objectives, standards, expectations, and concerns, as well as the culture and value systems in which they live." The variables that make up health-related quality of life (HRQoL) include pain, functional ability, and emotional stability (Bernad-Pineda et al., 2014).

Patients with osteoarthritis (also known as arthrosis) have far worse quality of life. It is the most common arthropathy worldwide, and among seniors of all racial and geographic backgrounds, knee and/or hip involvement is the most frequent cause of walking difficulty. In developed nations, osteoarthritis affects 80% of those over 65.3 The condition is most common in those between the ages of 70 and 79, with the knee accounting for 33.7% of cases (Bernad-Pineda et al., 2014).

Osteoarthritis (OA) is an age-related disease characterized pathologically by areas of focal damage and loss of articular cartilage in synovial joints, is one of the most frequent chronic diseases that can lead to loss of quality of life and increased prevalence and incidence due to increased life expectancy (Neogi et al., 2013).

The primary clinical symptom of osteoarthritis is pain, which can be intermittent or constant. Pain is the symptom that forces patients to seek medical

advice and contributes the most to functional limitations and reduced quality of life. Specifically, the impact of OA on the quality of life was found to be significantly associated with the sites of pain and sex (Pereira et al., 2015).

1.2. Justification of the study:

Osteoarthritis of the knee happens when the cartilage in your knee joint breaks down, enabling the bones to rub together. The friction makes your knees hurt, become stiff and sometimes swell. Now a day's osteoarthritis at the knee joint of people are becoming epidemic in situation. In many country research has been done on quality-of-life patients suffering from knee osteoarthritis but no research was found in Bangladesh. This study revealed the situation of a patient life due to knee osteoarthritis. Through the research a lot of miss concept would be clear about knee osteoarthritis. Among the few studies that were found locally not sufficient to present the real picture of the situation due to shortage of information and study were conducted couple of year back which does not represent the present situation on this regard. So, it is very urgent to know the situation. For this reasons, one study is necessary to conduct on this topic to take the preventive measures and minimize the gap of the knowledge in this regard. To verify the association between function independence and quality of life of patients with knee osteoarthritis, it is important to do this research. The again of the population is of osteoarthritis a major public health problem. It is a source of pain and functional disability and therefore has a very important social and professional impact. Researcher would like to know more through my research, how much people can move freely when they have knee osteoarthritis and how much hindrance they are facing in their daily life, how much damage it is causing them and how their quality of life is and this is the lifestyle of these patients how much does it affect quality.

The findings of this study will add professional knowledge to the physiotherapist. The result of the present study will help the policy maker to organized health programs for the people to prevent osteoarthritis and improving quality of life.

1.3: Research Question:

What is the level of quality of life of patients suffering from knee osteoarthritis?

1.4: Objectives of the study

1.4.1: General objective:

To assess the quality of life of patients suffering from knee osteoarthritis in different parts of Bangladesh.

1.4.2 Specific objectives:

I: To evaluated the physical health problem of Knee osteoarthritis patient by SF-36.

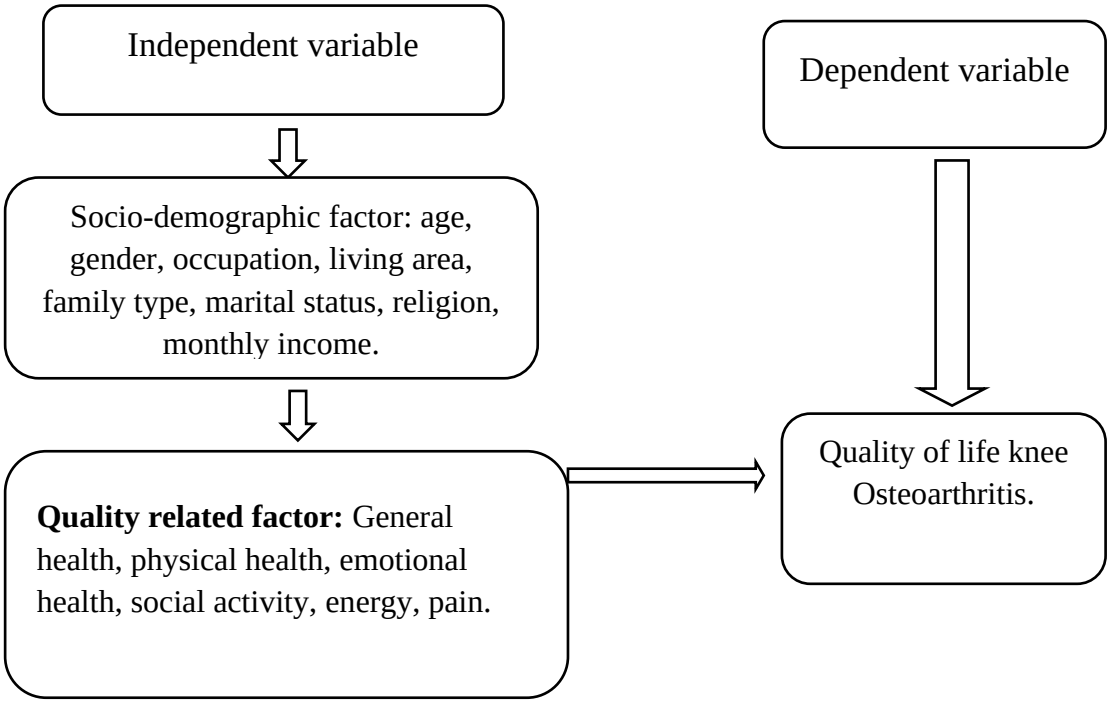
II: To evaluated the emotional health problem of Knee osteoarthritis patient by SF-36.

III: To examine the association between age and in general health.

IV: To examine the association between BMI and bodily pain.

V: To describe the socio-demographic characteristics of the patients.

1.5: Conceptual framework:



1.4: Operational definitions of the variables

Osteoarthritis: osteoarthritis is a most common form of arthritis. Some people call it degenerative joint disease or wear and tear arthritis. It occurs most frequently in the hands, hips, and knees. With osteoarthritis, the cartilage with in a joint begins to break down and the underlying bone begins to change.

Knee osteoarthritis: osteoarthritis of the knee happens when the cartilage in your knee joint breaks down, enabling the bones to rub together. The friction makes your knees hurt, become stiff and sometimes swell.

Quality of life: Quality of life is defined as an individual perception of their position in life in the context in the culture and value systems in which they live and in relation to their goals, standards, concern, expectation etc.

Short Form-36: The SF-36 is used today in outpatient settings and with community-dwelling older adult. The 36 questions on the SF-36 are meant to reflect 8 domains of health, including physical functioning, physical role, pain, general health, vitality, social function, emotional role and mental health.

CHAPTER – II LITERATURE REVIEW

Osteoarthritis was a continual degenerative joint disorder that reasons impaired joint feature and incapacity particularly amongst older patients (Prieto-Alhambra et al., 2014).

Osteoarthritis had been notion of as a disorder of cartilage that may be efficaciously dealt with surgically at extreme levels with joint arthroplasty. Today, osteoarthritis is taken into consideration a whole-organ ailment this is amenable to prevention and remedy at early ranges. Osteoarthritis develops slowly over 10-15 years, interfering with sports of day-by-day dwelling and the cap potential to work (Roos and Arden., 2016).

Knee osteoarthritis was one of the maximums not unusual place degenerative illnesses inflicting incapacity in aged patients. Osteoarthritis is a growing hassle for getting old populations, including that during Hong Kong. It was cortical for suggestions to be saved updated with the fine evidence-primarily based totally osteoarthritis control practices available (Kiadaliri et al., 2019).

Osteoarthritis was a completely not unusual place musculoskeletal disorder that impacts diarthrodial joints and ends in incapacity and decreased excellent of life (Wallace et al., 2017).

The pathogenesis of the ailment continues to be poorly understood and pharmacological goals have now no longer yet been absolutely identified. For a protracted time, osteoarthritis changed into taken into consideration a degenerative disease due to morpho-useful adjustments of the hyaline cartilage. This speculation become supported through epidemiological facts displaying that osteoarthritis was extra not unusual place withinside the aged populace and its prevalence will increase with age (Hunter and Bierma-Zeinstra., 2019).

The maximum extensively regular pathogenetic theory these days considers osteoarthritis as a disorder caused via way of means of a complicated interaction of genetic, cellular, biomechanical and immunological factors (Kiadaliri et al., 2019).

The occurrence of knee osteoarthritis withinside the aged in our us of a as a lot as 49%, the predominant scientific manifestations of knee pain, stiffness, restricted mobility and different dysfunction. Cause of many continual fatigue and age-associated degenerative adjustments withinside the knee joint, with its repeated assaults cause the formation of osteophytes knee osteoarthritis. The modern-day remedy of many knee osteoarthritis, which includes brake rest, medication, bodily therapy, bracing, or maybe arthroplasty and so on. Medication facet outcomes often, surgical treatment trauma, however, despite the fact that conservative rehabilitation trauma and aspect results and there's a positive effect, however now no longer satisfied, so we discover techniques of workout schooling in aggregate with different remedies knee osteoarthritis not unusual place remedy a good way to reap better results. Principle of training remedy is: articular cartilage compression and rest physical games to make joint sports to bolster the nearby blood circulation, sell the decision of inflammation, relieve pain; motion additionally stimulates the increase of cartilage cells hence promoting bone repair, for that reason enhancing joint function; workout education can growth bone density and save you osteoporosis, prevention of the incidence knee osteoarthritis from the character of the reasons (Xiaowei., 2015).

Goniometer are broadly utilized in medical applications. In this study, a goniometer was used to assist topics in reaching the preferred posture withinside the test. For example, we carry out an test to illustrate the calculated perspective which become achieved with the aid of using an skilled orthopedic doctor who measured the attitude among the anterior thigh and anterior shank with the goniometer. A situation was asked to carry out a well-known motion of SLR for ten instances with the goniometer well applied. The attitude version was received via way of means of subtraction among the median of the 10% biggest price and median of 10%smallest price on every occasion window (Losina et al., 2013).

According to the once-a-year scientific census in 2010 posted via way of means of the Taiwan department of health, the range of sufferers with arthropathies

and associated issues is set 14% of the overall wide variety of out patients and inpatients in Taiwan; and 80% of sufferers with knee osteoarthritis are above 50years old. Furthermore, the variety of human beings above age of 50 makes up 30.6% of the entire Taiwanese populace in 2011, and this ratio becomes better withinside the future. In the United States, approximately 9.29% of America populace was recognized with symptomatic knee osteoarthritis through the age of 60. According to the 2012 census of the U.S. Department of Commerce (Bennell et al., 2014).

Individuals who maintain a knee damage in young people sports are at elevated chance of being symptomatic, having impaired bodily function, and being obese or overweight 3-10 years later, as compared with unhurt controls and sports (Wittaker et al., 2015).

These findings advise that danger elements predictive of osteoarthritis withinside the general populace also are in those with earlier knee harm. Compare with unharmed individuals, Knee injuries are diagnosed to growth the risk of osteoarthritis, and orthopedic knee surgical operation is associated with the threat of osteoarthritis and joint opportunity at a extra younger age (Richmond et al., 2013).

The most prevalent degenerative joint disorder and a significant global public health issue is osteoarthritis (OA). The purpose of this study is to evaluate patients' quality of life (QoL) in relation to self-reported disability and standard clinical measurements using the general Short Form-36 (SF-36) instrument in patients with knee OA (Alkan et al., 2013).

