

Prevalence, Cause, and Response to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh: A Cross-Sectional Study



By
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Statement of Authorship

This is an affirmation that I, Rahul Mitra, with DU Roll No. 434, have completed the thesis project titled “Prevalence, Cause, and Response to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh: A Cross-Sectional Study.” in order to fulfil the requirements for earning a B.Sc. in Occupational Therapy at Bangladesh Health Professions Institute (BHPI), Savar, Dhaka, Bangladesh. There is no prior submission of this study for the award of any other degree or certificate.

I certify that nothing in this thesis has been published elsewhere or is being utilized to satisfy the criteria of any other academic program, with the exception of the instances where it is specifically recognized in the text. This work does not contain any content that has been taken from a thesis given by me or anybody else for any academic reason.

I further declare that this study has been conducted with due diligence and that ethical considerations have been protected. Any future dissemination of the research findings will include proper acknowledgement of its origins as an undergraduate thesis. I acknowledge that my research supervisor has a strong interest in ensuring the responsible dissemination of the project's findings.

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Dedication

I dedicate myself to the all-mighty God who maintains me, helps me stay on naturally, and gives me patience while I work. My heartfelt gratitude goes out to my highly respected parents, who developed the fundamental foundation of my being. I dedicate this dissertation to my parents, whose unconditional trust in me and unconditional love have always motivated me. This dissertation is dedicated to my highly respected family, friends, and esteemed teachers at the Bangladesh Health Professions Institute (BHPI).

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List of Abbreviations

BHPI	Bangladesh Health Professions Institute
CRP	Centre for the Rehabilitation of the Paralysed
IRB	Institutional Review Board
MS	Musculoskeletal Symptoms
MSDs	Musculoskeletal Disorders
NGO	Non-Governmental Organisation
OI	Occupational Injury
OT	Occupational Therapy
OTs	Occupational Therapists
WMA	World Medical Association
WRMSDs	Work-Related Musculoskeletal Disorders

Abstract

Background: Work-related musculoskeletal disorders (WMSDs) are a group of conditions that affect one or more ligaments, muscles, tendons, nerves, synovial membranes (joint tissue), and fascia (connective tissue). When healthcare professionals suffer from WMSDs, their quality of life and productivity are reduced. They cannot provide quality of care to their patients. Ultimately, the findings of this study can inform the development of preventive strategies to promote the well-being and longevity of occupational therapists, thereby ensuring the delivery of high-quality healthcare services to individuals in need.

Aim: This study aimed to examine the prevalence, cause, and response to occupational musculoskeletal injuries among occupational therapists in Bangladesh.

Methods: The study followed a cross-sectional quantitative study design. Data were collected through a face-to-face survey among 150 participants from where clinical occupational therapists work in Bangladesh, including special schools, rehabilitation centre, hospitals, NGOs and INGOs. Data was collected by using Occupational Musculoskeletal Injuries Questionnaire (OMIQ). SPSS 26 version was used to conduct the descriptive analysis, Fisher's exact and Chi-Square tests in the study.

Results: The findings showed the prevalence rate that in the last 12 months of the working period, 87.3% of occupational therapists experienced occupational musculoskeletal injuries. In a paediatric outpatient unit, 25.5% of participants experienced the most injuries while they were working there. Muscle spasms were reported as the most prevalent type of injury (43%), and the lower back was reported as the most common body part (22%) of the injury. Most therapists (56%) did not officially report their injuries. 40% of OTs reported to taking medical care, 65.30% were taking self-treatment or colleagues' help, and 35.30%

missed half days or more from work due to their injury. 65.3% of OTs stated they were taking adaptive responses to minimize occupational musculoskeletal injury, such as changing working positions frequently (16.8%). 91.3% of OTs reported that they did not limit their patient contact time and 68.0% reported that they did not consider changing their occupation. 46.7% of occupational therapists have suffered different psychosocial problems after they experience occupational musculoskeletal injury. Patient contact time was the primary associated factor with occupational musculoskeletal injury, and most of the therapists did not report their injuries.

Conclusion: The study contributed to a gross understanding of demographic and occupational musculoskeletal injury status. Occupational musculoskeletal injury represents a high prevalence for occupational therapists in Bangladesh. The study showed that patient contact time was the most significant injury-related factor. It emphasised the importance of workload management and ergonomic considerations in occupational therapy practice settings. Implementing preventive strategies, providing training in safe patient handling techniques, and promoting the culture of reporting the injury to improve occupational therapists physical and mental health and enhance the quality of rehabilitation services in Bangladesh's health care system.

Keywords: Occupational Musculoskeletal Injury, Work Related Musculoskeletal Injury, Occupational Therapists, Musculoskeletal Inj

CHAPTER I: INTRODUCTION

1.1 Background

Work-related musculoskeletal disorders (WRMSDs) include issues affecting muscles, tendons, synovial membranes, nerves, fascia, and ligaments, either individually or in combination, with or without tissue degradation, exacerbated by work. The symptoms include discomfort, numbness, heaviness, and exhaustion. These injuries typically affect the upper limbs, scapular region near the shoulder, and cervical region. They can also affect the lower limbs and often result in short- or long-term occupational limitations (Lelis et al., 2012). Worldwide, WRMDs are the primary cause of global disability, representing 16% of all years lived with disability, with lower back pain becoming the most prevalent cause of disability globally (Far et al., 2020). An occupational injury is a personal injury, sickness, or death resulting from a job-related incident. An occupational injury differs from an occupational disease since the previous type is an injury sustained at work. At the same time, the latter is a condition developed due to prolonged interaction with job-related risk factors (Bureau of Labor Statistics, 2011).

It was shown that approximately 1.71 billion people have suffered from Musculoskeletal conditions, the most significant global cause of disability. Low back pain was the leading musculoskeletal condition in 134 to 204 countries (Cieza et al., 2020).

Musculoskeletal disorders (MSDs) were massively exposed all over the world, affecting people's finances and quality of life. The United States, Nordic countries, and Japan showed that MSDs were the two or third most extensive work-related disorders. The U.S. Bureau of Labor Statistics showed that every year, more than 365,000 workers in the

United States have musculoskeletal disorders (Hardison & Roll, 2017). In the European Union (EU), the work-related health conditions prevalence rate was, on average, 60% (Tišlar et al., 2022). More than 50% of workers with WMSDs were reported to be absent from work, much higher than the 10%–12% of workers with influenza virus infections. Compared to workers with other health issues, employees with WMSDs miss work longer (Govaerts et al., 2021).

The costliest category of work disability was WMSDs. Approximately 215 billion dollars were spent on WMSD in the United States in 1995, 26 billion dollars on Canada in 1998, and 38 billion euros on Germany in 2002. It has been estimated that MSDs account for nearly one-third of all sick leave cases among healthcare professionals. The study's findings on WMSDs in healthcare professionals have primarily targeted doctors, dentists, physiotherapists, lab technicians, and nurses (Yasobant & Rajkumar, 2014).

Occupational and physical therapists have a high chance of occupational injuries due to their working behaviour (Singh, 2015). A study reported that the prevalence of musculoskeletal disorders related to the workplace is found to be high because 92% of the participants reported experiencing pain after beginning physical therapy, which interferes with daily activities and occasionally even requires them to change their line of work (Iqbal & Alghadir, 2015). A study reported that the lower back was the most prevalent body part, 90% (n=56) for physiotherapists (Islam et al., 2015). Another study reported within 12 months, 48% of the PT respondents reported having WMSDs. The high prevalence was probably caused by the nature of their line of work. The most often injured body parts and injury types were the lower back and the muscle spasm. The most frequent injury-related activities were manual therapy techniques and patient transfers (Alnaser & Aljadi, 2019).

All over the world, the study of occupational therapists' work-related musculoskeletal injuries has been conducted in Korea, the USA, Cyproit, Greek, Australia, Canada, India, Iran, New York, and Bangladesh (Alnaser, 2015; Dyrkacz et al., 2012; Islam et al., 2015; Nazari et al., 2017; Park, 2015; Park & Park, 2017; Passier & McPhail, 2011; Singh, 2015). Evidence suggests that 62% of people are affected with MSDs by restricted movement in the total population (Nazari et al., 2017). In Korea, 85.9% of occupational therapists reported musculoskeletal problems on at least one side of the body. In Bangladesh, occupational therapists' most reported body part was the lower back (72% (n=28)(Islam et al., 2015). The most commonly affected body was low back pain at 26.8% (Park & Park, 2017).

Many researchers have reported that occupational therapists are prone to work-related musculoskeletal disorders due to various reasons. One of the main reasons is the nature of their work, which involves using their shoulder and hand for extended periods to help patients perform exercises and improve their fine motor skills. Patient handling, transferring, and lifting, especially when dealing with heavy patients, can cause injuries. Maintaining a proper posture for a prolonged period can lead to musculoskeletal disorders. Another contributing factor is the staff shortage, which can increase the workload and lead to injuries (Dyrkacz et al., 2012; Park, 2015; Passier & McPhail, 2011). Older therapists experienced more significant pain symptoms compared to younger therapists and were approximately two times more likely to switch occupations because of their pain symptoms (King et al., 2009).

In conclusion, this cross-sectional study aims to provide some understanding of the significant musculoskeletal injuries affecting occupational therapists in Bangladesh. It will

improve this sector's occupational health and safety by exploring the prevalence, causes, and responses to these injuries. In my research goals are to discover the causes contributing to musculoskeletal injuries and develop ergonomic solutions.

1.2 Justification of the study

Musculoskeletal injuries are significant issues to the occupational therapy profession due to the nature of the job. Understanding those injuries can lead them to a healthy physical life and improve the quality of patient care. In the study, we learned about occupational musculoskeletal injuries and how to develop preventive strategies to ensure therapists' long-term well-being. This study could raise awareness about the prevalence of occupational musculoskeletal injuries among occupational therapists in Bangladesh and promote a preventive healthy culture among professionals. Occupational therapists ensure patients regain their functional life as much as possible. High rates of MSDs among occupational therapists may result in a lack of staff, decreased productivity, and a decline in the quality of patient care. Reducing Musculoskeletal injuries in the healthcare profession can lead to cost savings for the organisation by minimising the medical expenses of health workers. As my study focuses on Bangladesh occupational therapists' workplace musculoskeletal injuries, the outcomes of my research can help the employer of the occupational therapists; employers can create a safe work environment to reduce the likelihood of injuries. It can include providing appropriate equipment and redesigning workspaces. It can minimise employee absenteeism in the workplace. It can help employers ensure compliance with occupational health and safety regulations.

Furthermore, it might be used as a reference for research of a similar nature in different regions. Understanding the prevalence and causes can help to assess the impact

of musculoskeletal injuries on the healthcare system in Bangladesh. The government should strictly maintain labour laws and allocate more resources. In this study, we can quickly determine the prevalence and cause of occupational musculoskeletal injuries among occupational therapists in Bangladesh. We can provide training sessions to minimize the risk of injuries and create ergonomic work settings to make the workplace safer for occupational therapists. Occupational therapists can also work in ergonomic settings. Research outcomes can guide the implementation of ergonomic adaptations in every occupational therapy setting in Bangladesh.

1.3 Operational Definition

1.3.1 Occupational Therapy

“Occupational therapy is a client-centred health profession concerned with promoting health and wellbeing through occupation. The primary goal of occupational therapy is to enable people to participate in the activities of everyday life. Occupational therapists achieve this outcome by working with people and communities to enhance their ability to engage in the occupations they want to, need to, or are expected to do, or by modifying the occupation or the environment to better support their occupational engagement” (WFOT, 2012).

1.3.2 Musculoskeletal Disorders (MSDs)

Musculoskeletal disorders (MSDs) were a group of conditions that affect one or more ligaments, muscles, tendons, nerves, synovial membranes (joint tissue), and fascia (connective tissue) (Lelis et al., 2012).

1.3.3 Occupational Injury

An occupational injury was any injury which arises from an incident at work or from a

single, immediate contact in the workplace that causes mortality, absences from work, non-first aid medical care, unconsciousness, work limitation, or transfer to another position (Holder et al., 1999).

1.3.4 Prevalence

Prevalence, also known as prevalence rate, was the total number of individuals exposed to risk (a population or a defined group of people) divided by the number of diseases or disease incidents at or within a given time (Olweus, 1989).

1.3.5 Work-Related Musculoskeletal Disorders

Work-related musculoskeletal disorders (WMSDs) are injuries from work events or work environments (Alrowayeh et al., 2010).

1.3.6 Musculoskeletal Symptoms

"Musculoskeletal Symptoms" refers to pain from ongoing, repetitive, abnormal muscle movements, tendon, and nerve movements. These symptoms, which can appear in different parts of the body, reduce a person's quality of life since they make it more challenging to do things like go to work and do ADLs (Choi et al., 2013).

1.4 Aim of the study

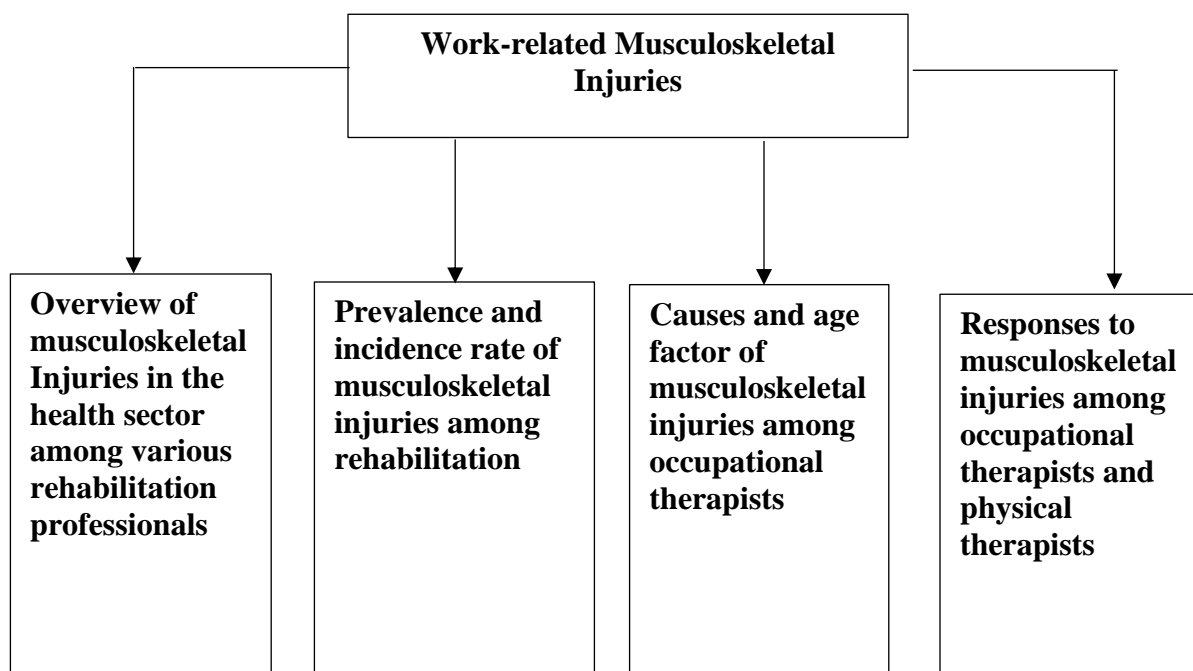
The aim of this study was to examine the prevalence, cause, and response to occupational musculoskeletal injuries among Occupational Therapists in Bangladesh.