Osteoarthritis (OA) was a disorder that affects a lot of people and can cause crippling pain and a loss of physical function. According to data from New Zealand (NZ), the percentage of patients with OA who have a doctor's diagnosis and symptoms rises with age, from at least 8% in the 45–55 age group to 30% in those over 75. Knee OA is a primary cause of disability worldwide and is linked to high financial costs and a lower quality of life (Cross et al., 2014).

According to data from the United States (US), the incidence of knee OA peaks in the age group of 55 to 65 at about 0.4% annually and has an average incidence of about 0.25% from 25 to 85 years of age (Losina et al., 2013).

The most common rheumatic illness is osteoarthritis. The preferred placement is the knee joint. Significant functional impairment from osteoarthritis results in both disability and handicap. Its negative effects on quality of life make it a significant public health issue in addition to its enormous socioeconomic cost. The OAKHQOL provides information on the particular facets of individuals with knee osteoarthritis' quality of life (Mahmoudi et al., 2016).

While the research has examined the effects of knee pain and osteoarthritis (OA) on health-related quality of life (HRQoL), little is known about the effects of various OA classifications on HRQoL. This study's primary objective was to assess and contrast how different definitions of knee OA affected HRQoL in the general population (Kiadaliri et al., 2016).

Osteoarthritis (OA) weakens the joint as a whole by affecting the articular cartilage and subchondral bone. The most important risk factors for acquiring the disease are aging, being overweight, and being a woman. The knee joint is one of the primary sites of involvement of OA. One of the most common causes of disability, OA may have an impact on patients' quality of life and increase the risk of mental illnesses developing (Ferreira et al., 2015).

Approximately 13.8% of people in China had knee OA generally, and there was a trend for this prevalence to rise with age, especially beyond the age of 40, according to statistics from China (Mahmoudi et al., 2016).

The total number of patients will be quite surprising in the future given the big elderly population in China. There are presently no OA treatments that are approved that can stop the structural progression caused by OA or postpone the requirement for a total knee replacement (Losina et al., 2013).

In the current study, individuals with knee OA had their HRQoL assessed using the SF-36 questionnaire. The WOMAC index was investigated as a patient assessment tool for diseases. The findings of this study revealed a statistically significant connection between each WOMAC subscale score and SF-36 subscale score (P 0.05). In the past, Alkan et al. found that in individuals with knee osteoarthritis, the SF-36 physical function was significantly adversely linked with the WOMAC subscale scores (Alkan et al., 2014).

According to Figueiredo et al., patients with osteoarthritis had a negative relationship between their level of pain and their quality of life (Ferreira et al., 2015).

This cross-sectional study looked at the association between Chinese patients with knee osteoarthritis' health-related quality of life (HRQoL) and the degree of their pain and other symptoms (OA). The study used cross-sectional, descriptive, and correlational methodologies. The study enrolled 466 patients with knee OA as a convenience sample. Age, gender, BMI, disease duration, and Kellgren- Lawrence (KL) scores were noted. Participants' HRQoL and symptoms were evaluated using the Western Ontario and McMaster (WOMAC) index and the 36-item Short Form Health Survey (SF-36). Results: The sample had a mean age of 56.56 years and a mean BMI of 24.53 kg/m2, with 82% of the participants being female. We discovered that the bulk of the SF-36 subscale scores and WOMAC subscale scores had strongly unfavorable correlations. patients with knee OA (P 0.05). BMI, disease duration, KL score, and the great majority of patient SF-36 subscale scores did not correlate with each other (P > 0.05). Additionally, there was a significant relationship between age, PCS, and MCS in patients (P 0.05), as well as between gender and MCS. According to regression analysis, WOMAC subscale scores are significant (Bernad-Pineda et al., 2014).

Employing the osteoarthritis knee hip quality of life (OAKHQoL) questionnaire to assess health-related quality of life (HRQoL) in primary knee osteoarthritis (KOA) patients and researching its relationship to clinical and radiological factors Patients and procedures The study included 100 participants with primary KOA. The OAKHQoL questionnaire and the Kellgren Lawrence (K-L) score were used to assess knee radiography. Results: 75 female and 25 male patients made

up the ratio of 3:1. They had a body mass index (BMI) of 28.6 2.7, a mean age of 54.6 10.4 years, and an illness duration of 4.6 2.7 years. 26 patients had diabetes and 17 patients had hypertension. Bilateral KOA disease was found in 84 individuals, with joint stiffness in 43%, knee abnormalities in 18%, and grade 3 K-L scores in 56%. The least normalized pain component was discovered OAKHQoL score (49.8 15.4), with the mental health domain receiving the highest score (60.1 8.2) on the questionnaire. Lower questionnaire domains were related to female gender, older age, obesity, hypertension, diabetes, bilateral KOA illness, and K-L grade 3. According to regression analysis, knee joint stiffness was a predictor for four OAKHQoL dimensions, while disease duration and bilateral disease were predictors for all other domains. K-L classification, hypertension, and knee deformity were effective predictors of lower scores on two subscales. Conclusion: The OAKHQoL questionnaire's pain component is primarily indicative of the considerably poor HRQoL experienced by Egyptian patients with primary KOA. All questionnaire domains' lower scores were predicted by disease duration, bilaterality, and knee stiffness on four subscales. Knee deformity, hypertension, and K-L classification were all effective predictors of lower scores of two (Mahmode et al., 2019).

Knee osteoarthritis has a tremendous poor effect on health-associated excellent of life (HRQoL). Identification of treatment options that enhance HRQoL in sufferers with knee osteoarthritis can also additionally mitigate the medical, economic, and social burden of this disease. The motive of this observation is to record the effect of knee osteoarthritis on HRQoL, describe the alternate in HRQoL as a consequence of not unusual place knee osteoarthritis interventions, and summarize findings from medical trails of a promising therapy. Nonsurgical healing procedures do now no longer reliably alter HRQoL in knee osteoarthritis sufferers given their popular lack of ability to relieve bodily manifestations of osteoarthritis. Surgical knee osteoarthritis interventions commonly bring about precise to extraordinary affected person outcome (Farr, Miller and Block., 2013).

Modern medicine has made significant progress nicening, diagnosis, and treatment in modern medicine have advanced significantly, yet the goals of treatment are still up for debate. Should the emphasis be placed on the quantity or the quality of survival? Still holds true Health-related quality of life (HRQOL) is now a significant

indicator in clinical care and medical therapy. The health care system places a strong emphasis on enhancing health and quality of life, both of which are impacted by sickness. This article's emphasis is on the definition and ideas of HRQOL. We go over the methodological concerns with HRQOL measurement, such as: (1) objectivity versus subjectivity, (2) generic versus specific, (3) unidimensional versus multidimensional, (4) self-report versus proxy report, (5) reliability, (6) validity, and (7) the choice of HRQOL measures (Lin and Fan., 2012).

As people look for safety and security, a sense of integrity and meaning in life, and a sense of belonging in their social network, QOL is a subjective, multidimensional experience of well-being that is culturally produced (Farr, Miller and Block., 2013).

The phrases fitness, fitness-associated first-class of life (HRQoL), and great of life are used interchangeably. Given that those are 3key phrases withinside the literature, their suitable and clean use is important. This paper critiques the records and definitions of the phrases and considers how they were used. It is argued that the definitions of HRQoL withinside the literature are complicated due to the fact a few definitions fail to differentiate among HRQoL and fitness or among HRQoL and QoL. Many so-known as HRQoL questionnaires sincerely degree self-perceived fitness fame and the usage of the word QoL is unjustified. It is concluded that the idea of HRQoL as used now’s confusing. A capability answer is to outline HRQoL because the manner fitness is empirically envisioned to have an effect on QoL or use the time period to most effective characterize the application related to a fitness state (Bernad-Pineda et al., 2014).

According to the 36 Item Short Form Health Survey questionnaire developers, a worldwide degree of health associated quality of lifestyles which include the SF-36 total/global/overall score can’t be generated from the questionnaire. However, research keep on reporting such degree. This examine aimed to assess the frequency and to explain a few traits of articles reporting the SF-36 Total/global/overall score withinside the clinical literature. The preferred reporting items for systematic reviews and meta-analyses technique became tailored to a scoping review. We achieved searches in PubMed, web of science, SCOPUS, BVS, and Cochrane library databases

for articles the use of such scores. We discovered 172 articles posted between 1997 and 2015; 110 (64.0%) of them have been posted from 2010 onwards; 30.0% seemed in journals with impact factor 3.00 or greater. Overall, 129 (75.0%) out of the 172 research did now no longer specify the technique for calculating the SF-36 total score 13 research did now no longer specify their techniques however noted the SF-36 developers research or others; and 30 articles used different techniques for calculating such score, the maximum common being mathematics averaging of the 8 SF-36 domain names scores. We concluded that the SF-36 total/global/overall score has been an increasing number of suggested withinside the clinical literature. Researchers need to be privy to this system and of its feasible affects upon human health (Lins and Carvalho., 2016).

The PubMed seek retrieved 131 studies (26 SF-36 total score, forty one SF-36 global score, and sixty four SF-36 overall score); the web of science seek retrieved 27 studies (23 SF-36 total score, 2 SF global score, and a pair of SF-36 overall score); the BVS seek retrieved 29 studies (25 SF-36 total score, 2 SF-36 global score, and a pair of SF-36 overall score); and the Cochrane library seek retrieved eleven studies (nine SF-36 total score, 1 SF-36 global score, and 1 SF-36 overall score). Comparing the 5 databases searches, 247 articles which have been taken into consideration probably applicable have been submitted to the inclusion and exclusion criteria. In total, 197 articles have been duplicates, 69 did now no longer point out SF-36 total/global/overall score, 21 had been now no longer written in English (nine chinses, five French, 2 Spanish, 1 German, 1 Portuguese, 1 Russian , 1 Japanese and 1 Italian), three have been now no longer full-textual content articles however summaries supplied in clinical events, and articles couldn’t be accessed: one due to the fact the guide of the respective periodical had ceased, and the alternative 9 due to the fact get entry to the periodical turned into paid. By reviewing reference lists of the closing 50 full-textual content articles, we received different 122 applicable citations. The very last pattern consisted of 172 articles, posted between 1997 and 2015 (Lins and Carvalho., 2016).

Our findings showed that low QOL across all dimensions of the SF-36 questionnaire, particularly in the areas of pain (body pain), functional capacity (physical function), and mental health, was correlated with the patient's functionality

in the case of osteoarthritis of the knee. Additionally, all of the QOL domains showed a statistically significant positive connection with the FI variable; the more the FI was affected, the lower the QOL. The dimensions of pain, functional ability, and mental health showed the strongest connections. On the other hand, no discernible decrease in quality of life in any category was connected with the severity of osteoarthritis. Knee osteoarthrosis is regarded as a chronic condition that can result in significant functional restrictions accompanied by discomfort (Abbott et al., 2016).

As a result, these two factors might account for patients' worse quality of life when they first develop osteoarthritis in the knee. A decrease in FI is particularly likely to affect the elderly. The majority of big studies have demonstrated a relationship between pain and functional ability domains, and have methodically proven the link between osteoarthrosis of the knee and the loss of quality of life. (Heijink et al., 2012)

Investigators looked into a few demographic variables that could impact patients' quality of life. These variables include the patient's age, gender, height, weight, BMI, and the severity and duration of their illness. In the literature, such aspects were frequently cited. To adapt the study to the Saudi population, other social data were also gathered, including carer, style of house, ownership, income, and income stability (Araujo et al., 2012).

This cross-sectional study thoroughly analyzed HRQOL for pain treatment among OA patients in four northern Palestinian West Bank hospitals. In order to measure the level of pain and its interference in our sample, we used the EQ-5D-5L scale and its VAS component in addition to the Brief Pain Inventory (BPI) scale to quantify HRQOL. There exists a correlation between HRQOL and several clinical and sociodemographic parameters. We discovered that patients with demographic traits such older age, less education, and unemployment had poorer HRQOL (Whittaker et al., 2015).

Like the findings of a prior study, we discovered a strong correlation between a larger number of comorbidities and a poorer HRQOL. The kind of comorbidities may provide a deeper knowledge of this connection, even though the quantity of

comorbidities influences HRQOL. That also applies to the location of the injured joint. It is thus advised to do research on the relationships between the HRQOL and each of the comorbidity's components or the location of the afflicted joint. Additionally, as in earlier research, there was a strong correlation between poorer HRQOL and higher pain intensity levels (Shalhoub et al., 2022).

CHAPTER – III METHODOLOGY

3.1: Study design:

It was a descriptive type of cross-sectional study carried out with the objective of assessing the quality of life of patients suffering from knee osteoarthritis.

3.2: Study place:

The relevant data for the present study were collected from the patients suffering from knee osteoarthritis attending the SP physiotherapy center, Jessore, NITOR (Dhaka), Unique pain and paralysis center. Mirpur-11. Academy of physiotherapy pain and rehabilitation center. Mirpur-10, pain-paralysis specialized and general hospital, Manik Ganj.

3.3: Study period

The duration of the study was 12 months from June 2022 to July 2023.

3.4: Study population

The patients with knee osteoarthritis attended in different physiotherapy center constituted the study population for the present study.

3.5: Sample size

Sample size for this study was calculated by the following equation.

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

Here,

n=sample size

Z=1.96

P=prevalence 27.1% (Venkatachalam et al. 2018)

$q=1-p$

d=0.05

So,

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

$n=\frac{(1.96)^{2\times0.271(1-0.271)}}{(0.05)^2}$

$n=\frac{3.84\times0.271\times0.729}{0.0025}$

$n=\frac{0.7586}{0.0025}$

n=303

So, this equation result here total sample size was 303, but I had collected data from 160 patients due to limitation.

3.6: Sampling technique

Convenience sampling technique was applied to select the study subjects for this study.

3.7: Eligibility criteria

3.7.1: Inclusion criteria

- Age: 30-80 years.
- Knee osteoarthritis Patients by radiological finding.
- Both male and female.

3.7.2: Exclusion criteria

- Associated with others critical disease condition.eg: Cancer, Tuberculosis
- Who are mentally unstable.
- Who are not interested.

3.8 Method of data collection

Data were collected through face-to-face interview with participants by using the pretested questionnaire.

3.9: Instrument and tools of data collection

3.9.1: Instrument of data collection:

SF-36 was used as an instrument of data collection for the present study.SF-36 is widely applied to assess the quality of life of the patients. It is invented by use to determine Physical functioning, Physical role limitations, Emotional role limitations, Energy/ vitality, Emotional well-binge, social functioning, Pain, General health perceptions. A pre-tested structured questionnaire was used to collect information on socio-demographic characteristic of the participant.

3.10. Procedure of data collection

Before collecting the data from the participants, the researcher obtained permission from the concerned authority of SP physiotherapy center, Jessore, NITOR (Dhaka), Unique pain and paralysis center. Mirpur-11. Academy of physiotherapy pain and rehabilitation center. Mirpur-10, pain-paralysis specialized and general hospital, Manik Ganj. Then the patients with knee osteoarthritis were approached by the researcher herself and explained the aims and objectives of the study in details. The patients who agreed to participate were included for the study. Obtaining written informed consent, the researcher started interview with the individual participant using SF-36 questionnaire to elicit information on quality of life. After completing the interview, the researcher thanked the respondents.

3.11: Data analysis

At the end of each day the questionnaires were checked for any error or inconsistency necessary correction were maid. The response were coded according. Then the data were entered in to the computer for analysis by Microsoft office, excel 2019 using SPSS 25 version software program. Analysis of data was carried out according to the objectives. Descriptive statistics included frequency, percentage, mean and SD were used to describe quality of life. Association between depended and independent variable was examined by chi-square test.

3.12: Ethical consideration

The investigator was obtained written permission from ethical review board (SCMST). Ethical review board informed by written document about aims and objectives of the study and that the patients of the study will not harm or the clients name, address and personal information will be kept confidential by the investigator mentally and the dates will not share with others.

- Approval received from the IRB of SCMST.
- Data collection permission was taken from the Head of the physiotherapy Department of SCMST
- Confidentially maintained strictly
- Informed consent was taken from every participant.

3.13: Limitations

1. Calculated sample size was 303. Data were collected from 160 patients suffering from knee osteoarthritis. It was of the study due to shortage of time. So, generalizability could not be achieved in the study.
2. During data collection some of the participants did not cooperate and some discontinue the interview this caused loss of participants in the research.
3. Convenance sampling technique was applied to select the participants. This technique is non probability sampling process. So, the participants were not truly representative of the study population.
4. The study area for the present study was Jessore and Dhaka. It would be better if responded could be included in the study from others district of Bangladesh.

5. The researcher is a student of fourth year. This dissertation is first research work. This research work bears the evidence of in educate experience of the researcher.

CHAPTER-IV RESULT

The objective of the study was to assess the level of quality of life of patients suffering from knee osteoarthritis in different areas of Bangladesh. Data were collected through the face-to-face interview with participants using a pretested questionnaire and SF-36 questionnaire for quality of life**.** The data were analyzed with the Microsoft Office Excel 2010 with SPSS 25 version software program. In this study the researcher used frequency tables, bar chart, figure, pie chart and description of the variables to present the result of the study

4.1. Age group of the participants

Table no. 1: Frequency distribution of the participants by age group in years.

Age group in years	Frequency	
	N	%
30 – 41	32	20.0
42 – 53	56	35.0
54 – 65	54	33.8
66 – 77	18	11.3
Total	160	100.0

Mean = 51.81, SD = 11.362

Regarding frequency distribution of the participants by age group in years, it was found that out of 160, 32 (20.0%) participants belonged to the age group of 30 – 41 years. It was also found that 56 (35.0%) participants were in the age group of 42 – 53 years, 54 (33.8%) participants were in the age group of 54 – 65 years and 18 (11.3%) participants were in the age group 66 – 77 years. The mean age of the participants was 51.81 and SD was 11.362 And all the participants were knee osteoarthritis patients in this study (Table no.1).

4.2. Gender of the participants

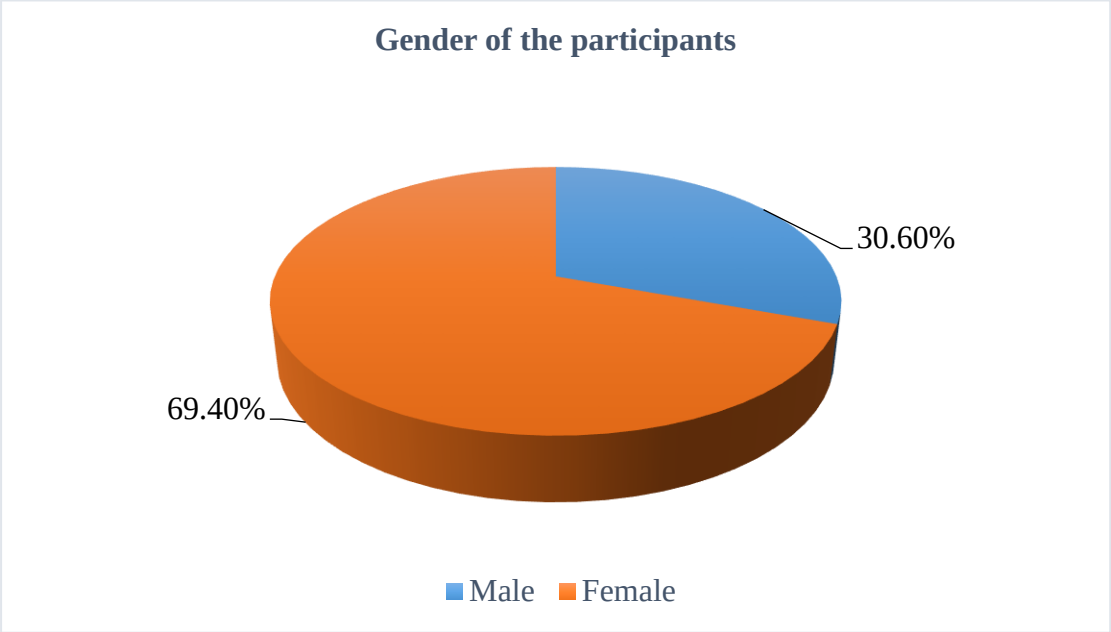


Figure no.1: Frequency distribution of the participants by gender

About the gender of the participants, it was revealed that 49 (30.6%) participants were male and 111 (69.40%) respondents were female (Figure no.1).

4.3. Living area of the participants

Table no. 2: Frequency distribution of the participants by living area.

Living area	Frequency	
	N	%
Urban	4	2.5
Semi-Urban	91	56.9
Rural	65	40.65
Total	160	100

About living area of the participants, it was revealed that 4 (2.5%) respondents were living urban area, 91 (56.9%) participants were living in semi urban area and 65 (40.65%) participants were living in rural area (Table no.2).

4.3. Family Type of the participants

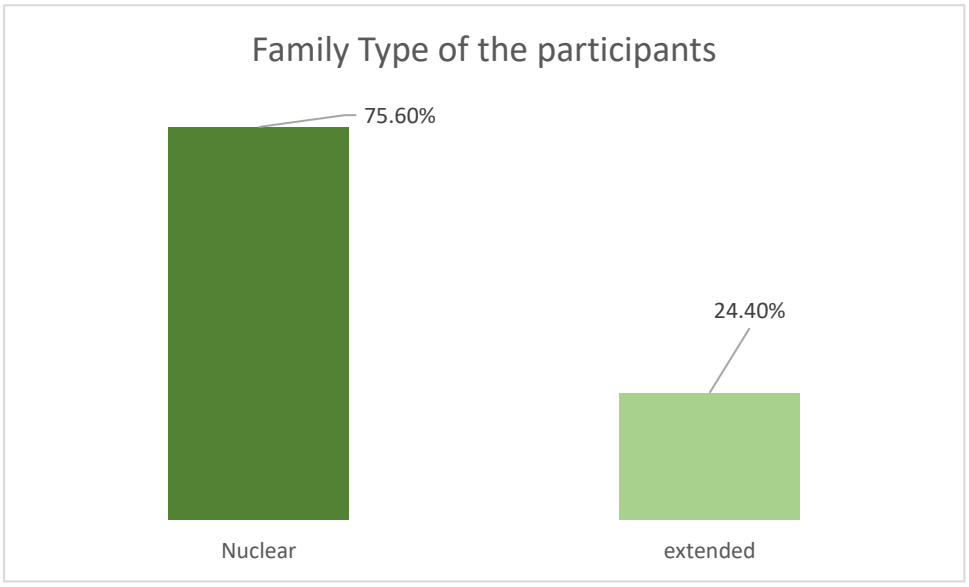


Figure no.2. Frequency distribution of the participants by family type

The study revealed that, out of 160, 121 (75.60%) participants belonged to nuclear family and 39 (24.4%) participants belonged to extended family (Figure no.2).