CHAPTER II: LITERATURE REVIEW

The chapter reviews existing literature regarding the prevalence, causes, and response to occupational musculoskeletal injuries by all health professionals, especially occupational therapists. Work-related musculoskeletal disorders of occupational therapists, previously described in some literature, are also provided. There are some factors regarding occupational musculoskeletal injuries. Those are prevalence, cause, age, and response. This chapter briefly describes those factors from the previous body of literature.

Figure:2.1

Overview of literature review findings



2.1 Overview of Musculoskeletal Injuries in the Health Sector among Various Rehabilitation Professionals:

Healthcare workers define it as all individuals participating in activities that aim to improve health. They are essential to the functioning of many health systems and make significant contributions (Tirthankar, 2013). WRMSDs are becoming a more significant problem in our daily lives. They are the second-largest cause of short-term disability after the common cold. Qualitative research shows that many health professionals indicate that MSDs in one or more body regions, with the lower back, are the most common problems (Pleho et al., 2021). The risk of WMSDs in the medical field is well known. According to estimates, MSDs are responsible for nearly one-third of all sick leave cases among healthcare professionals (Yasobant & Rajkumar, 2014). Work-related musculoskeletal disorders (WRMDs) may make it impossible for health professionals to continue in clinical roles, cause a labour shortage, or unfavourably affect a person's career path (Nazari et al., 2017). It has also been widely reported that MSDs are particularly prevalent and among the most frequent health complaints among healthcare professionals, particularly among hospital workers, nurses, and rehabilitation professionals (Hämmig, 2020). Healthcare Professionals (HCPs) in hospitals, a specialised occupational group, perform many job-related tasks and endure much mental stress while caring for patients (Dong et al., 2019).

A study showed that the sample included 105 health professionals with a response rate of 24.1% of the total population. Most participants were nurses, nursing assistants, medical secretaries, physicians, physical therapists, psychologists, and speech therapists. Participants reported that they suffer from WRMDs frequently. In the past 12 months, they suffered lower back pain (76.2%), neck (59%), right shoulder (23.8%) and dorsal area

(19.0%). Regarding the opinion of the respondents on the institutional resources to prevent WMSDs, 16.2% said that the environment was insufficient, 21.9% said that they had limited necessary resources, 21.9% said that professional appointments were inadequate, 24.7% said that the institution did not take the required step of training for WMSD prevention. In terms of the respondents' evaluated expertise and abilities for minimising WMSDs, 16.2% said that the institution did not cover ergonomics, 7.6% said that they lacked knowledge of how to handle clients or loads, 34% said that their lack of knowledge had already disrupted their handling persons or loads, and 31.5% said that they had lacked skills in this particular area (Fernandes et al., 2018). Clinical longevity may be impacted by work-related pain. According to research, 27% of occupational therapists and 31% of physical therapists with work-related pain thought about changing jobs or doing so due to their condition (Campo & Darragh, 2010).

2.2 Prevalence and Incidence Rate of Musculoskeletal Injuries among Rehabilitation Professionals:

According to recent data, occupational therapists and physiotherapists are more likely to experience these diseases yearly. A cross-sectional study was conducted to examine the prevalence of MSD in occupational therapists and physiotherapists and determine their risk level among 41 individual occupational therapist and physical therapist participants. The study was conducted in Iran, and participants were recruited from the Hamedan, Malayer and Nahavand cities of Iran through a numeration method. The standardised Nordic questionnaire collected the data. According to the study's findings, in the previous 12 months, the wrist and hand, back, knees, and neck were the most common places for MSD symptoms to be observed, while in the recent seven days, the lower back and knees

predominated. During this time, immobility in the neck, back, knees, and wrist were the main MSD-related restrictions on performing daily activities. The prevalence rate of MSDs in total populations showed that 65.9% infected at least one part of the body. It also showed that physical therapists had a rate incidence of MSD of 58.3%, while occupational therapists had a rate of 76.4%. According to the incidence of MSD based on body parts, the hand/wrist region affected 10 (58.8%) and four people (16.6%) in occupational and physical therapies. Because they performed technical jobs by hand, occupational therapists may have a higher incidence rate than other professionals. Occupational therapists reported most of the disorders in the last 12 months, particularly in their hands and wrists (Nazari et al., 2017).

The purpose of this systematic study was to identify WMSD risk factors and prevalence among AHPs. The review was held by 22 retrospective observational cross-sectional design articles, one prospective cohort study with 1-year follow-up, two reviews and two qualitative articles. Sample sizes ranged from 18 to 2,688, including literature searching among five professionals. According to the study, the Prevalence rates of WMSD over one year ranged from 28% to 96% according to different outcome measures. Two studies compared the prevalence rates of injuries among various professional groups. A slight difference in WMSD injuries between occupational therapists and physiotherapists was reported by Darragh and colleagues (45% and 47%, respectively). In contrast, Islam et al. reported higher rates of 92% and 97%, respectively (Anderson & Oakman, 2016).

A cross-sectional study was conducted to examine the prevalence and risk factors of Occupational Musculoskeletal Injuries (OMIs) among occupational therapy practitioners over 12 months among OT with OMIs was 30 and OTA with OMIs was 14.

The data was collected by survey, adapted from Holder et al., a self-administered questionnaire with closed-ended questions. The participants were recruited from the Texas Board of Occupational Therapy Examiners (TBOTE) database, where 500 participants were randomly selected, and the response rate was 38%. The result showed that 23% of OTs experienced occupational musculoskeletal injury in the previous 12 months. Most injured OTs (40%) had OMIs in hospitals, followed by 20% in rehab centres.

Conversely, 23 % of OTAs suffered from OMIs during the 12 months. Most (29%) OTA injuries occurred in skilled nursing facilities and private practice. Practitioners of occupational therapy engaged in activities that raised their risk of injury. The most common injury reported (52%) was a muscle strain, and the most injured body part (32%) was the lower back (Alnaser, 2015)

Although research showed that Injury was very common, respondents said 55.7% had at least one episode in their career as an occupational therapist. A general rehabilitation or mental health hospital was where the injured occupational therapists were employed at the time of their accident, according to more than half of them (57.6%). The most frequent injuries among occupational therapists who reported one or more injuries were to the upper extremities (33.4%), neck, spine, and torso (41.8%). The most frequent injuries (37.3%) were muscle strains or ligamentous injuries (Dyrkacz et al., 2012).

2.3 Causes and Age Factors of Musculoskeletal Injuries among Occupational Therapists:

Research showed that there were a variety of causes behind MSDs among occupational therapists, including patient lifting (21%) and transfer (20%), which were among the reported activities, maintaining a position for an extended period (18%) (Alnaser, 2015).

Research reported that the identified factors included problems with human resources (lack of enough staff, time, or training), equipment deficiencies (lack of suitable lifting equipment or equipment failure), patient factors (compliance), improper body mass, repetitive actions, working hours, and position while working were practical in MSD (Dyrkacz et al., 2012). Another study reported that older female therapists are more affected by WRMDs than younger female therapists. Female therapists are 65% stronger than male therapists. The effect was most probably their body position when dealing with the patient (King et al., 2009).

These findings suggest that occupational therapists' work-related musculoskeletal pain is brought on by the fact that they spend the majority of their time using their hands and shoulders to handle tools, assist patients in performing exercises to enhance their fine motor skills and treat patients who have upper-limb dysfunction to improve their functional abilities (Park, 2015).

The prevalence of work-related injuries over the previous three years was 21.4% for younger workers and 19.6% for older workers. Older workers were no more likely than their younger counterparts to report the injury, seek medical attention, quit their jobs, or even consider leaving. About half of therapists, both older and younger, said they experienced their symptoms while treating patients (48%), and about 11% of older and 16% of younger workers said their symptoms got in the way of treating patients. Older workers reported pain or discomfort at work at a rate of 43%, comparable to that of younger workers (47%) (King et al., 2009).

2.4 Responses to Musculoskeletal Injuries among Occupational Therapists and Physical Therapists:

Responses to the injuries showed that 71% of Occupational Therapy Assistances (OTAs) and 58% of Occupational Therapists (Ots) with injuries did not file official injury reports. OTAs (21%) said they were too busy to report their injuries, and OTs (31%) said they had grown utilised to being hurt. 85% of the participants indicated that they used physical and behavioural changes, such as asking for assistance from other staff members or limiting patient contact, to prevent recurrences of the injuries. The age range of respondents with injuries was between 24 and 33 for 50% of the total. Young OTAs might be refusing to ask for help and eager to show off their abilities and independence, which was the most likely defence offered. Less than 50% of the injured respondents also sought medical advice from doctors. Possible explanations for delaying medical care included feelings of embarrassment over being in the medical field and getting hurt, attempting to self-diagnose and treat the injuries, or getting help from coworkers, which was also common among other healthcare professionals (Alnaser, 2015).

A cross-sectional study was conducted to measure work-related injuries among physiotherapists and occupational therapists to determine the susceptibility of work-related musculoskeletal disorders in occupational therapy and physical therapy professionals in India; it indicated that 50% of the therapists identified as having WMSDs formally reported their injuries. Only 38.9% of those surveyed visited a doctor, while 61.1% chose not to. According to the survey, 94.4% of therapists regularly seek self- or colleague care. Additionally, it was discovered that 83.3% of people carried on working while injured, while only 33.3% missed at least half of the day due to the injury (Singh, 2015).

Besides, in another study, a significant portion of PTs (79%) and PTAs (81%) stated that their injury caused them to change their work habits. The respondents believed that changing work practices was necessary to reduce the likelihood of another injury (Holder et al., 1999).

A study showed that 85% of PT respondents who suffered injuries did not formally report those injuries to their employers. They took initial self-treatment, and 48% of respondents sought medical-based treatment. 33% of PT respondents said they had missed working days because of their injuries. Moreover, 90% of respondents changed their working behaviour after getting an injury. They minimised the period spent with the patient (13%), decreased their area of practice (14%), and (19%) thought alternating their job (Alnaser & Aljadi, 2019).

2.5 Key Gaps of the Study

- All the studies collected data through an online survey.
- Only one study was conducted in Bangladesh, which has a small population.
- No study was found to be related to the cause of OMI among occupational therapists.
- Research on work-related musculoskeletal injuries among occupational therapists has been conducted globally, including in Korea, the USA, Australia, Canada, India, Iran, Germany, and New York.
- Most of these studies in Korea, the USA, Australia, Canada, India, Iran, New York, and Germany identified the affected body region.
- Few of these studies in Australia, Canada, New York, and Germany have reported the prevalence of work-related musculoskeletal disorders.

CHAPTER III: METHODS

3.1 Study Question, Aim, Objectives

3.1.1 Study Question

What is the prevalence, cause, and responses to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh?

3.1.2 Aim

The aim of this study is to examine the prevalence, cause, and response to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh.

3.1.3 Objectives

- To identify the prevalence of OMIs among occupational therapists in Bangladesh.
- To determine the cause of OMIs among occupational therapists.
- To determine how the OTs reported their injuries.
- To identify the most affected body part of OMIs among occupational therapists.
- To determine the psychosocial issues derived from OMIs.
- To assess the factors associated with OMIs.

3.2 Study Design

3.2.1 Study Method

The student researcher conducted this study using quantitative methodology. The systematic analysis of social processes using statistical or numerical data was the focus of several quantitative research techniques. Quantitative research aims to collect data by measurement, examine this data for trends and relationships, and validate the measurements taken (Watson, 2015). Quantitative methods were precious when studying

a significant number and extrapolating findings from the study sample to larger populations. When using quantitative methods, data were closed-ended questions with specified response options provided by the researcher, such as an instrument with responses that ranged from strongly disagree to strongly agree (Richard A. Swanson, 2009).

3.2.2 Study Approach

Cross-sectional studies were chosen for this study. A cross-sectional study is a quantitative research design in which every participant's exposure and outcome can be determined simultaneously. Cross-sectional studies can be analytical or descriptive based on whether the outcomes are evaluated for possible associations with risk factors or exposures (Pandis, 2014). Analytical studies try to determine relationships between various parameters, whereas descriptive studies primarily aim to provide estimates of disease prevalence (Kesmodel, 2018). The study is focused on the musculoskeletal injuries experienced by occupational therapy practitioners in Bangladesh due to their work. The study examines occupational musculoskeletal injuries prevalence, cause, and response among occupational therapists. All variables related to occupational musculoskeletal injuries in this study were self-reported. The primary variables examined in this study include OMI symptoms, the type of body part that was injured, OMI-related activities, the practice environment, and post-injury actions. Therefore, the cross-sectional approach of quantitative methodology suited it the most.

3.3 Study Setting and Period

3.3.1 Study Setting

The student researcher surveyed various locations in Bangladesh to gather information on the workplaces of occupational therapists, including hospitals, rehabilitation centres,

special schools, non-governmental organisations (NGOs), and international non-governmental organisations (INGOs) in Dhaka and outside of Dhaka.

3.3.2 Study Period

The study period was between May 2023 to February 2024 and the data collection period was between 1st December to 31st December 2023.

3.4 Study Participants

3.4.1 Study Population

The participants in this study were:

Qualified occupational therapists who have been working in different settings for at least one year or more.

3.4.2 Sampling Techniques

The participants were chosen for the study using a purposive sampling procedure based on some inclusion and exclusion criteria. Purposive sampling techniques ensure what types of participants might be included in the research study's final sample. Purposive sampling is a type of non-probability sampling in which the researcher selects participants based on various variables, including the willingness and ability to participate in the study or their specialised knowledge of the research issue. The primary objective of purposive sampling is to concentrate on specific population characteristics of interest to address your research questions effectively (Rai & Thapa, 2019). This sampling technique ensures that it accurately represents the particular population group that has experienced occupational musculoskeletal injury, musculoskeletal injury causes, and response to occupational musculoskeletal injury. By targeting individuals with relevant experience, purposive sampling enhances the relevance and depth of the study findings.

3.4.3 Inclusion Criteria

- Occupational therapists who have been working as a clinical occupational therapists for more than one year in different settings with different groups of patients.
- Occupational therapists who had graduated with a B.Sc. in occupational therapy from the Bangladesh Health Professions Institute (BHPI), the academic institute of CRP.