4.4. Occupations of the participants

Table no. 3: Frequency distribution of the participants by Occupations

Occupations	Frequency	
	N	%
Business	14	8.8
Farmer	6	3.8
Housewife	97	60.6
Others	43	26.9
Total	160	100

The study showed that the occupation of 14 (8.8%) participants was business, 6 (3.8%) respondents were farmer, 97 (60.6%) respondents were housewife and 43 (26.9%) respondents were others (Table no.3).

4.5. BMI of the participants

Table no. 4: Frequency distribution of the participants by BMI

BMI	Frequency	
	N	%
<18.5 (Underweight)	1	.6
18.5 - 24.9 (Normal)	43	26.9
25 - 29.9 (Over weight)	70	43.8
>30 (Obese)	46	28.7
Total	160	100.0

* BMI of the participants has been done according to WHO classification

Mean 27.149 and SD 3.8205

About frequency distribution of the participants by BMI, it was found that 70 (43.8%) of participants was over weight (25.-29.9), 46 (28.7%) participants were obese (>30) and 43 (26.9%) participants had normal weight (18.5-24.9). It was also found that 1 (0.6%) of participant was underweight (<18.5). The mean BMI of the knee osteoarthritis patients was 27.149 and SD 3.8205 (Table no.4).

4.6. Marital status of the participants

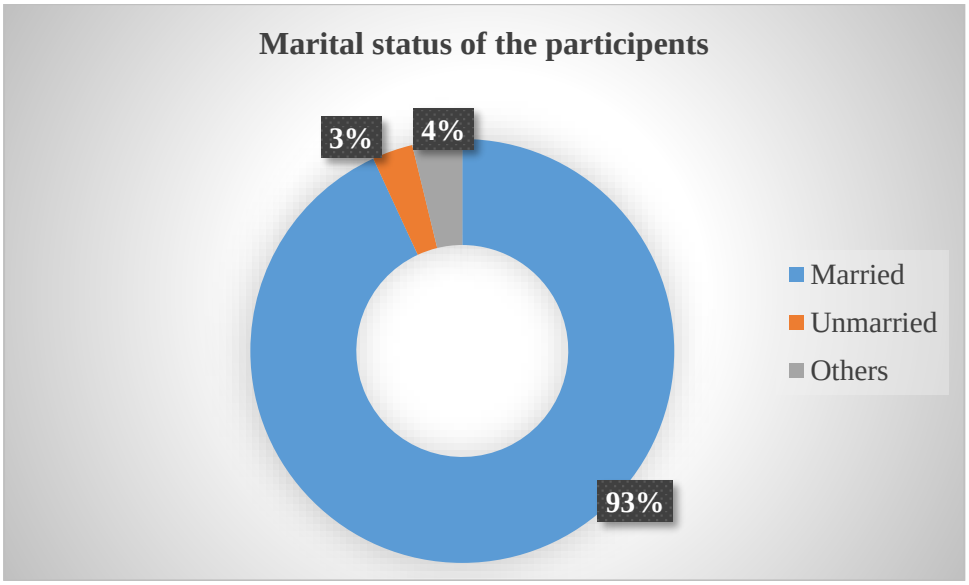


Figure no 3. Frequency distribution of the participants by Marital status

Regarding marital status, it was found that 149 (93.1%) patients were married, 5 (3.1%) patients were unmarried and 6 (3.8%) patients were widow (Figure no.3)

4.7. Education of the participants

Table no. 5: Frequency distribution of the participants by educational level

Education	Frequency	
	N	%
Illiterate	11	6.9
Primary	24	15.0
Secondary	45	28.1
Higher secondary	31	19.4
Others	49	30.6
Total	160	100

About educational status of the participants, the study showed that 11 (6.9%) patients were illiterate, 24 (15.0%) patients had Primary, 45 (28.1%) patients passed secondary level, 31 (19.4%) patients had higher secondary education and 49 (30.6%) patients were graduals and above level of education (Table no.5).

4.8. Monthly income of the participants

Table no.6. Frequency distribution of the participants by monthly income.

Taka	Frequency	
	N	%
<50000 Taka	58	36.3
50001-100000 Taka	87	54.4
100001-150000 Taka	5	3.1
>150000 Taka	10	6.3
Total	160	100.0

Mean± 75225.00, SD 42820.372

About monthly income, it was found that out of 160 participants, 58 (36.3%) participants had less than Taka 50000. It was also found that monthly income of 87 (54.4%) participants had Taka 50001-100000. 5 (3.1%) participants had Taka 100001-150000 and 10(6.3%) participants had Taka more than 150000. The mean monthly income was Taka 75225.00 and SD was Taka 42820.372.(Table no.6).

The 36 questions on the SF-36 are meant to reflect 8 domains of health.

1. Physical functioning (10 items)-3,4,5,6,7,8,9,10,11,12.
2. Physical role limitations (4 items)-13, 14, 15, 16.
3. Emotional role limitations (3 items)-17, 18, 19
4. Energy/vitality (4 items)-23, 27, 29, 31.
5. Emotional well-bing (5 items) - 24, 25,26,28,30
6. Social functioning (2 items)-20, 32.
7. Pain (2 items)-21, 22.
8. General health perceptions (5 items) -1, 33, 34, 35, 36

4.9. Physical functioning of the participants

Table no.6. Frequency distribution of the participants of the participants by physical functioning.

Physical functioning	**Frequency**		
	Yes, Limited a lot N (%)	yes, Limited a little N (%)	No, not limited at all N (%)
Vigorous activities	94 (58.80%)	28 (17.5%)	38 (23.80%)
moderate activities	30 (18.80%)	116 (72.5%)	14 (8.80%)
Lifting or carrying groceries	74 (46.3%)	58 (36.3%)	28 (17.5%)
Climbing several flights	86 (53.80%)	29 (18.1%)	45 (28.1%)
Climbing one flights of stairs	19 (11.9%)	124 (77.5%)	17 (10.6%)
Bending, kneeling, or stooping	78 (48.80%)	16 (10%)	66 (41.3%)
Walking more than a mile	94 (58.80%)	28 (17.5%)	3(23.80%)
Walking several blocks	87 (54.40%)	44 (7.50%)	29 (18.10%)
Walking one block	20 (12.5%)	121 (75.6%)	19 (11.9%)
Bathing or dressing yourself	12 (7.5%)	138 (86.3%)	10 (6.3%)

The study showed that 94 (58.80%) told that Vigorous activities limited a lot, 28 (17.5%) told that it was limited a little and 38 (23.80%) told that it was not limited at all. In case Moderate activitie**s** 116 (72.5%) told that it was limited a little, 30 (18.80%) told that it was limited a lot and 14 (8.80%) told that it was not limited at all. According to that, 74 (46.3%) said that lifting or carrying groceries limited a lot, 58 (36.3%) said that it was limited a little and 28 (17.5%) told that it was not limited at all. The study revealed that, 86 (53.80%) said that climbing several flights of stairs limited a lot, 29 (18.1%) said that it was limited a little and 45 (28.1%) said that it was not limited at all (Table no.6).

4.10. Physical role limitations of the participants

Table no.7. Frequency distribution of the participants by Physical role limitations.

Physical role limitations	Frequency	
	Yes N (%)	No N (%)
Cut down the amount of time	108 (67.5%)	52 (32.5%)
Accomplished	145 (90.6%)	15 (9.4%)
Limited work	157 (98.1%)	3 (1.9%)
other activities	158 (98.8%)	2 (1.3%)

The study showed that, 108 (67.5%) participants said that they cut down the amount of time and 52 (32.5%) participants did not cut down the amount of time. The study revealed that, 145 (90.6%) participants said that they accomplished and 15 (9.4%) participants did not accomplish. The study revealed that, 157 (98.1%) participants said that they Limited work and 3 (1.9%) participants did not Limited work. The study revealed that, 158 (98.8%) participants said that they Difficulty performing the work and 2 (1.3%) participants did not Difficulty performing the work (Table no.7).

4.11. Emotional role limitations of the participants

Table no.8. Frequency distribution of the participants by Emotional role limitations

Emotional role limitations	Frequency			
	Yes		No	
	N	%	N	%
Cut down	155	71.9	45	28.1
Accomplished	157	98.1	3	1.9
Other activities	77	48.1	83	51.9

About frequency distribution of the participants by Cut down, 155 (71.9%) said that they yes and 45 (28.1%) participants said that did not no. The study revealed that, 157 (98.1%) told that they accomplished and 3 (1.9%) participants did not accomplish. The study showed that other activities, 77 (48.1%) participants told that they yes and 83 (51.9%) participants did not No (Table no.8).

4.12. Energy/vitality of the participants

Table no.9. Frequency distribution of the participants by Energy/vitality.

Variable	Category	Frequency	
		N	%
Full of pep	Most of the time	8	5.0
	A good bit of the time	82	51.2
	Some of the time	66	41.3
	A little bit of the time	4	2.5
Energy	All of the time	10	6.3
	Most of the time	48	30.0
	A good bit of the time	4	2.5%
	Some of the time	42	26.3
	A little bit of the time	47	29.4
	None of the time	9	5.6
Feel worn out	All of the time	5	3.1
	Most of the time	130	81.3
	A good bit of the time	7	4.4
	Some of the time	17	10.6
	A little bit of the time	1	.6
Feel tired	All of the time	10	6.3
	Most of the time	122	76.3
	A good bit of the time	9	5.6
	Some of the time	18	11.3
	None of the time	1	.6

This study showed that, 8 (5.0%) told that Full of pep most of the time, 82 (51.2%) told that it was a good bit of the time and 66 (41.3%) told that it was some of the time. The study showed that 48 (30.0%) participants were energetic most of the time. It was also found that 10 (6.3%) participants were energetic all of the time, 42 (26.3%) participants were energetic some of the time. and 47 (29.4%) participants were energetic a little bit of the time. The study showed that 122 (76.3%) participants felt tired most of the time. It was also found that 10 (6.3%) participants were felt tired all of the time and 18 (11.3%) participants were felt tired some of the time (Table no.9).

4.13. Emotional well-Bing of the participants

Table no.10. Frequency distribution of the participants by Emotional well-Bing.

Emotional well-Bing	Frequency					
	All of the time N (%)	Most of the time N (%)	A good bit of the time N (%)	Some of the time N (%)	A little bit of the time N (%)	None of the time N (%)
Nervous persons	19 (11.9)	113 (70.6%)	8 (5.0%)	16 (10.0%)	3 (1.9%)	1 (.6%)
Dumps	24 (15.0%)	101 (63.1%)	11 (6.9%)	11 (6.9%)	3 (1.9%)	10 (6.3%)
Calm and peaceful	1 (.6%)	9 (5.6%)	15 (9.4%)	44 (27.5%)	68 (42.5%)	23 (14.4%)
Felt downhearted and blue	22 (13.8%)	105 (65.6%)	5 (3.1%)	20 (12.5%)	7 (4.4%)	1 (.6%)
Happy person	29 (18.1%)	89 (55.6%)	7 (4.4%)	13 (8.1%)	14 (8.8%)	8 (5.0%)

The study showed that, 113 (70.6%) participants were nervous most of the time. It was also found that 19 (11.9%) participants were nervous all of the time and 16 (10.0%) participants were nervous some of the time. The study showed that, 101 (63.1%) participants were feeling tired most of the time. It was also found that 24 (15.0%) participants were feeling tired all of the time and 11 (6.9%) participants were feeling tired some of the time. About frequency distribution of the participants by calm and peaceful, 68 (42.5%) said that a little bit of the time, 44 (27.5%) said that it was some of the time, 23 (14.4%) said that it was none of the time and 15 (9.4%) said that it was a good bit of the time. The study showed that, 89 (55.6%) participants were happy person most of the time. It was also found that 29 (18.1%) participants were happy person all of the time and 14 (8.8%) participants were happy person A little bit of the time (Table no.10).

4.14. Social functioning of the participants

Table no.11. Frequency distribution of the participants by social functioning.

Social functioning	Category	Frequency	
		N	%
Emotional problems	Not at all	4	2.5
	Slightly	31	19.4
	Moderately	91	56.9
	Severe	34	21.3
Physical health	Most of the time	28	17.5
	A good bit of the time	14	8.8
	Some of the time	108	67.5
	A little bit of the time	2	1.3
	None of the time	8	5.0

According to that, 91 (56.9%) participants had moderate emotional problems, 34 (21.3%) participants had severe emotional problems and 31 (19.4%) participants had slightly emotional problems.

About frequency distribution of the participants by physical health, 108 (67.5%) participants said that they were healthy some of the time, 28 (17.5%) participants said that it was most of the time, 8 (5.0%) participants said that they were healthy none of the time and 14 (8.8%) participants said that they were healthy a good bit of the time (Table no.11).

4.15. pain of the participants

Table no.12. Frequency distribution of the participants by pain

Variable	Category	Frequency	
		N	%
Bodily pain	None	15	9.4
	Very mild	1	.6
	Mild	60	37.5
	Moderate	81	50.6
	Very Severe	3	1.9
Normal work	A little bit	6	3.8
	moderately	48	30
	quite a bit	104	65.0
	Extremely	2	1.3

The study revealed that, 81 (50.6%) said that they had bodily pain moderate, 60 (37.5%) said that it was mild, 15 (9.4%) said that it was none and 3 (1.9%) said that it was very sever.

The study showed that, 104 (65.0%) participants felt pain quite a bit during normal work. It was also found that 48 (30.0%) participants had pain moderately at normal work (Table no.12).

4.16. General health perceptions of the participants

Table no.13. Frequency distribution of the participants by General health perceptions

General health perceptions	Category	Frequency	
		N	%
In general health	very good	50	31.3
	Fair	70	43.8
	Poor	40	25.0
Sick	definitely true	12	7.5
	Mostly true	72	45.0
	Do not know	74	46.3
	Mostly false	2	1.3
Health	definitely true	3	1.9
	Mostly true	19	11.9
	Do not know	89	55.6
	Mostly false	49	30.6
Health to get worse	definitely true	12	7.5
	Mostly true	99	61.9
	Do not know	37	23.1
	Mostly false	12	7.5
Health is excellent	Mostly true	7	4.4
	Do not know	42	26.3
	Mostly false	91	56.9
	Definitely false	20	12.5

The study revealed that, 70 (43.8%) participants had fair in general health, 50 (31.3%) participants had very good in general health and 40 (25.0%) participants had poor general health.

The study showed that 74 (46.3%) participants did not know they were sick and 72 (45.0%) participants had mostly true they were sick.

In case health status, 19 (11.9%) participants said that they were mostly true, 89 (55.6%) participants said that did not know about it and 49 (30.6%) participants said that it was mostly false.

The study showed that, 12 (7.5%) participants told that their health was getting worse definitely true. It was also found that 99 (61.9%) participants health was worse mostly true, and 37 (23.1%) participants did not know that their health got worse.

In case Health is excellent 7 (4.4%) participants told that it was mostly true, 42 (26.3%) participants told that they did not know, 91 (56.9%) participants told that it was mostly false and 20 (12.5%) participants told that it was definitely false (Table no.13).

Table no.14 Frequency distribution of the participants by Age and In general health

Association between Age and In general health							
Age group in years	In general health			Total			
	Very good	Fair	Poor	N	%	Pearson Chi-Value	P Value
30-41	11 (34.4%)	12 (37.5%)	9 (28.1%)	32	(20.0%)	5.313	0.504 No significant
42-53	20 (35.7%)	27 (48.2%)	9 (16.1%)	56	(35.0%)		
54-65	13 (24.1%)	25 (46.3%)	16 (29.6%)	54	(33.8%)		
66-77	6 (33.3%)	6 (33.3%)	6 (33.3%)	18	(11.3%)		
Total	50 (31.1%)	70 (43.8%)	40 (25.0%)	160	(100%)		

Regarding Frequency distribution of the participants by age and in general health it was found that 32 (20.0%) participants belonged to the age groups of 30-41years. Among them general health of 11 (34.4%) participants was very good, 12 (37.5%) participants were fair,9 (28.1%) participants were poor. in case of 42-53 age group 20 (35.7%) participants had very good health, 27 (48.2%) participants were fair, 9 (16.1%) participants were poor. in case of 54-65 age group 13 (24.1%) participants had very good health, 25 (46.3%) participants were fair, 16 (29.6%) participants were poor. in case of 66-77 age group 6 (33.3%) participants had very good health, 6 (33.3%) participants were fair, 6 (33.3%) participants were poor. The association between age of the participants their age and general health was found statistically not significant (x^2 =5.313, df=6, p=0.504) (Table no.14).

Table no.15. Frequency distribution of the participants by BMI and bodily pain

Association between BMI and bodily pain									
BMI of the participant	Bodily pain					Total			
	None	Very mild	Mild	Moderate	Very severe	N	%	Pearson Chi-Value	P Value
under weight	0	0	1 (100.0%)	0	0	1	(.6%)	10.024	0.614 No significant
Normal	3 (7.0%)	1 (2.3%)	18 (41.9%)	21 (48.8%)	0	43	(26.9%)		
Over weight	5 (7.1%)	0	27 (38.6%)	37 (52.9%)	1 (1.4%)	70	(43.8%)		
Obesity	7 (15.2%)	0	14 (30.4%)	23 (50.0%)	2 (4.3%)	46	(28.7%)		
Total	15(9.4%)	1(.6%)	60 (37.5%)	81(50.6%)	3(1.9%)	160	(100%)		

Regarding Frequency distribution of the participants by BMI and bodily pain it was found that 1 (.6%) participant belonged to the BMI groups of under weight. Among them bodily pain of 1 (100.0%) participant was mild. In case of BMI group normal, 3 (7.0%) participants had none, 1 (2.3%) participant were very mild,18 (41.9%) participants were mild and 21 (48.8%) participants were moderate. in case of BMI group over weight, 5 (7.1%) participants had none, 27 (38.6%) participants were mild, 37 (52.9%) participants were moderate and 1 (1.4%) participant were very severe. in case of BMI group of obesity, 7 (15.2%) participants had none, 14 (30.4%) participants were mild, 23

(50.0%) participants were moderate and 2 (4.3%) participants were very severe. The association between age of the participants their age and general health was found statistically not significant (x^2 =10.024, df=12, p=0.614) (Table no.15).

CHAPTER-V DISCUSSION

The present study shows that percentage of the quality of life of patients suffering from knee osteoarthritis. There about 160 peoples assessed with the mean age of 51.81years. The study of population made up of mainly females 69.40% and male were 30.6% with their mean age 51.81 years. This study found that the age of the participants was in 30-41 years (20.0%), 42-53 years (35.0%), 54-65 years (33.8%) and 66-77 years (11.3%). Maximum were in 42-53 years (35%) and small percentage was in 66-77 years (11.3%) and other age category percentage was 30-41 years (20%) and 54-65 years (33.8%).

Another study was found that comprised forty healthy controls (30 female, 10 male) and 112 patients with knee osteoarthritis (85 female, 27 male). The OA in the knee ages patients ranged in age from 45 to 76 (mean 59.90±9.89 years old (Alkan et al., 2014).

In India at orthopedic O.P.D. of tertiary care teaching hospital found that participants are distributed in age group 51-55 years 47 (31.33%) were maximum and Most participants were men making up 31.3% of the sample (Whittaker et al., 2015).

In this studies showed that Living area of the participant's semi urban were maximum 91 (56.9%) and rural area were 65 (40.6%) and there were most of the participants were presented by nuclear family type121 (75.60%). In this study demonstrates that most of the female participants had occupations were housewife 97 (60.6%), and others 43 (26.9%). In this study result found of BMI most of the participants had overweight 70 (43.8%), obesity were 46 (28.7%) and there was a mean score was 27.149.

Several studies found that Most of the participants (60.7%) were lived in rural area and their family types was maximum were nuclear type of family 74 (49.33%) and also found that having BMI in range of 18.5-24.9 (Whittaker et al., 2015).

Other studies found that marital status was 45.2% and their occupational status was retired 68.8%. In Korea survey there found that marital status was 99% were married and their BMI was mean score 24.05 (Mahmoudi et al., 2016).

In this study socio demographic characteristic of marital status of the participants were maximum married 93% and educational status of the participants were secondary education level was 28.1% and others educational status were 30.6%. Also found in this study their monthly income maximum answered was 50000-100000 money 54.4% and their average income was 75225.

Several studies found that 42 (42.5%) of the persons had a married status. Forty (45.4%) of the patients had only completed primary school, while sixty-seven (72%) patients identified as Catholics (Araujo et al., 2016).

Other studies found that educational status was 40 (43.0%) in Elementary and middle was 37 (39.8%). This also found that marital status was married 42 (45.2%) and single were 28 (30.1%) (Mahmoudi et al., 2016).

In this study showed that SF-36 scale for asses the quality of life with osteoarthritis knee. There were 8 domains of SF-36 scale and found this study physical functioning of the participants had limitation of vagarious activities were more limited 94 (58.80%), less limitation of Bathing or dressing yourself had 138 (86.3%). Physical role limitations had found this study Limited work had 157 (98.1%) and other activities had 158 (98.8%). There were domains of emotional role limitations had participants were accomplished maximum 98.1% and other domain of the participants had energy Most of the time were 30.0% and participants said feel tired 76.3%. Other domains of emotional well-being of the participants had said that nervous were most of the time 70.6% and happy person were most of the time 55.6%. Domains of social functioning participants by showed that emotional problems had moderately 56.9%, severe 21.3% and physical health was poor 67.5%. SF-36 scale of domains in pain had found that bodily pain moderately was 50.6% and during at work pain of the participants had moderately were 30%. Domains of general health of the participants had found In general health very good was 31.3%, health to get worse mostly true said 61.9% and excellent health had mostly

false said 56.9%. In this SF-36 scale had found that most of the participants had quality of life was poor.

Other studies found that active participants in the SF-36 functional capacity domain received an average score of 37.1, Functional Limitation mean were 25.1, Pain domain mean were 32.9, General Health Status mean were 54.6, Vitality 48.7, Social Aspects mean were 50.1, Emotional Aspects 38.6 and mental health domain mean were 60.1. There were showed that patients with knee osteoarthritis have a low perception of their quality of life (Mahmoudi et al., 2016).

In this studies demonstrates that association between SF-36 domain of in general health and age there were Pearson chi value was 5.313 and p value 0.504and it was not significant. There was another association between BMI and bodily pain were Pearson chi value10.024 was and p value was 0.614 so there was no significant.

The SF-36 physical function p value 0.000*, role physical 0.000*, bodily pain 0.000*, vitality 0.000*, social function 0.000*, and mental health 0.001* subgroup scores showed statistically significant differences, according to another study (Alkan et al., 2014).

Another similar studies found that When contrasted, those identified as independent or dependent showed statistically significant differences across all functional categories of the SF-36 QOL scale. Functional ability (physical function) 0.001*showed the strongest link, followed by the domains of pain 0.001* (body discomfort) and mental health was 0.001* (Araujo et al., 2016).