3.4.4 Exclusion Criteria

- Occupational therapists who were working as managers or in other technical positions were not considered as occupational therapy practice.
- Occupational therapists who have graduated from BHPI but stopped their occupational therapy practice.
- Occupational therapists who have graduated from BHPI and moved abroad.
- Occupational therapists who were working as an intern.

3.4.5 Sample Size

The total number of Occupational therapists, N = 363

$$\text{Sample size, } n = \frac{Z^{2 \times} pq}{d^2}$$

Here,

Z= the standard normal deviation usually set at 1.96

P= 0.659, the prevalence of MSD is 65.9% (Nazari et al., 2017).

Q= (1-P) = 0.341; the proportion in the target population not having the characteristics.

Confidence Interval= 95%

$d = 0.05$; degree of accuracy required (level of significance/margin of error)

$$\begin{aligned} \text{Sample size, } n &= \frac{(1.96)^2 \times 0.0659 \times 0.341}{(0.05)^2} \\ &= 346 \end{aligned}$$

According to this equation, the sample size should be 346 participants. But, after applying inclusion and exclusion criteria, the number of OT graduates stood at 190.

3.5 Ethical Consideration

3.5.1 Ethical Clearance from IRB:

The ethical clearance was sought from the Institutional Review Board (IRB) through the Department of Occupational Therapy, Bangladesh Health Professions Institute (BHPI). The IRB number CRP-BHPI/IRB/10/2023/755. Also, permission from the Head of the Occupational Therapy department of BHPI had been taken from the Centre for The Rehabilitation of the Paralysed (CRP)-Savar (Head Office) and all sub-branches of CRP and from other organisations where occupational therapists were currently working. All ethics were followed by the ethical principles that the World Medical Association (WMA) created for medical research (World Medical Association et al., 2022).

3.5.2 Informed Consent:

The student researcher described the aim and objective of the study to the participants through an information sheet. The student researcher has collected data from those willing to participate in the study. The face-to-face survey was conducted with written consent from the participants.

3.5.3 Unequal Relationship:

Data was collected through a standardised survey questionnaire. Although the student

researcher might know some of the participants, a standardised questionnaire was used, so there was no scope for bias.

3.5.4 Risk and Beneficence:

The participants in this study did not involve any risk or beneficence to participate in this study.

3.5.5 Confidentiality:

The student researcher must have been concerned about the participant's confidentiality. Personal information was strictly kept confidential except for the supervisor, and the information was provided on the information sheet. Furthermore, no participant's exact data will be disclosed for use in any further publications, conferences, reports, media, or written or verbal discussions.

3.5.6 Right of Refusal to Participate or Withdraw

Participants had total freedom to decide whether to participate in the study. Participants were free to withdraw from the study without facing any consequences. This option was clearly stated on the permission form.

3.6 Data Collection Process

3.6.1 Participant Recruitment Process

Figure 3.6.1

Overview of the participants' recruitment process

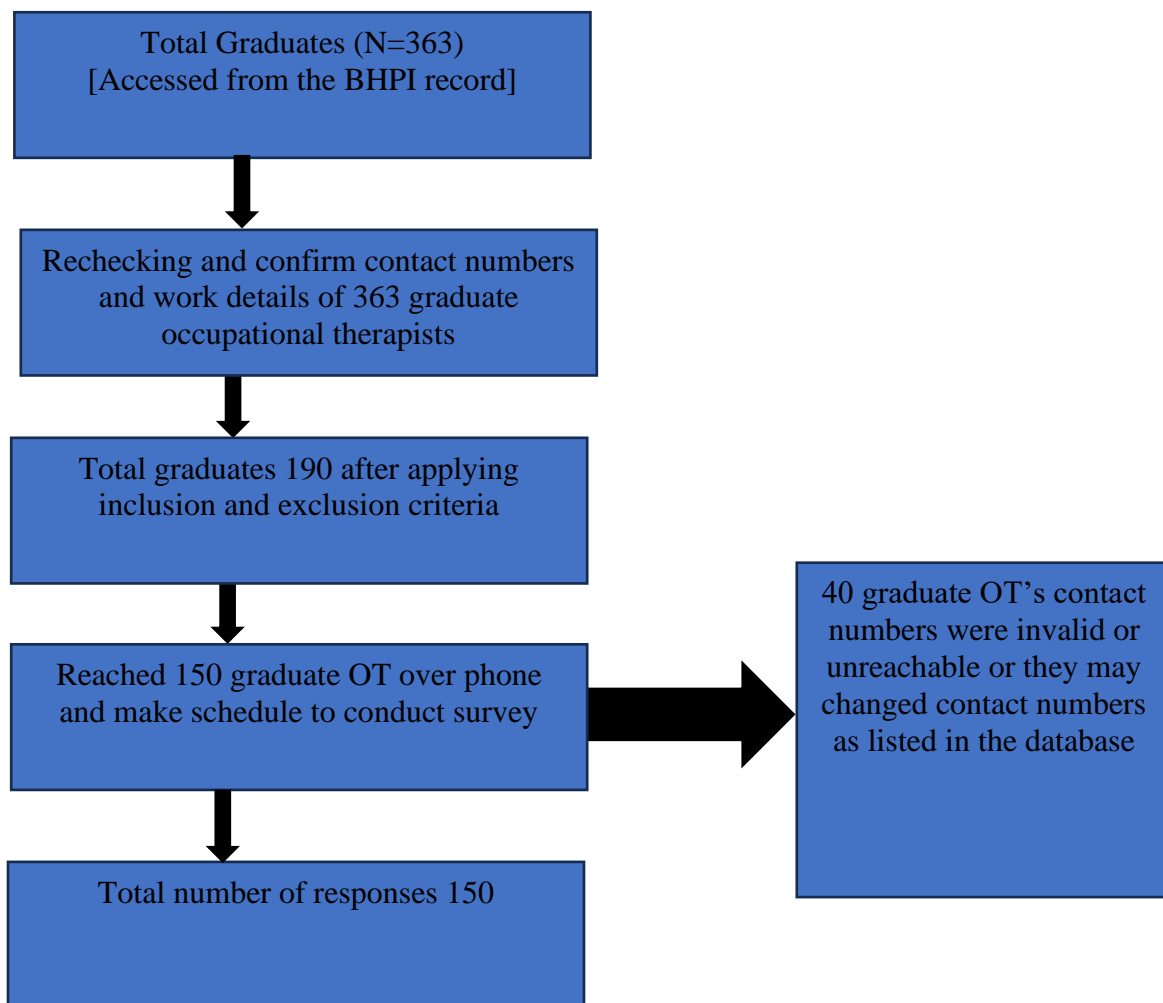


Figure 3.6.1 above explains the participants' recruitment process. The student researcher collected 150 data face-to-face. Following a conversation with the supervisor and the application of exclusion and inclusion criteria, 190 participants were selected for data collection.

3.6.2 Data Collection Method

The researcher collected data through a face-to-face survey using the Occupational Musculoskeletal Injury Questionnaire (OMIQ). Face-to-face interviews may utilise qualitative and quantitative methods, while surveys frequently use quantitative approaches. Interviewers performing face-to-face interviews for a quantitative study will utilise a highly planned interview schedule (Manstein et al., 2023). Several advantages existed for face-to-face surveys. These surveys were flexible and structured. They were founded on interpersonal communication and were controlled within the survey (Szolnoki & Hoffmann, 2013). Face-to-face surveys provide visual interaction between the respondent and the interviewer, which may encourage respondents to answer all questions correctly. During a face-to-face survey, the survey questions are verbally presented to the respondents so that they can answer them orally (Heerwegh & Loosveldt, 2008).

3.6.3 Data Collection Instrument

Occupational Musculoskeletal Injury Questionnaire

Musaed Z. Alnaser (2015) developed the Occupational Musculoskeletal Injury Questionnaire (OMIQ). This study used the tool to examine the prevalence, cause, and response to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh. OMIQ was a self-administered questionnaire with closed-ended questions. The survey has three sections. Minor modifications were included to the instrument to fit the population and purpose of the study with proper permission from the original author of the tool. Section I included demographic questions like age, years of experience, practice setting, hours in direct contact with patients, gender, height, and weight. Section II included a self-report of OMIs sustained in the past 12 months, including types of injuries, injured

anatomical areas, work settings, activities provoking injuries, injury reporting, treatment, loss of work time, symptoms exacerbating activities, and responses to injuries. Based on the literature review, a list of potential responses to the query about reporting injuries was included to hypothesise why reports might not have been made. Section III was a self-report inquiring about the psychosocial issues experienced by the participants. I was asked that participants who had not experienced a period of OMI in the 12 months before the survey skip Sections I and II and respond to Section III. If the response was "yes," then the person was directed to finish all three sections due to injury. This Questionnaire has been used on American Occupational Therapists before (Alnaser, 2015). One question was added to maintain the quality of the questions. The added question was: do you have an occupational health and safety unit in your organisation where you can report your injury officially?

3.6.4 Field test

The student researcher translated the questionnaire into Bengali, the native language of Bangladesh, with the help of a supervisor and a volunteer who was an expert in formal Bengali writing. The student researcher conducted the field test with two occupational therapists. Through this field test, one question was added, which helped to maintain the question's quality. The added question was: do you have an occupational health and safety unit in your organisation where you can report your injury officially?

3.7 Data Management and Analysis

Research data management involves organising, documenting, storing, and preserving data generated during the research process (Surkis & Read, 2015). All data management and statistical analysis were done using Statistical Package for Social Science (SPSS) v26. The

descriptive analysis was used to condense the demographic OMI of the respondents. Chi-square tests were used to find an association between the prevalence of OMI and the demographic characteristics of the participants (Alnaser, 2015). Researcher used q-q test to check data normality. The chi-square test was used for nominal and ordinal variables. It is used to analyse the independence between two categorical variables or to evaluate the degree to which a sample matches the distribution of an identified population (goodness of fit). The chi-square test of independence assesses whether two categorical variables in a single sample are independent or related (Franke et al., 2012). While conducting the chi-square test, more than 20% of the scale had an expected count of less than five; therefore, Fisher's exact significant value was considered.

3.8 Quality Control and Quality Assurance

Quality control and quality assurance were maintained throughout the study period, starting with choosing the appropriate study design that best suited the aim and objectives of this study and the sampling method and sampling size that represented the target population. The seven stages of data cycle management were appropriately followed to ensure data quality and safety in the study. One hundred fifty professional occupational therapists participated in the study. The first phase of the research data management lifecycle involves creating research data descriptions, establishing guidelines such as author permissions, deposits, copyrights, and licences, and adhering to documentation standards for research data. Data collecting for research entails recording, observing, measuring, experimenting, and simulating. There are four techniques of research data collection: acquiring new data, converting historical data, sharing data, and purchasing data. The researcher then conducts a face-to-face survey. The questions were given to them in paper

document format with spaces for answers. Data analysis is critical to research data management, including the procedures and techniques applied to research data to enhance documentation and information. Developing accurate file formats and names is essential for organising, distributing, and tracking data files in the database. The components of a convention include the date of inception, creator, brief description, dataset name, and number. Documenting research data is crucial for ensuring its discoverability and usability in the future, sometimes referred to as metadata. Data documentation, or metadata, assists researchers in comprehending their data thoroughly and aids other researchers in locating, utilising, and correctly referencing study data.

The primary role of the researcher is to preserve and store research data. They will frequently have to share this info with other people. Many researchers utilise the conventional approach of storing files on removable data storage devices like USB keys and CDs or DVDs, which may store a substantial volume of data. Various internet infrastructures offer services, including Google Drive, One Drive, DataStore, and more. Data Sharing involves providing data upon request or depositing research data in publicly accessible repositories. Authors and data makers can share research data in data or institutional repositories with appropriate copyright licences. Research data repositories are databases that store and preserve research data for long-term access and facilitate the discovery of such data. The advantages of sharing scientific data are self-evident. Validating findings presented in publications using available data can enhance the research's validity. Research data can be reused for subsequent research, conducting new studies, performing research reviews, analysing findings, and educating based on study results (Manu & Gala, 2018).

CHAPTER IV: RESULTS

This chapter presents the findings of the study. The study findings are presented in tables and figures in this chapter, emphasising the demographic information and OMIs of Bangladesh occupational therapists.

Table 4.1

Distribution of participants' responses to occupational musculoskeletal injury experiences and mean and standard deviation demographic status. [Table 4.1 extends from page 26-27]

Variable	Category	n= 150	Percentage
Age	Age in years	Mean age 30.41 years, SD (\pm 4.397)	
	Minimum age	23	
	Maximum age	44	
Gender	Male	51	34.0%
	Female	99	66.0%
Heights	140-149 cm	9	6.0%
	150-159 cm	71	47.3%
	160-169 cm	46	30.7%
	170-179 cm	22	14.7%
	180-189 cm	2	1.3%
Weights	40-49 kg	3	2.0%
	50-59 kg	50	33.3%
	60-69 kg	55	36.7%
	70-79 kg	31	20.7%
	80-89 kg	7	4.7%
	90-99 kg	3	2.0%
	110-119 kg	1	.7%
Working experience	Work experience (in years) Median with Interquartile Range (IQR)	5 (3.00 – 9.00)	
	Minimum working experience	1	
	Maximum working experience	20	
Work-setting	Academic	9	2.1%
	Home care	5	1.2%

	Private OT Practice	43	10.2%
	Schools for Special Needs	62	14.7%
	Handicap Centres	5	1.2%
	Rehabilitation Centre	60	14.3%
	Outpatient Facility Neurology	48	11.4%
	Outpatient Facility Paediatric	103	24.5%
	Outpatient Facility Orthopedic	20	4.8%
	Inpatient Facility Neurology	22	5.2%
	Inpatient Facility Paediatric	28	6.7%
	Inpatient Facility Orthopaedic	8	1.9%
	Inpatient Facility Burn	4	1.0%
	Inpatient Facility ICU	2	0.5%
	Inpatient Facility Surgical	2	0.5%
Working hours	Working hours	Median with Interquartile Range (IQR) 46.00 (40.00 - 58.00)	
	Minimum working hours	10	
	Maximum working hours	72	
	10-41hour	46	30.7%
	42-73hour	104	69.3%

Table 4.1 shows an overview of the demographic status of occupational therapists who work in Bangladesh. The demographic status includes the participant's age, gender, height, weight, working experience, work setting, working hours, and occupational musculoskeletal injury experiences. Of the 150 participating occupational therapists, 51 (34.0%) were male, and 99 (66.0%) were female, with the mean age of the participants was 30.41 ± 4.397 years. The findings also show that more than half of the respondents were young professionals aged between 23 and 29. It also showed that most therapists' heights were 150-159 cm, 47.3%, and their weights were 60-69 kg (36.7%). The participants' median and interquartile range work experience was 5 (3.00 – 9.00) years.

Additionally, occupational therapists reported working in different settings, for instance, 2.1% (n= 9) academic, 1.2% (n=5) home care, 10.2% (n=43) private OT practice,

14.7% (n=62) schools for special needs, 5 (1.2%) handicap centres, 14.3% (n=60) rehabilitation centre, 11.4% (n=48) outpatient facility neurology, 24.5% (n=103) outpatient facility paediatric, 24.5% (n=20) outpatient facility orthopaedic, 5.2% (n=22) inpatient facility neurology, inpatient facility paediatric 6.7% (n= 28) inpatient facility paediatric, 1.9% (n=8) inpatient facility orthopaedic, 1.0% (n=4) inpatient facility burn, 0.5% (n=2) inpatient facility ICU, 0.5% (n=2) inpatient facility surgical. Regarding work with patient care in a week, most (69.3%) reported 42-73 hours of work in a week.

Table 4.2

Percentages of types of injuries and body parts injured activity that caused injury and type of setting where the injury occurred among the OT respondents with OMIs [Table 4.2 extends from page 28-29]

Variable	Category	n= 150	Percentage
Occupational Musculoskeletal Injury Experience	Yes	131	87.3%
	No	19	12.7%
Type of injury	Degeneration	9	3.8%
	Ligament Sprain	15	6.4%
	Fracture	1	0.4%
	Synovitis	1	0.4%
	Tendonitis	21	8.9%
	Tear	4	1.7%
	Dislocation	3	1.3%
	Muscle Spasm	101	43.0%
	Vertebral Disk Involvement	5	2.1%
	Neuropathy	6	2.6%
	Muscle Strain	69	29.4%
Affected body part	Neck	73	19.6%
	Shoulder	48	12.9%
	Hip/Thigh	13	3.5%
	Elbow	19	5.1%
	Upper Back (Thoracic)	48	12.9%
	Knee	25	6.7%
	Wrist and Hand	43	11.6%

	Lower Back (Lumber/Sacral)	82	22.0%
	Ankle & Foot	21	5.6%
Activity that caused injury	Applying modalities	20	4.5%
	Performing repetitive tasks	72	16.1%
	Bending or twisting	46	10.3%
	Responding to an unanticipated by a patient	35	7.8%
	Instructing a patient	7	1.6%
	Slipping tripping falling	17	3.8%
	Lifting	33	7.4%
	Transferring a patient	32	7.1%
	Maintaining a position for a prolonged period	65	14.5%
	Working in an awkward or cramped position	31	6.9%
	Performing manual therapy techniques	43	9.6%
	Working when physically fatigued	34	7.6%
	Catching a patient during a fall	13	2.9%
	Type of setting where injury occurs	Academic Institution	5
Home Care		4	1.1%
Private OT Practice		38	10.4%
Sports Centers		2	0.5%
Schools for Special Needs		47	12.9%
Handicap Centers		2	0.5%
Rehabilitation Centers		53	14.6%
Outpatient Facility Neurology		39	10.7%
Outpatient Facility Paediatric		93	25.5%
Outpatient Facility Orthopedic		17	4.7%
Inpatient Facility Neurology		23	6.3%
Inpatient Facility Paediatric		29	8.0%
Inpatient Facility Orthopaedic		5	1.4%
Inpatient Facility Burn		3	0.8%
Inpatient Facility ICU	2	0.5%	
Inpatient Facility Surgical	2	0.5%	

Table 4.2 shows In the last 12 months, 87.3% had experienced occupational musculoskeletal injury, while 12.7% reported no musculoskeletal injury. Occupational Musculoskeletal Injury (OMIs) types, affected body parts, an activity that caused injury and the kind of setting where the injury occurred among the occupational therapist's

respondents in Bangladesh. Occupational therapists with injuries specified muscle spasms (43%) as the most common type of injury. For OTs, muscle strain (29.4%) and tendonitis (8.9%) followed muscle spasm in order of reported prevalence.

The lower back (22%) was the most injured body part. The neck (19.6%), shoulder (12.9%), wrist, and hand were commonly injured body parts. Occupational therapists were informed of activities they were engaging in during injury. The three most prevalent activities were performing repetitive tasks (16.1%), maintaining a position for a prolonged period (14.5%), and bending or twisting (10.3%). The highest injury working setting was 25.5% of participants in an outpatient paediatric unit.

Table 4.3

Percentage of participants who state that job activities caused their symptoms to recur

Variable	Category	n= 150	Percentage
Symptoms Exacerbated by Clinical Practice	Yes	131	87.3%
	No	19	12.7%
Exacerbating Activity	Bending or twisting	60	14.1%
	Performing manual therapy techniques	66	15.5%
	Lifting	40	9.4%
	Maintaining a position for a prolonged period	77	18.1%
	Climbing Stairs	4	0.9%
	Reaching working away from the body	15	3.5%
	Squatting	14	3.3%
	Working in an awkward or cramped position	33	7.8%
	Walking	9	2.1%
	Performing repetitive tasks	66	15.5%
	Transferring a patient	28	6.6%
	Performing overhead activities	13	3.1%

Table 4.3 shows that 87.3% of OT participants who sustained an occupational musculoskeletal injury reported that their symptoms were exacerbated by clinical practice.

The top four activities that caused the recurrence of symptoms in OT were maintaining a position for a prolonged period (18.1%), performing repetitive tasks (15.5%), performing manual therapy techniques (15.5%), and bending or twisting (14.1%).

Table 4.4

Percentage of official reporting of injury and reason for not reporting injury

Variable	Category	n= 150	Percentage
Officially reporting	Yes	66	44.0%
	No	84	56.0%
Reasoning for not reporting injury	Becoming accustomed to injury	51	37.5%
	Too busy to report	34	25.0%
	In denial and shock	18	13.2%
	Fearing accusation of financial gain	3	2.2%
	To avoid being perceived as incompetent	7	5.1%
	To avoid being discriminated against at work	6	4.4%
	To avoid damaging relationships at work	5	3.7%
	To avoid jeopardizing future career opportunity	5	3.7%
	To avoid poor performance rating	6	4.4%
Fearing stigmatization	1	0.7%	

Table 4.4 shows that the response to their injury. All the occupational therapists in Bangladesh reported no Occupational Health and Safety (OHS) unit in their organisations. 44% of OTs respondents said that they officially reported their injury. Most OTs respondents stated that they did not report their injury because they were becoming accustomed to it.

Figure 4.1

Percentage of responses to occupational musculoskeletal injuries from participants

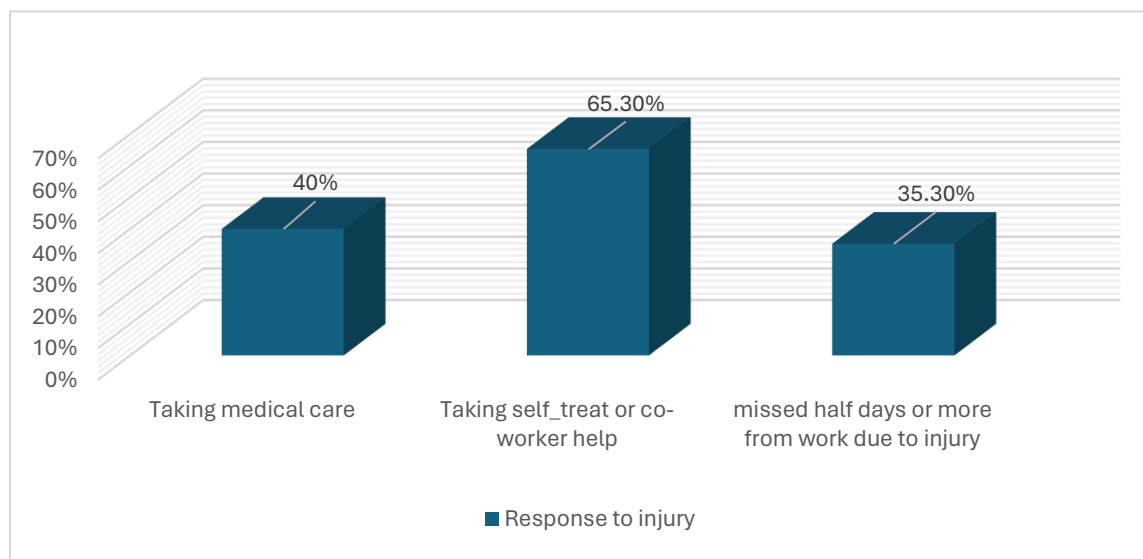


Figure 4.1 Indicates that 40% of OTs reported taking medical care, 65.30% were taking self-treatment or colleagues' help, and 35.30% missed half days or more from work due to their injury. 44% reported they stay on leave for 1-6 days from work due to their injury.

Table 4.5

Percentage of adaptive responses to injury, response techniques to injury, limited patient contact time, limited area of practice, considering changing occupations [Table 4.5 extends from page 32-33]

Variable	Category	n=	Percentage
Adaptive responses to minimize injury	Yes	98	65.3%
	No	52	34.7%
Responses techniques to prevent future injuries	Avoid lifting	40	12.2%
	Involve in education and training in proper lifting	15	4.6%
	Change working positions frequently	55	16.8%
	Stop working when hurt or when symptoms occur	23	7.0%
	Change work schedule	15	4.6%
	Take more rest breaks or pause during the	37	11.3%

	workday			
	Decrease manual techniques		25	7.6%
	Use improved body mechanics		41	12.5%
	Increase use of mechanical aid		10	3.1%
	Increase use of other personnel		9	2.8%
	Work out to increase strength		37	11.3%
	Encourage patient responsibility for carrying out treatment		12	3.7%
	Increase administrative time, decrease patient care time		7	2.1%
	Made no positive adaptive		1	0.3%
Limited patient contact time	Yes		13	8.7%
	No		137	91.3%
Limited area of practice	Yes		10	6.7%
	No		140	93.3%
Considering changing occupations	Yes		48	32.0%
	No		102	68.0%

Table 4.5 shows that 65.3% of OTs reported taking adaptive responses to minimize occupational musculoskeletal injury, such as changing working positions frequently (16.8%), avoid lifting (12.2%), and used improved body mechanics (12.5%). Relative to their injury, 91.3% of OTs said they had not limited their patient contact time, and 93.3% indicated they had not limited their practice area. 32.0% of OTs responded that their injury or the possibility of another injury would make them consider switching occupations.

Table 4.6

Percentage of experience psychosocial issues [Table 4.6 extends from page 33-34]

Variable	Category	n=	Percentage	
Psychosocial issues	Yes	70	46.7%	
	No	80	53.3%	
Psychosocial issues	Psychological issues	Anger	31	10.8%
		Anxiety	37	12.9%
		Denial	4	1.4%
		Depression	23	8.0%

	Dissatisfaction	27	9.4%
	Shock	3	1.0%
	Fear of rejection at work	7	2.4%
	Fear of reinjury	26	9.1%
	Sleeplessness	23	8.0%
	Stress	43	15.0%
	Worry	34	11.8%
	Frustration	29	10.1%
Social issues	Discrimination	4	3.6%
	Becoming dependent	11	9.8%
	Inability to perform recreational activities	17	15.2%
	Inability to perform responsibilities at home	25	22.3%
	Inability to perform roles as parents, sibling, spouse, friend	19	17.0%
	Inability to perform spirituality or religious activities	17	15.2%
	Inability to perform work duties	13	11.6%
	Isolated	6	5.4%

Table 4.6 shows that 46.7% of OTs have different psychosocial issues after they experience occupational musculoskeletal injury. The most common psychological issues were stress (15.0%), anxiety (12.9%), worry (11.8%), anger (10.8%), frustration (10.1%), dissatisfaction (9.4%), and fear of reinjury (9.1%). Social issues were inability to perform responsibilities at home (22.3%), inability to perform roles as parents, sibling, spouse, or friend (17.0%), inability to perform recreational activities (15.2%), and inability to perform spirituality or religious activities (15.2%).

Table 4.7

The association of Occupational Musculoskeletal Injury (OMIs) prevalence with demographic factors [Table 4.7 extends from page 35-36]

Demographic variable	Occupational Musculoskeletal Injury (OMIs)		P- Value	Fisher Exact Sig. value
	Injured	Non-Injured		
Age				
23-34	n= 109 (86.5%)	n= 17 (13.5%)	.486	.739
35-46	n=22 (91.7%)	n= 2 (8.3%)		
Gender				
Male	n= 44 (86.3%)	n= 7 (13.7%)	.780	.799
Female	n= 87 (87.9%)	n= 12(12.1%)		
Height				
140-149 cm	n= 6 (66.7%)	n= 3 (33.3%)	.308	.334
150-159 cm	n= 61 (85.9%)	n= 10 (14.1%)		
160-169 cm	n= 42 (91.3%)	n= 4 (8.7%)		
170-179 cm	n= 20 (90.9%)	n= 2 (9.1%)		
180-189 cm	n= 2 (100%)	n= 0 (0.05)		
Weight				
40-49 kg	n= 2 (66.7%)	n= 1 (33.3%)	.250	.280
50-59 kg	n= 43 (86.0%)	n= 7 (14%)		
60-69 kg	n= 45 (81.8%)	n= 10 (18.2%)		
70-79 kg	n= 31 (100%)	n= 0 (0.0%)		
80-89 kg	n= 6 (85.7%)	n= 1 (14.3%)		
90-99 kg	n= 3 (100%)	n= 0 (0.0%)		
110-119 kg	n= 1 (100%)	n= 0 (0.0%)		
Work experience				
1-11	n= 107 (86.3%)	n= 17 (13.7%)	.402	.530
12-23	n= 24 (92.3%)	n= 2 (7.7%)		
Work setting				
Home care	n= 4 (80%)	n= 1 (20%)	.616	.497
Private OT Practice	n= 37 (86%)	n= 6 (14%)	.764	.789
Schools for Special Needs	n= 54 (87.1%)	n= 8 (12.9%)	.942	1.000
Rehabilitation Center	n= 53 (88.3%)	n= 7 (11.7%)	.764	.808
Outpatient Facility	n= 44 (91.7%)	n= 4 (8.3%)	.274	.430
Neurology				

Outpatient Facility Paediatric	n= 91 (88.3%)	n= 12 (11.7%)	.580	.602
Outpatient Facility Orthopedic	n= 18 (90.0%)	n= 2 (10%)	.700	1.000
Inpatient Facility Neurology	n= 22 (100%)	n= 0 (0.0%)	.053	.077
Inpatient Facility Paediatric	n= 27 (96.4%)	n= 1 (3.6%)	.109	.203
Inpatient Facility Orthopaedic	n= 7 (87.5%)	n= 1 (12.5%)	.988	1.000
Inpatient Facility Burn	n= 4 (100%)	n= 0 (0.0%)	.440	1.000
Inpatient Facility ICU	n= 2 (100%)	n= 0 (0.0%)	.586	1.000
Inpatient Facility Surgical	n= 2 (100%)	n= 0 (0.0%)	.588	1.000
Work time				
10-41hour	n= 35 (76.1%)	n= 11 (23.9%)	.006	.014
42-73hour	n= 96 (92.3%)	n= 8 (7.7%)		

*Fisher exact significant value and significant value were taken as $P < 0.05$

Table 4.7 shows a statistically significant association between work time and occupational musculoskeletal injuries with a $P < 0.05$. It indicates that people working 42-73 hours are more likely to develop occupational musculoskeletal injuries than those working 10-41 hours. These results might be due to insufficient rest after work, leading to musculoskeletal injuries. On the other hand, the results also showed that age, gender, height, weight, and work setting were not statistically significant in occupational musculoskeletal injury $P > 0.05$.