CHAPTER – VI CONCLUSION AND RECOMMENDATION

6.1 Conclusion

Knee osteoarthritis is one of the main reasons of incapacity withinside the world. Intra-articular hyaluronic acid is a remedy modality that gives a minimally invasive remedy choice for the control of osteoarthritis-associated symptoms. Osteoarthritis of the knee happens when the cartilage in your knee joint breaks down, enabling the bones to rub together. The friction makes your knees hurt, become stiff and sometimes swell. To purpose the quality of life of patients suffering from knee osteoarthritis in different parts of Bangladesh. It was a descriptive type of cross-sectional study. This equation result here total sample size was 303, but I had collected data from 160 patients due to limitation. The relevant data for the present study were collected from the patients suffering from knee osteoarthritis attending the SP physiotherapy center, Jessore, NITOR (Dhaka), Unique pain and paralysis center. Mirpur-11. Academy of physiotherapy pain and rehabilitation center. Mirpur-10, pain-paralysis specialized and general hospital, Manik Ganj. The study showed that out of 160 participants, 91 (56.9%) participants had moderate emotional problems, 34 (21.3%) participants had severe emotional problems and 31 (19.4%) participants had slightly emotional problems. The emotional related to knee osteoarthritis should be identified to prevent the condition among the patients. It was found that physical health, 108 (67.5%) participants said that they were healthy some of the time, 28 (17.5%) participants said that it was most of the time, 8 (5.0%) participants said that they were healthy none of the time and 14 (8.8%) participants said that they were healthy a good bit of the time. So, osteoarthritis should be considered a major health issue in related to patients' physical and mental health condition.

6.2 Recommendation

The following recommendations have been made on the basis of the findings of the study**.**

1. Further research should be conducted to acquire knowledge on the factors related to knee osteoarthritis. It will help to prevent the osteoarthritis among the patients.
2. A well designed research should be carried out to get real picture of the situation covering more study areas.
3. Random sampling should be applied to select the participants for ensuring the representativeness of the population.
4. Time for the present study was short. The researcher collected data from the participants for seven days. It was not sufficient for the study. The time for data collection should be two months would be effective for quality study.

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Lins, L. and Carvalho, F.M., 2016. SF-36 total score as a single measure of health-related quality of life: Scoping review. *SAGE open medicine*, *4*, p.2050312116671725.

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APPENDIX-I

SAIC COLLEGE OF MEDICAL SCIENCE AND TECHNOLOGY

Approved by Ministry of Health and Family Welfare
Affiliated with Dhaka University

Ref : *Date : .....*

Ref.No: *SCMST/PT/ERB-2017-18/1-2023/17*

3rd January'2023

To

Sharmin Binte Aziz

4th Professional B.Sc. in Physiotherapy

Saic College of Medical Science and Technology (SCMST)

Mirpur-14, Dhaka-1216.

Sub: Permission to collect data

Dear Aziz,

Ethical review board (ERB) of SCMST pleased to inform you that your proposal has been reviewed by ERB of SCMST and we are giving you the permission to conduct study entitled "Quality of life of patients suffering with knee osteoarthritis" and for successful completion of this study you can start data collection from now.

Wishing you all the best.

Thanking You,

11.01.23

Head of ERB

Ethical Review Board

Saic College of Medical Science and Technology

11.01.23

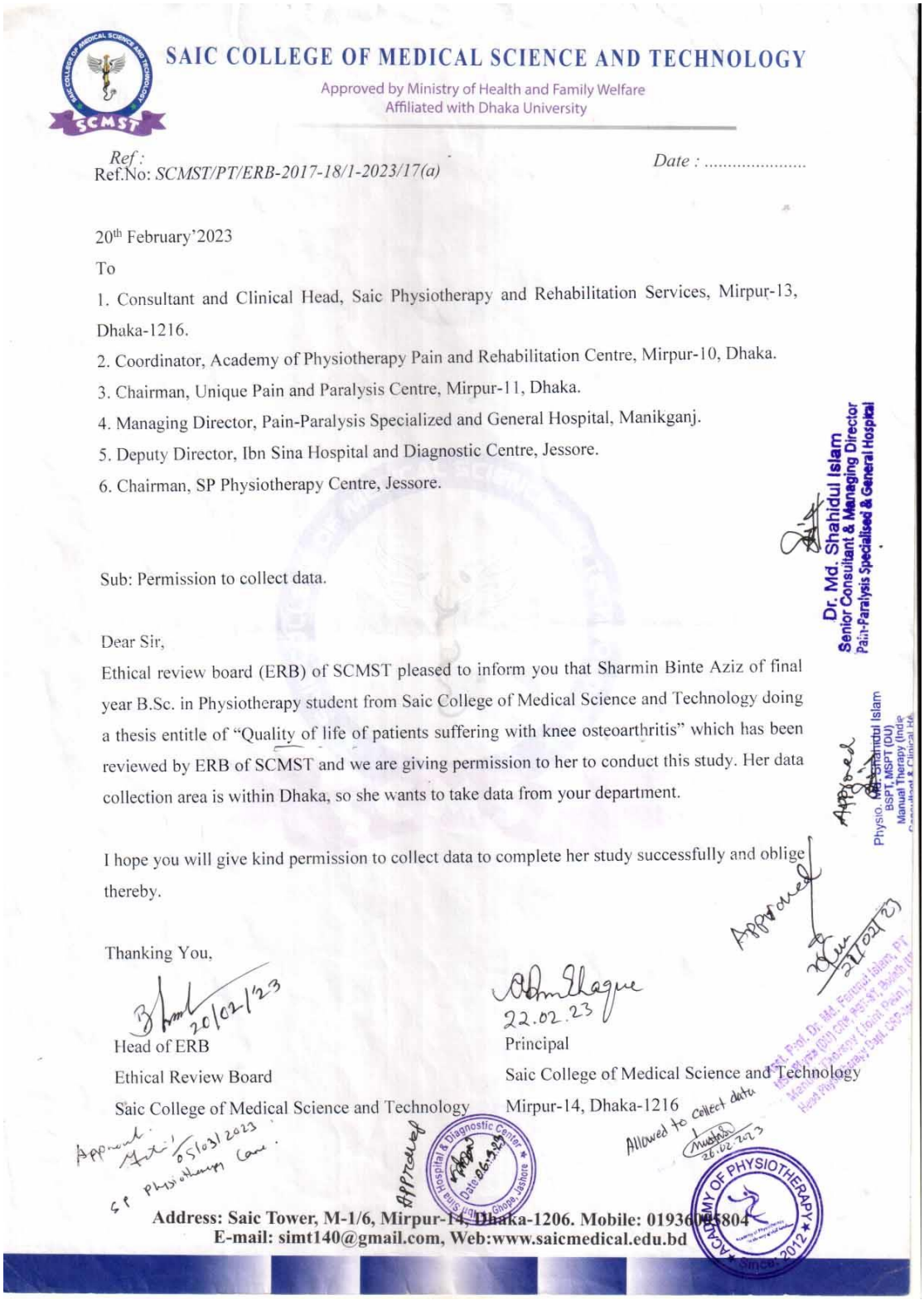
Principal

Saic College of Medical Science and Technology

Mirpur-14, Dhaka-1216

Address: Saic Tower, M-1/6, Mirpur-14, Dhaka-1216.Mobile:01936005804
E-mail: simt140@gmail.com, Web:www.saicmedical.edu.bd

APPENDIX-II



SAIC COLLEGE OF MEDICAL SCIENCE AND TECHNOLOGY

Approved by Ministry of Health and Family Welfare
Affiliated with Dhaka University

Ref :
Ref.No: *SCMST/PT/ERB-2017-18/1-2023/17(a)*

Date : .....

20th February'2023

To

1. Consultant and Clinical Head, Saic Physiotherapy and Rehabilitation Services, Mirpur-13, Dhaka-1216.
2. Coordinator, Academy of Physiotherapy Pain and Rehabilitation Centre, Mirpur-10, Dhaka.
3. Chairman, Unique Pain and Paralysis Centre, Mirpur-11, Dhaka.
4. Managing Director, Pain-Paralysis Specialized and General Hospital, Manikganj.
5. Deputy Director, Ibn Sina Hospital and Diagnostic Centre, Jessore.
6. Chairman, SP Physiotherapy Centre, Jessore.

Dr. Md. Shahidul Islam
Senior Consultant & Managing Director
Pain-Paralysis Specialised & General Hospital

Sub: Permission to collect data.

Dear Sir,

Ethical review board (ERB) of SCMST pleased to inform you that Sharmin Binte Aziz of final year B.Sc. in Physiotherapy student from Saic College of Medical Science and Technology doing a thesis entitle of "Quality of life of patients suffering with knee osteoarthritis" which has been reviewed by ERB of SCMST and we are giving permission to her to conduct this study. Her data collection area is within Dhaka, so she wants to take data from your department.

Approved

I hope you will give kind permission to collect data to complete her study successfully and oblige thereby.

Thanking You,

20/02/'23

Head of ERB
Ethical Review Board
Saic College of Medical Science and Technology

22.02.23

Principal
Saic College of Medical Science and Technology
Mirpur-14, Dhaka-1216

Allowed to collect data

Approved

05/03/2023

Address: Saic Tower, M-1/6, Mirpur-14, Dhaka-1206. Mobile: 01936005804
E-mail: simt140@gmail.com, Web:www.saicmedical.edu.bd

APPENDIX-III

SAIC COLLEGE OF MEDICAL SCIENCE AND TECHNOLOGY

Approved by Ministry of Health and Family Welfare
Affiliated with Dhaka University

Ref.
Ref.No: *SCMST/PT/ERB-2017-18/1-2023/17(b)*

Date : .....

20th February'2023

To

The Director

National Institute of Traumatology and Orthopedic Rehabilitation (NITOR)

Dhaka, Bangladesh.

Sub: Permission to collect data.

Dear Sir,

Ethical review board (ERB) of SCMST pleased to inform you that Sharmin Binte Aziz of final year B.Sc. in Physiotherapy student from Saic College of Medical Science and Technology doing a thesis entitle of "Quality of life of patients suffering with knee osteoarthritis" which has been reviewed by ERB of SCMST and we are giving permission to her to conduct this study. Her data collection area is within Dhaka, so she wants to take data from your department.

I hope you will give kind permission to collect data to complete her study successfully and oblige thereby.

Thanking You,

20/02/2023

Head of ERB

Ethical Review Board

Saic College of Medical Science and Technology

16.03.23

Principal

Saic College of Medical Science and Technology

Mirpur-14, Dhaka-1216

05.06.2023

Address: Saic Tower, M-1/6, Mirpur-14, Dhaka-1206. Mobile: 01936005804
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APPENDIX-IV

Consent form

Assalamualaikum / Namaskar,

I am Sharmin Binte Aziz, Student of B.Sc. In physiotherapy program in the department of saic college of medical science and technology, which is affiliated Dhaka University. I am conducting a study entailed "Quality of life of patient suffering with knee osteoarthritis" It is part of my B.Sc. in physiotherapy degree. Note that the following is a list of question paper required to conduct the study. This list has been Selected to give you information about this study. I would like to give you a description of this study and answer any of your questions. It is about 15-20 minutes.

My project is "Quality of life of patient suffering from knee osteoarthritis in Bangladesh"

During the interview period if you fell any emotional disturbance special and economic risk and any other discomfort physical risk please tell me, I will stop the interview risk immediately. I am committed that the study will not harmful or risk for you. Your participation in this study is voluntary and you may withdraw yourself at any time during this study without any negative consequences. You also have the right not to answer a particular question that you don't like or do not want to answer during interview. If you have any weary about the study or your right as a participant, you may contact with me or my supervisor Asst. prof. S M Mustafa Kamal, Mirpur, Dhaka. Do you have you have any question before I start? So, may I have your consent to proceed with the interview?