Table 4.7 reported the demographic factors with the occupational musculoskeletal injury and non-injury percentage. People aged 22-34 were more likely to develop

musculoskeletal injury rather than 35-46. Female participants are more at risk of musculoskeletal injury rather than male. People between 150 to 159 cm, n= 61 (85.9%), noticed the highest incidence of occupational musculoskeletal injuries. Among the 45 participants (81.8%), those weighing 60 and 69 kg had the highest incidence of musculoskeletal injury. The individuals with occupational musculoskeletal injury n=107 (86.3%) who have worked for one to eleven years suffer the most. In Outpatient facilities, paediatric patients experience the highest incidence of musculoskeletal injury (n=91, or 88.3%) in the workplace.

CHAPTER V: DISCUSSION

The aim of this study was to examine the prevalence, cause, and response to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh. The face-to-face survey was conducted with 150 occupational therapists.

Health organisations define health as having excellent physical, mental, and social comfort and not having any diseases. Lack of efficiency and low job satisfaction result from health issues arising from living a professional lifestyle (Nazari et al., 2017). Different occupational groups and regions have various prevalence of musculoskeletal disorders. There are several reasons why the rates of WMSDs vary amongst studies, including differences in assessment tools, organisational differences in work environments, cultural differences in pain perception, and reporting of disorders (Yasobant & Rajkumar, 2014).

The result of the study indicates that 87.3% of occupational therapists experienced OMIs in the last 12 months. A previous study showed that the prevalence of occupational therapists musculoskeletal injury in Australia is 63%, 55.7% in Canada, and 85.3% in Korea (Dyrkacz et al., 2012; Park & Park, 2017; Passier & McPhail, 2011). Although our study found that Bangladeshi occupational therapists reported more OMI than these countries, South Korea has a close prevalence with us.

The most common type of injury (43%) was muscle spasm, where 37.4% of professionals in Canada reported the most common type of injury as ligamentous injury or muscle strain (Dyrkacz et al., 2012).

The lower back (22%), neck (19.6%), upper back, and shoulder (12.9%) are the most commonly reported types of injury among Bangladeshi occupational therapists. These findings are pretty constant in Australia, as occupational therapists commonly

reported low back (50%), neck (33%), and shoulders (22%) injuries. However, in Canada, occupational therapists reported upper extremities (33.4%) and neck, spine and torso (41.8%) as the most prevalent. South Korean occupational therapists reported low back (27.2%), hand or wrist (24.3%), and shoulder (23.3%), American occupational therapists reported low back (32 %), and Iranian occupational and physical therapists reported hand/wrist (34.1%) injury (Dyrkacz et al., 2012; Nazari et al., 2017; Park & Park, 2017; Passier & McPhail, 2011; Zenker et al., 2020).

The occupational therapists had been affected with musculoskeletal injuries due to their working activities. This study reported that the most common activities when injuries occurred were performing repetitive tasks (16.1%) for an extended time (14.5%), bending or twisting (10.3%), and staying in one place, manual therapy techniques (9.6%). Previous research studies also identified; conversely, comparable results of the activities that lead to their injuries include frequent manual performance of technical occupations, unanticipated patient actions, insufficient staff, inadequate lifting equipment or equipment malfunction, increased hand activity, experienced force during motion range, soft tissue work, and joint mobilisations, awkward posture, and prolonged posture. (Alnaser, 2015; Alnaser & Aljadi, 2019; Darragh et al., 2012; Dyrkacz et al., 2012; Nazari et al., 2017; Park & Park, 2017; Yasobant & Rajkumar, 2014; Zenker et al., 2020).

The current investigation found that individuals experienced occupational musculoskeletal injury most frequently in outpatient pediatric settings. In Bangladesh, most occupational therapists work in schools for special needs with outpatient paediatric units. These patients require floor-based care and handling, requiring occupational therapists to engage in greater physical performance. Studies have stated that

musculoskeletal disorders are common among occupational therapists who work in mental health, home care, rehabilitation, and paediatric settings (Alnaser, 2015; Darragh et al., 2012; Dyrkacz et al., 2012; Park, 2015).

This study also found that no organisations have Occupational Health and Safety (OHS) departments. Sometimes, most participants have reported their injury officially (44.7%). Most participants said they were becoming accustomed to injury (37.5%). Most studies reported that 58% of OTs did not formally report their injuries. A significant number of OTs (31%) reported that they developed an accustomation to injury. The report indicates that the demanding physical requirements of their job and the handling of numerous patients contributed to the likelihood of injuries. Due to their heavy workloads, several practitioners probably could not explain their injuries in sufficient time. 50% of clinicians diagnosed with WMSDs officially reported their injuries (Alnaser, 2015; Passier & McPhail, 2011).

Most of the therapists' working hours were 46.34 ± 13.89 hours per week. Due to their long working time, they did not report their injury because there was no occupational health and safety department in the organisations. But sometimes, they must report their injury officially to higher authorities. Most of them report their injury to their supervisor, in-charge, and human-resource department. A study found that reporting work-related musculoskeletal disorders (WRMDs) was lacking. Only a small percentage of therapists, specifically 6.5% of the WRMDs, followed official reporting procedures. 48.7% of therapists were unwilling to discuss their physical conditions. Of those reported, 27.6% were reported to a friend or a coworker, and 18.4% to either a senior therapist or a management. It was found that 58% of occupational therapists did not formally report

injuries. 50% of the therapists diagnosed with WMSDs have formally reported their injuries (Alnaser, 2015; Passier & McPhail, 2011; Singh, 2015).

In the study found that almost a maximum number of participants (87.3%) reported that their pain had been exacerbated by clinical practice. Furthermore, 52% of the injured participants stated that the worsening and reappearance of symptoms were a result of ongoing therapeutic practice (Alnaser, 2015).

Most therapists forget about their injuries due to becoming accustomed to them. The study reported that fewer than half of therapists taking medical care missed half days or more due to their injury and stayed on leave from work. Additionally, 30% of OT and OTA respondents missed at least half a day of work due to their injuries. Fifteen respondents (19.7%) took leave from work due to WRMDs, with two taking more than one week off. It was discovered that 33.3% of the persons missed half of the day due to the injury, and 83.3% kept working despite the injury (Alnaser, 2015; Passier & McPhail, 2011; Singh, 2015).

More than 50% of respondents reported that they made adaptive responses to minimize or prevent their future injuries. They took different types of adaptive response strategies, such as changing working positions frequently (16.8%), avoid lifting (12.2%), and use improved body mechanics (12.5%). In the study, most participants reported that they had no scope to limit patient contact time (91.3%) and limited practice area to avoid sustaining another injury. 32.0% of OTs reported wanting to change their career because of this injury or another injury. The majority of participants (85%) reported engaging in physical responses, such as exercising and working on their body mechanics, according to the study's numerical data. To avoid similar injuries in the future, they made behavioural

adjustments, such as seeking assistance from other staff members or reducing patient interaction. Nearly half of those who suffered the injury said they reduced their patient contact time, and eighty-three percent said they changed how they worked due to the injury. A quarter of workers shift positions often, and almost one-seventh increase the number of breaks they take throughout the workday. As a result of their injuries, these therapists said that they had to cut back on physical duties (27.9%), adjust their work schedules (14.3%), take pain medication (16.9%), or get specialised equipment (11.7%) to keep working. Additionally, 10.4% said they had to change their clinical focus or quit clinical practice altogether (Alnaser, 2015; Dyrkacz et al., 2012; Passier & McPhail, 2011; Singh, 2015).

This study also found that 46.7% of participants reported they had experienced psychosocial issues due to their OMI. In psychosocial issues, most participants reported stress (15.0%), anxiety (12.9%), worry (11.8%), and anger (10.8%). They showed an inability to perform responsibilities at home (22.3%), an inability to perform roles as parents, siblings, spouses, or friends (17.0%), and an inability to perform recreational activities (15.2%). Many studies showed that psychological issues were associated with OMIs (Dong et al., 2019; Hämmig, 2020; Park & Park, 2017). A study indicated that psychological stress is a significant risk factor for musculoskeletal disorders (MSDs) and sleep disorders (SDs). The risk of severe musculoskeletal disorders (MSDs) and severe sleep disorders (SDs) significantly increased with higher levels of general stress and work stress, reaching an odds ratio above 17 (Hämmig, 2020). The study found an association between the incidence of work-related musculoskeletal disorders (WMSDs) in occupational therapists and higher levels of workplace stress and poor job attitudes (Park & Park, 2017).

This study showed a significant association between occupational musculoskeletal prevalence and work time. On the other hand, no significant association was found between any factor and injuries among OTs (Alnaser, 2015). A study reported that no significant associations were found between age, height, weight, and gender with the incidence rate of musculoskeletal illnesses ($P < 0.05$) (Nazari et al., 2017). Although occupational therapists working at outpatient paediatric facilities suffer the most injuries, there is no statistically significant association between them. Similarly, another study reported that all injuries had been associated with specific workplaces, such as floor work in paediatrics, functional activities in acute care, patient falls in skilled nursing facilities, and motor vehicle activities in home care (Darragh et al., 2012).

CHAPTER VI: CONCLUSION

6.1 Strength and Limitation

6.1.1 Strength

- Face-to-face surveys were conducted to gather information to clarify questions higher and honest response rate than other methods, resulting in more accurate and reliable data.
- Seven stages of data life cycle management were followed to preserve data quality. The data collecting and data entry process were unbiased.
- The study used the Occupational Musculoskeletal Questionnaire, and the author permitted to use the tool.
- The cross-sectional study design allows for a snapshot of the prevalence, cause, and responses to musculoskeletal injury among occupational therapists, providing valuable insights into the current situation.
- Provide valuable insights that could inform injury prevention strategies and interventions for occupational therapists in Bangladesh.

6.1.2 Limitation

- The database had several invalid phone numbers, making it difficult to reach the entire population.
- According to the ITC guidelines, the instrument's back-translation (Bangla to English) was not done in this study.
- The study did not include occupational therapy assistants and diploma occupational therapists.

- In utilising face-to-face surveys, some prospective participants faced time constraints, limiting their availability to participate in the survey, thereby reducing the overall sample size.

6.2 Practice Implication

6.2.1 Recommendation for Future Practice

Occupational Musculoskeletal Injuries were a part of physical health concerns. As this study's findings showed the prevalence, cause, and response to occupational musculoskeletal injury among occupational therapists, raising awareness among them and their employers and stakeholders was essential. As occupational therapists can facilitate preventive strategies for further injury by themselves, the organisations' authority should develop an Occupational Health and Safety (OHS) department to report their injury, providing access to ergonomic equipment and scheduling regular rest breaks. An institution may integrate training programs emphasising correct body mechanics, lifting techniques, and self-care strategies into the occupational therapy curriculum to provide therapists with the essential skills to avoid injuries. As the impact of this step, the occupational therapists felt physically and mentally fit and can give better implementation to client's care.

6.2.2 Recommendation for Future Research

A few recommendations are listed below:

- A study can be conducted on occupational musculoskeletal injury prevention and wellness programs.
- A study can be conducted to use mechanical lifting techniques and minimum lifting to reduce injury.

- Conduct a longitudinal study to track the incidence and progression of occupational musculoskeletal injuries among occupational therapists in Bangladesh over time patterns of injury development.
- Utilize qualitative research methods such as interviews or focus groups to explore occupational therapists' experiences with musculoskeletal injuries in-depth, including their barrier to seeking treatment and coping strategies.
- Examine primary systemic factors within the healthcare system that lead to musculoskeletal injuries among occupational therapists, including workload requirements, organisational culture, and resource accessibility.

6.3 Conclusion

The purpose of this study was to examine the prevalence, cause, and response to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh. The study also contributes to our understanding of occupational therapists' demographic status and the status of occupational therapists' occupational musculoskeletal injury in the country. A major number of occupational therapists experienced maximum levels of occupational musculoskeletal injury. For occupational therapists, it was very likely because they had direct experience working with people with disabilities, who in Bangladesh were a vulnerable or isolated population. So, the professional could face the client's medical conditions during the intervention period.

Additionally, occupational therapists in Bangladesh mentioned a prolonged patient contact time. They did not have enough time to report their injury to higher authority. More studies are needed with occupational therapists working with appropriate working activity during patient contact time. Furthermore, developing workplace policies and guidelines

focusing on workload management and injury reporting could contribute to a safer work environment for therapists. Additionally, the employer should implement a long-term strategic plan to protect occupational therapists' physical and mental well-being in Bangladesh.

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Appendix

Appendix A: IRB Approval



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

Ref: **CRP-BHPI/IRB/10/2023/755** Date: **18.10.2023**

To
 Rahul Mitra
 4th Year B.Sc. in Occupational Therapy
 Session: 2018-2019: Student ID: 122180304
 Department of Occupational Therapy
 BHPI, CRP, Savar, Dhaka-1343, Bangladesh


Subject: Approval of the thesis proposal "Prevalence, Cause, and Response to Occupational Musculoskeletal Injuries among Occupational Therapy Practitioners in Bangladesh: A Cross-Sectional Study" by ethics committee.

Dear Rahul Mitra,
 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 Arifa Jahan Ema as thesis supervisor. The following documents have been reviewed and approved:

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

The purpose of the study is to examine the Prevalence, Cause, and Response to Occupational Musculoskeletal Injuries among Occupational Therapy Practitioners in Bangladesh. The study involves the use of the Occupational Musculoskeletal Injury Questionnaire (OMIQ) to examine the Prevalence, Cause, and Response to Occupational Musculoskeletal Injuries among Occupational Therapy Practitioners in Bangladesh; that may take about 15 to 20 minutes to fill in the questionnaire for collection of specimen and there is no likelihood of any harm to the participants and no economical benefits for the participants. The members of the Ethics committee have approved the study to be conducted in the presented form at the meeting held at 8.30 AM on 23rd September 2023 at BHPI 38th 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 Miliat Hossain
 Associate Professor
 Project & Course Coordinator
 Dept. of Rehabilitation Science
 BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Member Secretary
 Institutional Review Board (IRB)
 BHPI, CRP, Savar, Dhaka-1343, Bangladesh.

সিআরপি-চাপাইন, সাভার, ঢাকা-১৩৪৩, বাংলাদেশ। ফোন: +৮৮ ০২ ২২৪৪৪৫৪৬৪-৫, +৮৮ ০২ ২২৪৪৪১৪০৪, মোবাইল: +৮৮ ০১৭৩০ ০৫৯৬৪৭
 CRP-Chapain, Savar, Dhaka-1343, Bangladesh. Tel: +88 02 224445464-5, +88 02 224441404, Mobile: +88 01730059647
 E-mail : principal-bhpi@crp-bangladesh.org, Web: bhpi.edu.bd

Appendix B: Approval/Permission Letter

Date: 19.10.23

The Head of the Department
Dept. of Occupational Therapy
Bangladesh Health Professions Institute (BHPI)
CRP, Savar, Dhaka

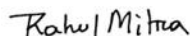
Subject: Request for permission to collect data from the occupational therapists

Sir,

I beg most respectfully to state that I am a student of B.Sc. in Occupational Therapy at Bangladesh Health Professions Institute (BHPI), which is an academic institute of Centre for the Rehabilitation of the Paralyzed (CRP), affiliated with the Faculty of Medicine, University of Dhaka. I am interested in conducting a quantitative study including occupational therapists. My research title is Prevalence, Cause, and Response to Occupational Musculoskeletal Injuries among Occupational Therapy Practitioners in Bangladesh: A Cross-Sectional Study. The purpose of this study is to examine the Prevalence, Cause, and Response to Occupational Musculoskeletal Injuries among Occupational Therapy Practitioners in Bangladesh. I am using the Occupational Musculoskeletal Injury Questionnaire (OMIQ). Now, I am looking for your kind approval to start my data collection from Centre for the Rehabilitation of the Paralyzed (CRP)- Savar (head office) and all Branches of CRP (Mirpur, Ganakbari, Manikganj, Mymensingh, Sylhet, Moulvibazer, Gobindopur, Chattagram, Barisal, Rajshahi, Nawabganj), different hospital, special schools.

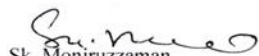
So, I therefore pray and hope that you would be kind enough to grant me permission to collect the data and oblige thereby.

Sincerely,



Rahul Mitra
4th year B.Sc. in Occupational Therapy
Session: 2018-19
Department of Occupational Therapy,
BHPI, CRP, Savar, Dhaka:1343

Signature and comments of the head of the department


Sk. Moniruzzaman
Associate Professor & Head of the Department
Dept. of Occupational Therapy
Bangladesh Health Profession Institute (BHPI)
CRP, Savar, Dhaka:1343

Appendix C: Information Sheet and Consent Form and Withdrawal Form (English Version)

Information Sheet

Research Title: Prevalence, Cause, and Response to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh: A Cross-Sectional Study.

Name of researcher: Rahul Mitra, 4th year, B.Sc. in Occupational Therapy, Roll: 04

Supervisor: Arifa Jahan Ema, Assistant Professor, Department of Occupational Therapy, Course Coordinator, M.Sc. in Occupational Therapy, Bangladesh Health Professions Institute (BHPI), Savar, Dhaka.

I, Rahul Mitra, want to invite you to take part in research. Before making the decision, you must know why this research is being done and how you relate to it. Please take time to read the given information. If you face any problem after reading or need to know more information, you can ask me.

Background of the researcher and Aim of this research.

I am Rahul Mitra, studying B.Sc. in Occupational Therapy in Bangladesh Health Professions Institute (BHPI), which is under the Medicine faculty of Dhaka University, an academic institute of Centre for The Rehabilitation of Paralysed. As a part of the B.Sc. course curriculum, I am going to conduct a research activity under the Assistant Professor of occupational therapy Arifa Jahan Ema. The topic of the research is prevalence, cause, and response of Musculoskeletal Injuries among Bangladesh Occupational Therapists. The aim of this study is to examine the prevalence, cause, and response to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh.

What to do to participate in the study?

I will find out the prevalence, cause, and response of occupational musculoskeletal injuries among occupational therapists in Bangladesh. I will use an occupational injuries survey questionnaire to find out the prevalence, cause, and response of occupational musculoskeletal injuries of occupational therapists. All the questions included in the questionnaire of participants should be answered. Time will be taken for 15-20 minutes.

Why are you invited to participate?

As my research topic is prevalence, cause, and response to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh, so I invite all the occupational therapists of Bangladesh who have completed B.Sc. in occupational therapy from Bangladesh Health Professions Institute (BHPI) and working in Bangladesh as a clinical occupational therapist. But those, occupational therapists who are interns/managers or not working in Bangladesh are not included in the research.

Will you have to participate?

Participation in the research is completely voluntary. Before participation consent should be taken from participation. After the participants participate, they will be accounted for answering all the questions. Participants will be given a consent withdrawal paper to cancel their participation according to their wishes within two weeks after conducting a survey.

What are the possible risks and opportunities of participation?

There is no direct opportunity for this participation, meaning participation will not get any financial opportunity. Apart from this, there is no negative question in the survey questionnaire form. Therefore, there is no physical or mental risk to the participants. If any problem is seen after participation, then a doctor will advise. Furthermore, by participating

in this study, I will know among Bangladesh occupational therapists who suffer most occupational musculoskeletal injuries and their causes, which will increase awareness about physical health among occupational therapists.

Will the participation be confidential?

The researcher will strictly maintain the secrecy of the research. The names of the participants will be cited only in the consent paper. To preserve the confidentiality of the participants, the code will be maintained in the question paper of participants. Only the related researcher and supervisor will be able to know about it directly. The information paper will be locked in a drawer and the preservation of electronics will be in the occupational therapist unit of BHPI and the personal laptop of the researcher.

What will be the result of the research?

Through this research, we can find the prevalence, cause, and response to occupational musculoskeletal injuries among occupational therapists, which will help them minimize those musculoskeletal injuries and create better quality patient care. If the result shows a high prevalence, severe cause, or lack of response to the injury, then we will count it as a serious issue. Ensuring a good ergonomic environment in the workplace and this research can make an ideal proof which can provide concepts to other researchers. They can use this proof for their study.

Promotional results

The results of this research will be published and presented through print media, electronic/social media, conferences, and criticism.

If you have any questions, you can contact us through the given address

Researcher: Rahul Mitra

Bangladesh Health Professions Institute (BHPI)

B.Sc. in Occupational Therapy

Session: 2018-19, Roll: 04

Savar, Dhaka

E-mail: rahulmitra1055@gmail.com

Contact number:01796759239.

Supervisor: Arifa Jahan Ema

Assistant Professor and Course Coordinator of M.Sc. in Occupational Therapy

Department of Occupational Therapy

Bangladesh Health Professions Institute (BHPI)

Savar, Dhaka

E-mail: arifajemaotbhpi@gmail.com

Contact number: 01753979041.

Consent Form

I am Rahul Mitra, studying B.Sc. in occupational therapy in Bangladesh Health Professions Institute (BHPI), which is under the Medicine faculty of Dhaka University, an academic institute of Centre for the Rehabilitation of Paralysed. As a part of the B.Sc. course curriculum, I am going to conduct a research activity under the Assistant Professor of occupational therapy Arifa Jahan Ema. The topic of the research is prevalence, cause, and response to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh: A Cross-Sectional Study. The aim of this study is to examine the prevalence, cause, and response to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh.

Please read the following statement and put tik (✓) on yes or no to say that you understand the content of the information sheet, your involvement and that you agree to take part in the abovenamed study.

I confirm that I have read and understood the participant information sheet for the study or that it has been explained to me and I have had the opportunity to ask questions

_____ Yes/No

I have satisfactory answers to my questions regarding with this study

_____ Yes/No

I understand that participation in the study is voluntary and that I am free to end my involvement in January, or request that the data collected in the study be destroyed without giving a reason

_____ Yes/No

However, all personal details will be treated as highly confidential. I have permitted the

investigator and supervisor to access my recorded information

_____ Yes/No

I have sufficient time to come to my decision about participation Yes/No _____

I agree to take part in the above study _____ Yes/No

Participant's Name _____

Participant's signature _____ Date _____

Researcher Signature _____ Date _____

Withdrawal Form

Research Title: Prevalence, Cause, and Response to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh: A Cross-Sectional Study.

Name of the Researcher: Rahul Mitra, 4th year, Occupational Therapy, Roll:04

I _____, confirm that I wish to withdraw all my data from the study before the data analysis has been completed and that none of my data will be included in the study.

Name of the participant _____

Signature of the participant _____ Date _____

Name of the Researcher _____ Date _____

Appendix D: Information Sheet and Consent Form and Withdrawal Form (Bengali Version)

তথ্যপত্র

শিরোনাম: বাংলাদেশে কর্মরত অকুপেশনাল থেরাপিস্টদের মাংসপেশীতে আঘাত জনিত সমস্যার প্রাদুর্ভাব, ধরণ, এবং আঘাতের কারণে সৃষ্ট সমস্যার প্রতি প্রতিক্রিয়া সম্পর্কিত গবেষণা। গবেষকের নামঃ রাহুল মিত্র, ৪র্থ বর্ষ, অকুপেশনাল থেরাপি বিভাগ, রোল- ০৪

তত্ত্বাবধায়কঃ আরিফা জাহান ইমা, প্রভাষক, অকুপেশনাল থেরাপি বিভাগ, কোর্স কোর্ডিনেটর, এমএসসি ইন অকুপেশনাল থেরাপি, বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউটে (বিএইচপিআই), সাভার, ঢাকা।

আমি রাহুল মিত্র, আপনাকে একটি গবেষণায় অংশ নিতে আমন্ত্রণ জানাতে চাই। আপনি সিদ্ধান্ত নেওয়ার আগে আপনাকে বুঝতে হবে কেন গবেষণাটি করা হচ্ছে এবং এটি আপনার সাথে কীভাবে সম্পর্কিত। নিম্নলিখিত তথ্য পড়ার জন্য দয়া করে সময় নিন। আপনার পড়ার পর বুঝতে কোনো প্রকার সমস্যা হলে বা আপনি আরও তথ্য চাইলে প্রশ্ন করতে পারেন।

আমার পরিচয় এবং এই গবেষণার উদ্দেশ্য

আমি রাহুল মিত্র, বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউটে (বিএইচপিআই) বি.এস.সি ইন অকুপেশনাল থেরাপিতে অধ্যয়নরত যা ঢাকা বিশ্ববিদ্যালয়ের চিকিৎসা অনুষদের সাথে অধিভুক্ত পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্রের (সিআরপি) এর একটি একাডেমিক ইনস্টিটিউট। আমি বর্তমানে অকুপেশনাল থেরাপির উপর আমার স্নাতক অধ্যয়ন করছি। বি.এস.সি কোর্স কারিকুলামের একটি অংশ হিসেবে আমি অকুপেশনাল থেরাপি বিভাগের সহকারী অধ্যাপক আরিফা জাহান ইমা এর তত্ত্বাবধানে একটি গবেষণা কার্যক্রম পরিচালনা করতে যাচ্ছি। গবেষণার বিষয়- বাংলাদেশে কর্মরত অকুপেশনাল থেরাপিস্টদের মাংসপেশীতে আঘাত জনিত সমস্যার প্রাদুর্ভাব, ধরণ, এবং আঘাতের কারণে সৃষ্ট সমস্যার প্রতি প্রতিক্রিয়া সম্পর্কিত গবেষণা।

গবেষণায় অংশগ্রহণ করতে হলে কী কী করতে হবে?

আমি বাংলাদেশে কর্মরত অকুপেশনাল থেরাপিস্টদের মাংসপেশীতে আঘাত জনিত সমস্যার প্রাদুর্ভাব, ধরণ, এবং আঘাতের কারণে সৃষ্ট সমস্যার প্রতি প্রতিক্রিয়া খুঁজে বের করবো। আমি বাংলাদেশে কর্মরত অকুপেশনাল থেরাপিস্টদের মাংসপেশীতে আঘাত জনিত সমস্যার প্রাদুর্ভাব, ধরণ, এবং আঘাতের কারণে সৃষ্ট সমস্যার প্রতি প্রতিক্রিয়া জানতে পেশাগত আঘাতের জরিপ প্রশ্নাবলী ব্যবহার করব। অংশগ্রহণকারীদের প্রশ্নাবলীতে অন্তর্ভুক্ত সমস্ত প্রশ্নের উত্তর দিতে হবে। প্রশ্নের উত্তর দিতে ১৫-২০ মিনিট সময় লাগবে।

কেন আপনাকে অংশ নিতে আমন্ত্রণ জানানো হয়েছে?

যেহেতু আমার গবেষণার বাংলাদেশে কর্মরত অকুপেশনাল থেরাপিস্টদের মাংসপেশীতে আঘাত জনিত সমস্যার প্রাদুর্ভাব, ধরণ, এবং আঘাতের কারণে সৃষ্ট সমস্যার প্রতি প্রতিক্রিয়া পরীক্ষা করা, তাই আমি এখানে বাংলাদেশের সকল অকুপেশনাল থেরাপিস্ট যারা বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই) থেকে বিএসসি ইন অকুপেশনাল থেরাপিতে স্নাতক শেষ করেছেন এবং বাংলাদেশে একজন অকুপেশনাল থেরাপিস্ট- ক্লিনিকাল এবং কমিউনিটি হিসেবে কাজ করছেন, তাদের আমন্ত্রণ জানাচ্ছি। কিন্তু যারা অকুপেশনাল থেরাপিস্ট হিসেবে ইন্টার্ন/ ম্যানেজার, শিক্ষক বা বাংলাদেশে কাজ করছেন না, তারা এই গবেষণার আওতাভুক্ত হবেন না।

আপনাকে কি অংশগ্রহণ করতে হবে?

গবেষণায় অংশগ্রহণ সম্পূর্ণ স্বেচ্ছাধর্মী। অংশগ্রহণের আগে অংশগ্রহণকারীর কাছ থেকে সম্মতি নেওয়া হবে। অংশগ্রহণকারী সম্মতি দেয়ার পর প্রশ্নপত্রের সকল প্রশ্নের উত্তর দিতে বাধ্য থাকবেন। অংশগ্রহণকারীদের সম্মতি প্রত্যাহার ফর্ম দেওয়া হবে যাতে অংশগ্রহণকারী জরিপ পরিচালনার পর দুই সপ্তাহের মধ্যে তাদের ইচ্ছা অনুযায়ী তাদের অংশগ্রহণ বাতিল করতে পারে।

অংশগ্রহণের সম্ভাব্য ঝুঁকি এবং সুবিধাগুলি কী কী?