YES …… NO……

Signature of the researcher…… Date……

Mobile No…….

Signature of the Witness……. Date……

Mobile No……

APPENDIX-V

QUESTIONNAIRE(English)

Quality of life of patient suffering from knee osteoarthritis in Bangladesh

Code no :……. Date:……..

Participant name:

…….

Address ……

Date ……...

Mobile ……

Section : 1. Sociodemographic information.

Q.N	Question	Ans.
1	What is your age?	
2	What is your gender? 1.Male 2.Female 3.Other	
3	Where do you live? 1.Urban 2.Semiurban 3.Rural	
4	Type of your family? 1.Nuclear	

	2.Extended	
5	What is occupation? 1.Business 2.Farmer 3.Housewife 4.Others	
6	BMI 1.Weight(kg) 2.Height(inch)	
7	What is your marital status? 1.Married 2.Unmarried 3.Others	
8	What is education level? 1.Illiterate 2.Primary 3.Secondary 4.Highersecondary 5. Others.	
9	What about you/ your family monthly income?	

SF-36 SCALE

GENERAL HELTH:

Q.N	Question	Answer
1	In general, would you say your health is; 1.Excellent 3. Very good 2.Good 4. Fair 5.poor	
2	Compared to one year ago, how would you rate your health in general now? 1. Much better now than one year ago 2. somewhat better now than one year ago 3.About the some 4.Somewhat worse now than one year ago	

LIMITATIONS OF ACTIVITIES

The following items are about activities you might to during a typical day. Does your health now limit you in these activities? if so, how much?

Q.N	Question	Answer
3	Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports. 1) Yes, Limited a lot 2) Yes, Limited a little 3) No, not Limited at all	

4	Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf. 1) Yes, Limited a lot 2) Yes, Limited a little 3) No, not Limited at all	
5	Lifting or carrying groceries. 1) Yes, Limited a lot 2) Yes, Limited a little 3) No, not Limited at all	
6	Climbing several flights of stairs. 1)Yes, Limited a lot 2)Yes, Limited a little 3)No, not Limited at all	
7	Climbing one flights of stairs. 1) Yes, Limited a lot 2) Yes, Limited a little 3) No, not Limited at all	
8	Bending, Kneeling, or stooping. 1) Yes, Limited a lot 2) Yes, Limited a little 3) No, not Limited at all	
9	Walking more than a mile. 1) Yes, Limited a lot 2) Yes, Limited a little 3)No, not Limited at all	

10	Walking several blocks. 1) Yes, Limited a lot 2) Yes, Limited a little 3) No, not Limited at all	
11	Walking one block. 1) Yes, Limited a lot 2) Yes, Limited a little 3) No, not Limited at all	
12	Bathing or dressing yourself. 1) Yes, Limited a lot 2) Yes, Limited a little 3) No, not Limited at all	

PHYSICAL HEALTH PROBLEM

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health ?

Q.N	Question	Answer
13	Cut down the amount of time you spent on work or other activities. 1) Yes 2) No	
14	Accomplished less than you would like. 1) Yes 2) No	
15	Were limited in the kind of work or other activities. 1) Yes 2) No	

16	Had difficulty performing the work or other activities (for example, it took extra effort). 1) Yes 2) No	

EMOTIONAL HEALTH PROBLEM:

During the past 4 weeks, have you had any of the following prolems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)

Q.N	Question	Answer
17	Cut down the amount of time you spent on work or other activities. 1) Yes 2) No	
18	Accomplished less than you would like 1) Yes 2) No	
19	Didn't do work or other activities as carefully as usual 1) Yes 2) No	

SOCIAL ACTIVITIES:

Q.N	Question	Answer
20	Emotional problems interfered with your normal social activities with family, friends, neighbors, or groups ? 1) Not at all 2) slightly	

	3) Moderately 4) Severe 5) Very Severe	

PAIN:

Q.N	Question	Answer
21	How much bodily pain gave you had during the past 4 weeks? 1) None 2) Very Mild 3) Mild 4) Moderate 5) Severe 6) Very Severe	
22	During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework) 1) Not at all 2) A little bit 3) Moderately 4) Quite a bit 5) Extremly	

ENERGY AND EMOTIONS:

These questions are about how you feel and how things have been with you during the last 4 weeks. For each question, please give the answer that comes closest to the way you gave been feeling.

Q.N	Question	Answer
23	Did you feel full of pep? 1) All of the time 2) Most of the time	

	3) A good bit of the time 4) Some of the time 5) A little bit of the time 6) None of the time	
24	Have you been a very nervous person? 1) All of the time 2) Most of the time 3) A good bit of the time 4) Some of the time 5) A little bit of the time 6) None of the time	
25	Have you felt so down in the dumps that nothing could cheer you up? 1) All of the time 2) Most of the time 3) A good bit of the time 4) Some of the time 5) A little bit of the time 6) None of the time	
26	Have you felt calm and peaceful? 1) All of the time 2) Most of the time 3) A good bit of the time 4) Some of the time 5) A little bit of the time 6) None of the time	

27	Did you have a lot of energy? 1) All of the time 2) Most of the time 3) A good bit of the time 4) Some of the time 5) A little bit of the time 6) None of the time	
28	Have you felt downhearted and blue? 1) All of the time 2) Most of the time 3) A good bit of the time 4) Some of the time 5) A little bit of the time 6) None of the time	
29	Did you feel worn out? 1) All of the time 2) Most of the time 3) A good bit of the time 4) Some of the time 5) A little bit of the time 6) None of the time	
30	Have you been happy person ? 1) All of the time 2) Most of the time 3) A good bit of the time 4) Some of the time 5) A little bit of the time 6) None of the time	

31	Did you feel tried ? 1) All of the time 2) Most of the time 3) A good bit of the time 4) Some of the time 5) A little bit of the time 6) None of the time	

SOCIAL ACTIVITIES

Q.N	Question	Answer
32	During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social (like visiting with friends, relatives, etc.)? 1) Most of the time 2) A good bit of the time 3) Some of the time 4) A little bit of the time 5) None of the time	

GENERAL HEALTH:

How true or false is each of the following statements for you ?

Q.N	Question	Answer
33	I seem to get sick a little easier than other people. 1) Definitely true 2) Mostly true 3) Don't know 4) Mostly false 5) Definitely false	

34	I am as healthy as anybody i know. 1) Definitely true 2) Mostly true 3) Don’t know 4) Mostly false 5) Definitely false	
35	I expect my health to get worse. 1) Definitely true 2) Mostly true 3) Don’t know 4) Mostly false 5) Definitely false	
36	My health is excellent. 1) Definitely true 2) Mostly true 3) Don’t know 4) Mostly false 5) Definitely false	

APPENDIX-VI

কোড নং-

সম্মতি পত্র

আসসালামু আলাইকুম/নমস্কার,

আমি শারমিন বিনতে আজিজ, সাইক কলেজ অফ মেডিকেল সায়েন্স এন্ড টেকনোলজি এর বিএসসি ইন ফিজিওথেরাপি বিভাগে শেষ বর্ষের ছাত্রী। আমি আমার ব্যাচেলর ডিগ্রী আংশিক পূর্ণতার জন্য একটি গবেষণা করছি। গবেষণার শিরোনামটি হলঃ "হাটুতে অস্টিওআর্থারাইটিসে আক্রান্ত রোগীদের জীবন যাত্রার মান।" এটা আমার অধ্যয়নের একটা অংশ। উল্লেখ্য অধ্যয়ন পরিচালনার জন্য প্রয়োজনীয় কিছু প্রশ্নের তালিকা নিচে দেওয়া আাছে। আপনাকে আমার গবেষণার জন্য নির্বাচিত করা হয়েছে। এই গবেষণার জন্য আপনাকে কিছু প্রশ্ন করা হবে, যা ২০-৩০ মিনিটের মত লাগবে। সাক্ষাৎকার নেওয়ার সময় যদি আপনি কোন মানসিক অশান্ড়ি, সামাজিক ও অর্থনৈতিক ঝুঁকি অথবা অন্যকোন শারীরিক সমস্যা বোধ করেন তাহলে আমাকে বলবেন, আমি তাৎক্ষনিক বন্ধ করে দিবো। আমি প্রতিশ্রুতি দিচ্ছি যে এইটা আপনার জন্য কোন ক্ষতি বা ঝুঁকির কারণ হবে না। এই সাক্ষাৎকার চালাকালীন সময় যদি আপনার কোন প্রশ্নের উত্তর দিতে ইচ্ছে না করে, তাহলে আপনি আমার সুপারভাইজার সহকারী অধ্যাপক এস, এম মোস্তফা কামাল এর সাথে যোগাযোগ করতে পারবেন মিরপুর, ঢাকা।

সাক্ষাৎকার শুরু করার আগে কি আপনার কোন প্রশ্ন আছে

হ্যা	না

তাহলে, সাক্ষাৎকার নিয়ে এগিয়ে যেতে আমি কি আপনার সম্মতি পেতে পারি ?

হ্যা	না

গবেষকের স্বাক্ষর:---------- তারিখ:----------

অংশগ্রহণকারীর স্বাক্ষর:---------- তারিখ:----------

মোবাইল নং:----------

স্বাক্ষীর স্বাক্ষর:---------- তারিখ:----------

স্বাক্ষীর মোবাইল নং:----------

APPENDIX-VII

প্রশ্নপত্র (বাংলা)

হাটুতে অস্টিওআর্থারাইটিসে আক্রান্ত রোগীদের জীবন যাত্রার মান।

কোড নম্বর:

অংশগ্রহণকারীর নাম:.....

.....

ঠিকানা:.....

তারিখ:.....

মোবাইল:.....

ব্যক্তিগত তথ্য (অনুগ্রহপূর্বক খালি জায়গায় নম্বর লিখুন)

ক্রঃ নং	প্রশ্ন	উত্তর
১.	আপনার বয়স কত ?	
২.	আপনার লিঙ্গ কি ? ১। ছেলে ২। মেয়ে ৩। অন্যান্য	
৩.	আপনি কোথায় বসবাস করেন ? ১। আধা শহর ২। শহর ৩। গ্রাম	
৪.	আপনার পরিবারের ধরন কেমন ?	

	১। একক ২। যৌথ পরিবার ৩। অন্যান্য	
৫.	আপনার পেশা কী ? ১। ব্যবসা ২। ব্যাংকার ৩। কৃষক ৪। গৃহিনী ৫। অন্যান্য	
৬.	বিএমআই ১। ওজন (কেজি) ২। উচ্চতা (ইঞ্চি)	
৭.	আপনার বৈবাহিক অবস্থা কি ? ১। বিবাহিত ২। অবিবাহিত ৩। অন্যান্য	

শর্ট ফর্ম-৩৬ স্কেল ঃ

সাধারন

ক্রঃ নং	প্রশ্ন	উত্তর
১.	স্বাভাবিক অবস্থায় এখন আপনার শরীর কেমন ?	