এই গবেষণায় অংশগ্রহণের জন্য সরাসরি কোনো সুবিধা নেই অর্থাৎ অংশগ্রহণকারী কোনো আর্থিক সুবিধা পাবেন না। এছাড়াও, জরিপ প্রশ্নাবলী ফর্মে কোন নেতিবাচক প্রশ্ন নেই। সুতরাং, অংশগ্রহণকারীদের কোন শারীরিক বা মানসিক ঝুঁকি নেই। অধিকন্তু, এই গবেষণায় আপনার অংশগ্রহণের মাধ্যমে, এটা জানা যাবে বাংলাদেশের অকুপেশনাল থেরাপিস্ট যারা বেশিরভাগ মাংসপেশীতে আঘাত জনিত সমস্যায় ভুগছেন এবং আঘাতের কারণে সৃষ্ট সমস্যার প্রতি তারা কি প্রতিক্রিয়া করছেন। এই গবেষণার ফলে অকুপেশনাল থেরাপিস্টদের মধ্যে শারীরিক স্বাস্থ্য সম্পর্কে সচেতনতা বাড়াবে

অংশগ্রহণ কি গোপনীয় হবে?

গবেষক কঠোরভাবে সমস্ত তথ্যের গোপনীয়তা বজায় রাখবেন। অংশগ্রহণকারীদের নাম শুধু মাত্র সম্মতি পত্রে উল্লেখ্য করা থাকবে। অংশগ্রহণকারীদের গোপনীয়তা বজায় রাখতে প্রশ্নাবলীতে সমস্ত অংশগ্রহণকারীদের জন্য কোড নম্বর ব্যবহার করা হবে। শুধু মাত্র সংশ্লিষ্ট গবেষক এবং সুপারভাইজার সরাসরি এই তথ্য জানতে সক্ষম হবেন। তথ্য পত্র একটি লক করা ড্রয়ারে রাখা হবে এবং তথ্যের ইলেক্ট্রনিকস সংরক্ষণ বিএইচপিআই এর অকুপেশনাল থেরাপি বিভাগ এবং গবেষকের ব্যক্তিগত ল্যাপটপে সংগ্রহ করা হবে।

গবেষণার ফলাফল কি হতে পারে?

এই গবেষণার মাধ্যমে অকুপেশনাল থেরাপিস্টদের মাংসপেশীতে আঘাত জনিত সমস্যার প্রাদুর্ভাব, ধরণ, এবং আঘাতের কারণে সৃষ্ট সমস্যার প্রতি প্রতিক্রিয়া সম্পর্কিত বিষয়গুলো খুঁজে বের করবো, যা তাদের মাংসপেশীর আঘাত কমাতে এবং রোগির যথাযথ যত্নের মান উন্নয়ন করতে সাহায্য করবে। যদি ফলাফল দেখায় যে, মাংসপেশীতে আঘাতের উচ্চ প্রাদুর্ভাব, এর ধরণ, এবং এর আঘাতের কারণে সৃষ্ট সমস্যার প্রতি কোন ধরনের প্রতিক্রিয়া না থাকে, তাহলে আমরা এটিকে

একটি গুরুতর সমস্যা হিসাবে বিবেচনা করতে পারব। কর্মক্ষেত্রে একটি ভাল কর্মদক্ষতার পরিবেশ নিশ্চিত করা, মাংসপেশীর আঘাত জনিত রোগ সম্পর্কে আত্ম-সচেতনতা বৃদ্ধি করা এবং এর ফলে রোগীর প্রতি যত্নের মান আরও ভালো হবে। এই গবেষণাটি একটি আদর্শ প্রমাণ তৈরি করতে পারে যা অন্যান্য গবেষক বৃন্দদের আরও ধারণা দিতে পারে। অন্যান্য গবেষকেরা তাদের আরও গবেষণার জন্য এই প্রমাণ ব্যবহার করতে পারে।

ফলাফল

এই গবেষণা প্রকল্পের ফলাফলগুলো প্রিন্ট মিডিয়া, ইলেকট্রিক/সামাজিক যোগাযোগ মাধ্যম, সম্মেলন, আলোচনা ও সমালোচনার মাধ্যমে জার্নাল এর মতো ফোরামে প্রকাশিত এবং উপস্থাপন করা হবে।

আপনার যদি কোন প্রশ্ন থাকে তাহলে আপনি নিম্নলিখিত ঠিকানায় যোগাযোগ করতে

পারেনঃ

গবেষকঃ

রাহুল মিত্র

বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই)

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সম্মতি পত্র

আমি রাহুল মিত্র, ঢাকা বিশ্ববিদ্যালয়ের চিকিৎসা অনুষদের অধিভুক্ত পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্র (সিআরপি), সাভার, ঢাকা, এর একাডেমিক ইনস্টিটিউট বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই) এ অধ্যয়নরত ৪র্থ বর্ষের ছাত্র। ছাত্র। বি.এস.সি ইন অকুপেশনাল থেরাপি কোর্স কারিকুলামের একটি অংশ হিসেবে আমি অকুপেশনাল থেরাপির একজন সহকারী অধ্যাপক আরিফা জাহান ইমা ম্যাডাম এর অধীনে একটি গবেষণা পরিচালনা করতে যাচ্ছি।

গবেষণার বিষয়- বাংলাদেশে কর্মরত অকুপেশনাল থেরাপিস্টদের মাংসপেশীতে আঘাত জনিত সমস্যার প্রাদুর্ভাব, ধরণ, এবং আঘাতের কারণে সৃষ্ট সমস্যার প্রতি প্রতিক্রিয়া সম্পর্কিত গবেষণা। গবেষণার উদ্দেশ্য হলো বাংলাদেশে কর্মরত অকুপেশনাল থেরাপিস্টদের মাংসপেশীতে আঘাত জনিত সমস্যার প্রাদুর্ভাব, ধরণ, এবং আঘাতের কারণে সৃষ্ট সমস্যার প্রতি প্রতিক্রিয়া পরীক্ষা করা।

অনুগ্রহ করে নিম্নলিখিত বিবৃতিগুলো পড়ুন এবং হ্যাঁ বা না-তে টিক দিন যাতে আপনি তথ্য পত্রের বিষয়বস্তু, আপনার সম্পৃক্ততা বুঝতে পারেন এবং আপনি উপরোক্ত গবেষণায় অংশ নিতে সম্মত হন।

আমি নিশ্চিত করছি যে, আমি গবেষণায় অংশগ্রহণকারীদের তথ্য পত্রটি পড়েছি এবং এর লক্ষ্য ও উদ্দেশ্য সম্পর্কে স্পষ্টভাবে অবগত। এটি আমাকে ব্যাখ্যা করা হয়েছে এবং আমি প্রশ্ন করার সুযোগ পেয়েছি।

হ্যাঁ/না।

এই গবেষণার সাথে সম্পর্কিত প্রশ্নের আমার সন্তোষজনক উত্তর আছে।

হ্যাঁ

/না।

আমি বুঝতে পেরেছি যে, গবেষণায় অংশগ্রহণ সম্পূর্ণ স্বেচ্ছাকৃত এবং আমি জানুয়ারী পর্যন্ত আমার সম্পৃক্ততা বাতিল করতে পারব, অথবা অনুরোধ করছি যে অধ্যয়নে সংগৃহীত ডেটা কোনো কারণ না জানিয়ে বাতিল করা যাবে।

হ্যাঁ/না।

তবে, সমস্ত ব্যক্তিগত বিবরণ অত্যন্ত গোপনীয় হিসাবে বিবেচিত হবে। আমি গবেষক এবং সুপারভাইজারকে আমার তথ্য ব্যবহার করার অনুমতি দিচ্ছি।

হ্যাঁ/না।

অংশগ্রহণের বিষয়ে আমার সিদ্ধান্তে আসার জন্য যথেষ্ট সময় পেয়েছি

_____ হ্যাঁ/না।
আমি উপরোক্ত গবেষণায় অংশ নিতে সম্মত

_____ হ্যাঁ/না।
অংশগ্রহণকারীর নামঃ _____

অংশগ্রহণকারীর স্বাক্ষর _____ তারিখ _____
গবেষকের স্বাক্ষর _____ তারিখ _____

প্রত্যাহার পত্র

(শুধুমাত্র স্বৈচ্ছায় প্রত্যাহারের জন্য প্রযোজ্য)

গবেষনার শিরনামঃ **বাংলাদেশে কর্মরত অকুপেশনাল থেরাপিস্টদের মাংসপেশীতে**

আঘাত জনিত সমস্যার প্রাদুর্ভাব, ধরণ, এবং আঘাতের কারণে সৃষ্ট সমস্যার প্রতি

প্রতিক্রিয়া সম্পর্কিত গবেষণা। গবেষক: রাহুল মিত্র, ৪র্থ বর্ষ, অকুপেশনাল থেরাপি বিভাগ

আমি _____ (অংশগ্রহণকারী), আমার অংশগ্রহণ

থেকে উদ্ভূত ডেটা ব্যবহারের জন্য আমার সম্মতি প্রত্যাহার করতে চাই।

প্রত্যাহারের কারণ _____

অংশগ্রহণকারীর নাম _____

অংশগ্রহণকারীর স্বাক্ষর _____ তারিখ _____

গবেষকের স্বাক্ষর _____ তারিখ _____

Appendix E: Questionnaire (English and Bangla)

Survey Questionnaire of Occupational Musculoskeletal Injuries among Occupational Therapy Practitioners [অকুপেশনাল থেরাপিস্টদের মাংসপেশীতে আঘাত জনিত সমস্যার জরিপের প্রশ্নাবলী]

Section I. Demographic Information [অনুচ্ছেদ কঃ ডেমোগ্রাফিক তথ্য]

1. Age [বয়স]: _____ years [বছর]
 2. i. Male [পুরুষ] _____ ii. Female [মহিলা] _____
 3. Height in centimeters? [আপনার উচ্চতা কত সেন্টিমিটার?] *1feet = 30.45 centimeters [১ ফুট = ৩০.৪৮ সেন্টিমিটার]
 - i. 140-149 [১৪০-১৪৯] — ii. 150-159 [১৫০-১৫৯] — iii. 160-169 [১৬০-১৬৯] —
 - iv. 170-179 [১৭০-১৭৯] — v. 180-189 [১৮০-১৮৯] — vi. 190-199 [১৯০-১৯৯] — vii. 200 > [২০০ >] —
 4. Weight in Kilograms? [আপনার ওজন কত কিলোগ্রাম?]
 - i. 40-49 [৪০-৪৯] — ii. 50-59 [৫০-৫৯] — iii. 60-69 [৬০-৬৯] — iv. 70-79 [৭০-৭৯] —
 - v. 80-89 [৮০-৮৯] — vi. 90-99 [৯০-৯৯] — vii. 100-109 [১০০-১০৯] — viii. 110-119 —
 - ix. 120 > [১২০ >] —
 5. How many years have you been practicing as an occupational therapist? [আপনি অকুপেশনাল থেরাপিস্ট হিসাবে কত বছর ধরে কাজ করছেন?]

_____ year(s) [বছর]
 6. In what type of setting do you practice? [আপনি কর্মক্ষেত্রে নিচের কোন ধরনের সাথে অন্তর্ভুক্ত?]
 - i. _____ Academic Institution [শিক্ষা প্রতিষ্ঠান]
 - ii. _____ Home Care [রোগীর বাসায় গিয়ে চিকিৎসা প্রদান]
 - iii. _____ Private OT Practice [প্রাইভেট চেম্বার (অকুপেশনাল থেরাপি)]
 - iv. _____ Sport Centers [ক্রীড়া কেন্দ্র]
 - v. _____ Schools for Special Needs [বিশেষ চাহিদা সম্পূর্ণ শিশুদের জন্য স্কুল]
 - vi. _____ Handicap Centers [প্রতিবন্ধী কেন্দ্র]
 - vii. _____ Skilled Nursing Facility [দক্ষ নার্সিং সুবিধা]
 - viii. _____ Rehabilitation Center [পুনর্বাসন কেন্দ্র]
- I. _____ Outpatient Facility:** [বহির্বিভাগের ধরনঃ]
- II. _____ Inpatient:** [অন্তঃবিভাগ/হাসপাতালের ভর্তিকৃত রোগীদের জন্য]
- i. _____ Neurology [স্নায়ু বিষয়ক]
 - ii. _____ Paediatric [শিশু বিষয়ক]
 - iii. _____ Orthopedic [মাংসপেশীজনিত]
 - i. _____ Neurology [স্নায়ু বিষয়ক]
 - ii. _____ Paediatric [শিশু বিষয়ক]
 - iii. _____ Orthopedic

[মাংসপেশীজনিত]

রোগী]

পর্যবেক্ষণকেন্দ্র]

iv. ——— Burn [পুড়ে যাওয়া

v. ——— ICU [নিবিড়

vi. ——— Surgical [অস্ত্রোপচার]

7. How many hours in a typical workweek do you devote to direct patient care? [সপ্তাহে কত ঘন্টা আপনি সরাসরি রোগীর সেবায় নিয়োজিত থাকেন?] (ডকুমেন্টেশন এবং প্রশাসনিক কাজ বাদ দিয়ে)

——— ঘন্টা (প্রতি সপ্তাহে)

8. Have you experienced any occupational musculoskeletal injury due to your work within the last 12 months, regardless of severity? [তীব্রতা যেমনই হোক না কেন, গত ১২ মাসের মধ্যে আপনার কাজের জন্য আপনি কি কোনো মাংসপেশীতে আঘাত জনিত সমস্যার সম্মুখীন হয়েছেন?]

i. ——— Yes [হ্যাঁ] ii. ——— No [না] (If yes, please go to Section II. If no, please discontinue)

[(যদি হ্যাঁ হয়, অনুগ্রহ করে 'খ' অনুচ্ছেদে যান। যদি না হয়, তাহলে আপনি গবেষণায় অংশগ্রহণ প্রত্যাহার করুন, আপনার অংশগ্রহণের জন্য ধন্যবাদ।)

Section II. Recent occupational musculoskeletal injuries (If you have had more than one injury, please report and describe the most severe and disabling). [অনুচ্ছেদ খঃ এই অংশের প্রশ্নসমূহ আপনার সাম্প্রতিক সময়ে মাংসপেশীতে আঘাত জনিত সমস্যার ধরন সম্পর্কিত প্রশ্ন (যদি আপনি একাধিক আঘাত পেয়ে থাকেন, তাহলে এর মধ্যে সবচেয়ে গুরুতর এবং যে আঘাতটি আপনার জন্য সবচেয়ে বেশি প্রতিবন্ধকতা তৈরি করে সেটি সম্পর্কে বলুন]