	১। চমৎকার ২। খুব ভালো ৩। ভালো ৪। কিছুটা খারাপ ৫। খারাপ	
২.	এক বছর আগের তুলনায় এখন আপনি আপনার শরীরকে কিভাবে মূল্যায়ন করবেন ? ১। এক বছর আগের তুলনায় এখন অনেক ভালো। ২। এক বছর আগের তুলনায় এখন কিছুটা ভালো। ৩। এক বছর আগের তুলনায় এখন কিছুটা খারাপ। ৪। এক বছর আগের তুলনায় অনেক খারাপ।	

কার্যকলাপের সীমাবদ্ধতা।

নিম্নলিখিত আইটেমগুলো একটি সাধারণ দিনে আপনি করতে পারেন এমন কার্যকলাপ সম্পকে- আপনার স্বাস্থ্য কি এখন এই ক্রিয়াকলাপগুলোতে আপনাকে সীমাবদ্ধ করে ? যদি করে, তা কতটুকু ?

ক্রঃ নং	প্রশ্ন	উত্তর
৩.	কঠিন কাজকর্ম, যেমনঃ দৌড়ানো, ভারী জিনিস তোলা, কঠোর খেলাধূলায় অংশগ্রহণ করা। ১। হ্যাঁ, অনেক সীমিত। ২। হ্যাঁ, একটু সীমিত। ৩। না, মোটেও সীমিত নয়।	
৪.	সহজ কাজকর্ম, যেমনঃ একটি টেবিল সরানো, ভ্যাকুয়াম ক্লিনার	

	চাপানো, বোলিং খেলা। ১। হ্যাঁ, অনেক সীমিত। ২। হ্যাঁ, একটু সীমিত। ৩। না, মোটেও সীমিত নয়।	
৫.	মুদি জিনিসপত্র তোলা বা বহন করা। ১। হ্যাঁ, অনেক সীমিত। ২। হ্যাঁ, একটু সীমিত। ৩। না, মোটেও সীমিত নয়।	
৬.	সিঁড়ি দিয়ে বেশ কয়েকটি ধাপ উপরে উঠা। ১। হ্যাঁ, অনেক সীমিত। ২। হ্যাঁ, একটু সীমিত। ৩। না, মোটেও সীমিত নয়।	
৭.	সিঁড়ি দিয়ে একটি ধাপ উপরে উঠা। ১। হ্যাঁ, অনেক সীমিত। ২। হ্যাঁ, একটু সীমিত। ৩। না, মোটেও সীমিত নয়।	
৮.	বাঁকানো হাটু গেড়ে বসে থাকা বা নত হওয়া। ১। হ্যাঁ, অনেক সীমিত। ২। হ্যাঁ, একটু সীমিত। ৩। না, মোটেও সীমিত নয়।	

৯.	এক মাইলের বেশি হাঁটা। ১। হ্যাঁ, অনেক সীমিত। ২। হ্যাঁ, একটু সীমিত। ৩। না, মোটেও সীমিত নয়।	
১০.	বেশ কয়েকটি ধাপ হাঁটা। ১। হ্যাঁ, অনেক সীমিত। ২। হ্যাঁ, একটু সীমিত। ৩। না, মোটেও সীমিত নয়।	
১১.	একটি ধাপ হাঁটা। ১। হ্যাঁ, অনেক সীমিত। ২। হ্যাঁ, একটু সীমিত। ৩। না, মোটেও সীমিত নয়।	
১২.	গোসল করা বা নিজেকে সাজানো। ১। হ্যাঁ, অনেক সীমিত। ২। হ্যাঁ, একটু সীমিত। ৩। না, মোটেও সীমিত নয়।	

শারীরিক স্বাস্থ্য সমস্যা।

গত চার সপ্তাহে আপনার শারীরিক স্বাস্থ্যের ফলে আপনার কাজ বা অন্যান্য নিয়মিত দৈনন্দিন কার্যকলাপে নিম্নের লেখাগুলোর মধ্যে কোন সমস্যা হয়েছে ?

ক্রঃ নং	প্রশ্ন	উত্তর

১৩.	আপনি কাজ বা অন্যান্য কার্যক্রমের যে সময় ব্যয় করেছেন তা কমিয়ে দিন। ১। হ্যাঁ ২। না	
১৪.	আপনার দৈনন্দিন কাজগুলো করতে পারেন কিনা ? ১। হ্যাঁ ২। না	
১৫.	কাজের ধরণ বা অন্যান্য কর্মকান্ডের সীমাবদ্ধতা ছিল। ১। হ্যাঁ ২। না	
১৬.	কাজ বা অন্যান্য কার্যকলাপ সম্পাদন করতে অসুবিধা হয়েছিল ? ১। হ্যাঁ ২। না	

মানসিক স্বাস্থ্য সমস্যা।

গত চার সপ্তাহে আপনি কি আপনার কাজ বা অন্যান্য নিয়মিত দৈনন্দিন কার্যকলাপের সাথে কোন মানসিক সমস্যার (যেমন: বিষন্নতা বা উদ্বিগ্ন বোধ) এর ফলে নিম্নলিখিত কোন সমস্যায় পড়েছেন ?

ক্রঃ নং	প্রশ্ন	উত্তর
১৭.	আপনি কাজ বা অন্যান্য কার্যক্রমের যে সময় ব্যয় করেছেন তা কমিয়ে দিন। ১। হ্যাঁ ২। না	

১৮.	আপনার চাওয়ার থেকে কম সম্পন্ন। ১। হ্যাঁ ২। না	
১৯.	কাজ বা অন্যান্য কর্মকান্ড যথারীতি সমাধান করেননি। ১। হ্যাঁ ২। না	

সামাজিক কর্ম।

ক্রঃ নং	প্রশ্ন	উত্তর
২০.	মানসিক সমস্যা পরিবার, বন্ধু-বান্ধব, প্রতিবেশি বা অন্য গোষ্ঠীর সাথে আপনার সামাজিক কার্যকলাপের পরামর্শ করেছেন ? ১। মোটেইনা ২। সামান্য ৩। পরিমিতভাবে ৪। গুরুতর ৫। খুব গুরুতর	

ব্যথা।

ক্রঃ নং	প্রশ্ন	উত্তর
২১.	গত চার সপ্তাহে আপনি কতটা শারীরিক ব্যথা পেয়েছেন ? ১। হালকা ২। খুব হালকা	

	৩। পরিমিত ৪। গুরুতর ৫। খুব গুরুতর ৬। কোনটিই নয়	
২২.	গত চার সপ্তাহে আপনার স্বাভাবিক কাজের সাথে কতটা ব্যথা অনুভব করেছেন (বাহির বা বাড়ির কাজ উভয় সহ) ? ১। মোটেইনা ২। সামান্য ৩। পরিমিতভাবে ৪। বেশ কিছুটা ৫। খুব গুরুতর	

শক্তি বা আবেগ।

নিম্নলিখিত প্রশ্নগুলো হল গত চার সপ্তাহে আপনার অনুভূতি কেমন ছিল এবং এখন কেমন অনুভব করছেন। অনুগ্রহপূর্বক আপনার অনুভূতির সাথে মিলে যায় বা তার কাছাকাছি প্রতিটি প্রশ্নের উত্তর দিন।

ক্রঃ নং	প্রশ্ন	উত্তর
২৩.	আপনি কি পরিপূর্ন শক্তি অনুভব করছেন ? ১। সবসময় ২। বেশিরভাগ সময় ৩। কিছু সময় ৪। একটু সময় ৫। কোনটিই নয়	

২৪.	আপনি কি খুব হতাশাগ্রস্থ? ১। সবসময় ২। বেশিরভাগ সময় ৩। অল্প সময় ৪। কিছু সময় ৫। একটু সময় ৬। কোনটিই নয়	
২৫.	আপনি কি হতাশ হয়ে আছেন ? যে কিছুই আপনাকে উৎসাহিত করতে পারেনা। ১। সবসময় ২। বেশিরভাগ সময় ৩। অল্প সময় ৪। কিছু সময় ৫। একটু সময় ৬। কোনটিই নয়	

২৬.	আপনি কি শান্ত এবং স্বস্তি অনুভব করছেন ? ১। সবসময় ২। বেশিরভাগ সময় ৩। অল্প সময় ৪। কিছু সময় ৫। একটু সময় ৬। কোনটিই নয়	
২৭.	আপনার কি প্রচুর শক্তি ছিল ? ১। সবসময় ২। বেশিরভাগ সময় ৩। অল্প সময় ৪। কিছু সময় ৫। একটু সময় ৬। কোনটিই নয়	
২৮.	আপনি কি উদাসীন ও হতাশা অনুভব করছেন ? ১। সবসময় ২। বেশিরভাগ সময় ৩। অল্প সময় ৪। কিছু সময় ৫। একটু সময়	

	৬। কোনটিই নয়	
২৯.	আপনি কি ক্লান্ত বোধ করছেন ? ১। সবসময় ২। বেশিরভাগ সময় ৩। অল্প সময় ৪। কিছু সময় ৫। একটু সময় ৬। কোনটিই নয়	
৩০.	আপনি কি সুখী মানুষ ? ১। সবসময় ২। বেশিরভাগ সময় ৩। অল্প সময় ৪। কিছু সময় ৫। একটু সময় ৬। কোনটিই নয়	
৩১.	আপনি কী ক্লান্ত বোধ করছেন ? ১। সবসময় ২। বেশিরভাগ সময় ৩। অল্প সময় ৪। কিছু সময়	

	৫। একটু সময় ৬। কোনটিই নয়	

সামাজিক কর্ম।

ক্রঃ নং	প্রশ্ন	উত্তর
৩২.	গত চার সপ্তাহে কতটা সময় আপনার শারীরিক স্বাস্থ্য বা মানসিক সমস্যাগুলি, আপনার সামাজিক (যেমন: বন্ধু-বান্ধব, আত্মীয়দের সাথে দেখা ইত্যাদি) পরামর্শ করেছেন ? ১। বেশিরভাগ সময় ২। অল্প সময় ৩। কিছু সময় ৪। একটু সময় ৫। কোনটিই নয়	

সাধারন স্বাস্থ্য।

আপনার জন্য নিম্নলিখিত বিবৃতি প্রতিটি কতটা সত্য বা মিথ্যা ?

ক্রঃ নং	প্রশ্ন	উত্তর
৩৩.	অন্য মানুষের তুলনায় আমি একটু অসুস্থ্য মনে হয়। ১। অবশ্যই সত্য ২। বেশিরভাগই সত্য ৩। জানিনা ৪। বেশিরভাগই মিথ্যা	

	৫। অবশ্যই মিথ্যা	
৩৪.	যতটা জানি অন্য মানুষের তুলনায় আমি সুস্থ্য আছি। ১। অবশ্যই সত্য ২। বেশিরভাগই সত্য ৩। জানিনা ৪। বেশিরভাগই মিথ্যা ৫। অবশ্যই মিথ্যা	
৩৫.	আমি অনুমান করছি আমার স্বাস্থ্য খারাপ হচ্ছে। ১। অবশ্যই সত্য ২। বেশিরভাগই সত্য ৩। জানিনা ৪। বেশিরভাগই মিথ্যা ৫। অবশ্যই মিথ্যা	
৩৬.	আমার স্বাস্থ্য খুব ভালো। ১। অবশ্যই সত্য ২। বেশিরভাগই সত্য ৩। জানিনা ৪। বেশিরভাগই মিথ্যা ৫। অবশ্যই মিথ্যা	

Gant Chart

Activities/ Month	July 22	Aug 22	Sep 22	Oct 22	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	App 23	May 23	Jun 23
Proposal Presentation												
Introduction												
Literature Review												
Methodology												
Data collection												
Data Analysis												
Result												
1st progress presentation												
Discussion												
Conclusion and Recommendation												
2nd progress presentation												
Communication with supervision												
Final Submission												