1. What type of injury was it? (Report the most severe and disabling) [আপনার আঘাতের ধরন কেমন ছিল? (সবচেয়ে গুরুতর এবং প্রতিবন্ধকতা সৃষ্টিকারী সমস্যাটা চিহ্নিত করুন]

i. ——— Degeneration [ক্ষয়জনিত] ii. ——— Ligament Sprain [লিগামেন্ট মচকানো]

iii. ——— Fracture [হাড় ভাঙ্গা] iv. ——— Synovitis [সাইনোভাইটিস] v. ———

Tendonitis [তরুণাস্থিতে প্রদাহ] vi. ——— Tear [চিড় জনিত আঘাত] vii. ———

Dislocation [সন্ধিস্থল থেকে হাড় সরে যাওয়া]

viii. ——— Muscle Spasm [মাংসপেশী শক্ত] ix. ——— Vertebral Disk Involvement

[ভার্টিবাল ডিস্ক সংক্রান্ত] x. ——— Neuropathy [স্নায়ুতে আঘাত জনিত সমস্যা] xi. ———

Muscle Strain [মাংসপেশীতে টান] xii. ——— Other [অন্যান্য]

2. What body part(s) was (were) affected? [শরীরের কোন কোন অংশ আক্রান্ত হয়েছিল?]

- i. _____ Neck [ঘাড়] ii. _____ Shoulder [কাঁধ] iii. _____ Hip/Thigh [নিতম্ব/উরু] iv. _____ Elbow [কনুই] v. _____ Upper Back (Thoracic) [পিঠের উপরে] vi. _____ Knee [হাঁটু] vii. _____ Wrist & Hand [কব্জি এবং হাত] viii. _____ Lower Back (lumbar/Sacral) [কোমরের দিকে (কটিদেশীয়/ স্যাক্রাল)]

ix. _____ Ankle & Foot [গোড়ালি এবং পা]

3. What activity were you doing when you were injured? [আপনি যখন আঘাত পেয়েছিলেন তখন আপনি কী কাজ করছিলেন?]

i. _____ Applying modalities [মোডালিটি প্রয়োগ] করা] ii. _____ Performing repetitive tasks [পুনরাবৃত্তিমূলক কাজ সম্পাদন

iii. _____ Bending or twisting [ভাঁজ হওয়া এবং মোচড়ানো] patient iv. _____ Responding to an unanticipated or sudden movement by a

[রোগির অপ্রত্যাশিত কোন নড়াচড়ার

প্রতি প্রতিক্রিয়া]

v. _____ Instructing a patient falling [রোগীকে নির্দেশনা দেওয়া]

vi. _____ Slipping, tripping, or

[পিছলে পড়া, হেঁচট

খাওয়া, পড়ে যাওয়া]

vii. _____ Lifting [ভারীবস্তু উত্তোলন]

viii. _____ Transferring a patient [রোগীকে স্থানান্তর করা]

ix. _____ Maintaining a position for cramped position

x. _____ Working in an awkward or

a Prolonged period

[ঝুঁকিপূর্ণ অবস্থায় কাজ

করা]

[দীর্ঘসময় একি অবস্থানে থাকা]

xi. _____ Performing manual therapy techniques physically fatigued [ম্যানুয়াল চিকিৎসা প্রদান]

xii. _____ Working when

[শারিরিক অবসাদ গ্রস্ত

অবস্থায় কাজ করা]

xiii. _____ Catching a patient during a Fall

xiv. _____

Other

[রোগী পড়তে যাওয়ার সময় ধরে ফেলা]

[অন্যান্য]

4. In what type of setting did the injury occur? [আঘাত কোন ধরনের কর্মক্ষেত্রে এ ঘটেছিল?]

i. _____ Academic Institution [শিক্ষা প্রতিষ্ঠান]

ii. _____ Home Care

[রোগীর বাসায় গিয়ে চিকিৎসা প্রদান]

iii. _____ Private OT Practice

iv. _____ Sport Centers

[প্রাইভেট চেম্বার (অকুপেশনাল থেরাপি)]

[ক্রীড়া কেন্দ্র]

v. ——— Schools for Special Needs [বিশেষ চাহিদা সম্পূর্ণ শিশুদের জন্য স্কুল]

vi. ——— Handicap Centers

[প্রতিবন্ধী কেন্দ্র]

vii. ——— Skilled Nursing Facility

[দক্ষ নার্সিং সুবিধা]

viii. ——— Rehabilitation Center [পুনর্বাসন কেন্দ্র]

I. ——— Outpatient Facility:

II. ——— Inpatient:

[বহির্বিভাগের ধরনঃ]

[অন্তঃবিভাগ/হাসপাতালের ভর্তিকৃত রোগীদের জন্য]

i. ——— Neurology [ন্সায়ু বিষয়ক]

i. ——— Neurology [ন্সায়ু বিষয়ক]

ii. ——— Paediatric [শিশু বিষয়ক]

ii. ——— Paediatric [শিশু বিষয়ক]

iii. ——— Orthopedic [মাংসপেশীজনিত]

iii. ——— Orthopedic

[মাংসপেশীজনিত]

iv. ——— Burn [পুড়ে যাওয়া

রোগী]

v. ——— ICU [নিবিড়

পর্যবেক্ষণকেন্দ্র]

vi. ——— Surgical [অস্ত্রোপচার]

5. Since your injury, have your symptoms been exacerbated by clinical practice?

[আপনার ক্লিনিকাল কাজের এর প্রভাবে কি আপনার আঘাতের তীব্রতা আরও বৃদ্ধি পেয়েছিল?]

i. ——— Yes [হ্যাঁ] ii. ——— No [না]

If yes, what activities cause your symptoms to recur? (Please check all that apply) [যদি হ্যাঁ হয়, তাহলে কোন কোন কাজের কারণে আপনার পুনরায় লক্ষণ/উপসর্গ পুনরায় আবির্ভাব হয়েছিল? (প্রযোজ্য সব টিক দিন)]

i. ——— Bending or twisting

ii. ——— Performing manual therapy techniques

[ভাঁজ হওয়া এবং মোচড়ানো]

[ম্যানুয়াল চিকিৎসা প্রদান]

iii. ——— Lifting

iv. ——— Maintaining a position for a prolonged period

[ভারীবস্তু উত্তোলন]

[দীর্ঘসময় একি অবস্থানে থাকা]

v. ——— Climbing Stairs

vi. ——— Reaching/working away from the body

[সিঁড়ি আরোহণ]

[হাতের নাগালের বাইরে থেকে চিকিৎসা বা অন্যান্য সরঞ্জাম

সংগ্রহের চেষ্টা করা]

vii. ——— Squatting

viii. ——— Working in an awkward or cramped position

[উঁচু হয়ে বসা]

[ঝুঁকিপূর্ণ অবস্থায় কাজ করা]

ix. ——— Walking

x. ——— Performing repetitive tasks

[হাঁটা]

[পুনরাবৃত্তিমূলক কাজ সম্পাদন করা]

xi. _____ Transferring a patient [রোগীকে স্থানান্তর করা]
[সম্পাদন]

xii. _____ Performing overhead activities
[মাথার উপর হাত রাখা অবস্থায় কাজ]

xii. _____ Other [অন্যান্য]

6. Do you have an Occupational Health and Safety unit in your organisation where you can report your injury officially? [আঘাতের ব্যাপারে জানানোর জন্য আপনার প্রতিষ্ঠানে পেশাগত সুরক্ষা ও স্বাস্থ্য বিষয়ক বিভাগ আছে কি?]

i. _____ Yes [হ্যাঁ] ii. _____ No [না] If no, please answer [যদি না হয়, তাহলে উত্তর দিন]

7. Do you have a scope to report your injury to your employer officially? [আঘাতের ব্যাপারে আপনার আফিসের ঊর্ধ্বতন কর্মকর্তাদের কাউকে জানানোর সুযোগ আছে কি?]

i. _____ Yes [হ্যাঁ] ii. _____ No [না]

If yes, please answer [যদি হয়, তাহলে উত্তর দিন]: _____ (To whom did you report?)

[(কার কাছে

জানিয়েছিলেন)]

If no, please answer [যদি না হয়, তাহলে উত্তর দিন]

8. Do you have a scope to report your injury to your employer unofficially? [আঘাতের ব্যাপারে আপনার আফিসের ঊর্ধ্বতন কর্মকর্তাদের অনানুষ্ঠানিকভাবে কাউকে জানানোর সুযোগ আছে কি?]

i. _____ Yes [হ্যাঁ] ii. _____ No [না]

If yes, please answer [যদি হয়, তাহলে উত্তর দিন]: _____ (To whom did you report?)

[(কার কাছে

জানিয়েছিলেন)]

If not, why not? (please check all that apply) [যদি না হয়, তাহলে কেন না? (প্রযোজ্য সব টিক দিন)]

i. _____ Becoming accustomed to Injury ii. _____ Too busy to report
[আঘাত জনিত সমস্যার সাথে অভ্যস্ত হয়ে যাওয়া] [ব্যস্ততার কারণে রিপোর্ট করা হয়নি]

iii. _____ In denial and shock iv. _____ Fearing accusation of financial gain
[অগ্রাহ্য করা এবং মেনে না নেওয়া] [আর্থিক সুবিধা পেতে চাই এমন অভিযোগের ভয়ের কারণে]

v. _____ To avoid being perceived as incompetent vi. _____ To avoid being discriminated

against at work

[অনুপযুক্ত হিসাবে যেন গন্য না হয়]

[কর্মক্ষেত্রে বৈষম্য

এড়াতে]

vii. _____ To avoid damaging relationships at work viii. _____ To avoid jeopardizing future career opportunity

[কর্মক্ষেত্রে সম্পর্ক নষ্ট হওয়া এড়াতে]

[ভবিষ্যত ক্যারিয়ারে যেন কোন

ক্ষতিসাধন না হয়]

ix. _____ To avoid poor performance rating [কর্মক্ষমতার মূল্যায়ন কমে যাওয়ার ভয়ে]

x. _____ Fearing stigmatization (i.e. “therapist with a bad back”)

[কুসংস্কারের ভয় (যেমনঃরোগীর যত্ন ঠিক ভাবে নিতে না পারা)]

xi. _____ Other [অন্যান্য]

9. Did you see a physician for the injury? [আপনি কী এই আঘাতের জন্য একজন চিকিৎসকের শরণাপন্ন হয়েছিলেন?]

i. _____ Yes [হ্যাঁ] ii. _____ No [না]

10. Did you self-treat or seek co-worker help? [আপনি কি নিজে নিজের চিকিৎসা করেছেন বা সহকর্মীর কাছে সাহায্য চেয়েছেন]

i. _____ Yes [হ্যাঁ] ii. _____ No [না]

11. Did you lose a half day or more from work as a result of the injury? [আপনি কি এই আঘাতের জন্য কাজ থেকে ছুটি নিয়েছিলেন?]

i. _____ Yes [হ্যাঁ] ii. _____ No [না]

If yes, how many days? [যদি হ্যাঁ হয়, তাহলে কত দিন?] _____ Day(s) [দিন]

12. Did you make any adaptive responses to minimize or prevent future injuries? [ভবিষ্যতে আঘাত প্রতিরোধ করতে আপনি কি এমন কোন ব্যবস্থা গ্রহন করেছিলেন যা ভবিষ্যতে আপনার আঘাত প্রতিরোধ করতে পারে?]

i. _____ Yes [হ্যাঁ] ii. _____ No [না]

If yes, what adaptive responses did you make? (Please check all that apply) [যদি হ্যাঁ হয়, তাহলে আপনি কি ব্যবস্থা গ্রহন করেছেন? (প্রযোজ্য সব টিক দিন)]

i. _____ Avoid lifting

ii. _____ Involve in education and training in proper lifting

[ভারীবস্তু উত্তোলন থেকে এড়িয়ে চলা]

[ভারীবস্তু উত্তোলনের জন্য সঠিক

প্রশিক্ষণ নেওয়া]

iii. _____ Change working positions frequently iv. _____ Stop working when hurt or when symptoms Occur

[ঘন ঘন কাজের অবস্থান পরিবর্তন করা]

[রোগের লক্ষণ দেখা দেওয়া মাত্রই কাজ

বন্ধ করে দেওয়া]

v. _____ Change work schedule

vi. _____ Take more rest breaks or pause during

the workday

[কাজের সময়সূচী পরিবর্তন করা]
বিশ্রাম নেওয়া]

[কর্মদিবসে কাজের ফাঁকে ফাঁকে

vii. _____ Decrease manual techniques viii. _____ Use improved body mechanics
[ম্যানুয়াল কৌশল কমিয়ে চিকিৎস দেওয়া] [শারিরিক গঠন অনুযায়ী শরীরকে
নিয়মতান্ত্রিক ভাবে কাজে লাগানো]

ix. _____ Increase use of mechanical aid
other personnel

x. _____ Increased use of

[সহকারী যন্ত্রের সাহায্য নেওয়া (যেমনঃ আধুনিক ভারীবস্তু উত্তোলনের যন্ত্র)] [অন্যান্য
কর্মীদের থেকে অধিক সাহায্য নেওয়া]

xi. _____ Work out to increase strength [শারিরিক ব্যায়াম করা]

xii. _____ Encourage patient responsibility for carrying out treatment
[চিকিৎসা চালিয়ে যাওয়ার জন্য রোগীর দায়িত্ব সম্পর্কে রোগীকে উৎসাহী
করা]

xiii. _____ Increase administrative time; decrease Patient care time
[প্রশাসনিক সময় বাড়ানো এবং রোগী দেখার সময় কমানো]

xiv. _____ Made no positive adaptive [কোন ব্যবস্থাই গ্রহণ করিনি]

xv. _____ Other [অন্যান্য]

13. Have you limited your patient contact time as a result of the injury? [আঘাতের ফলে
আপনি কি আপনার রোগীর চিকিৎসার সময় সীমিত করেছিলেন?]

i. _____ Yes [হ্যাঁ] ii. _____ No [না]

14. Have you limited your area of practice to avoid sustaining another injury? [অন্যান্য
আঘাত এড়াতে আপনি কি আপনার কাজের ক্ষেত্র সীমিত করেছিলেন?]

i. _____ Yes [হ্যাঁ] ii. _____ No [না]

15. Are you considering changing jobs because of this injury or the risk of another injury?
[আপনি কি এই আঘাত বা অন্য আঘাতের ঝুঁকির কারণে চাকরি পরিবর্তন করার কথা
ভেবেছিলেন?]

i. _____ Yes [হ্যাঁ] ii. _____ No [না]

Section III. Psychosocial issues due to injury. [অনুচ্ছেদ গঃ আঘাতের কারণে সৃষ্ট
মনোসামাজিক সমস্যা।]

1. Did you experience any of the following psychosocial issues? [আপনি কি নিম্নোক্ত
কোন মনোসামাজিক সমস্যার সম্মুখীন হয়েছিলেন?]

i. _____ Yes [হ্যাঁ] ii. _____ No [না] (If yes, please check all that apply) [(যদি হ্যা
হয়, তাহলে প্রযোজ্য সব টিক দিন)]

Psychological Issues [মানসিক সমস্যা]

Social Issues [সামাজিক বিষয়]

i. _____ Anger

i. _____ Discrimination

- ii. _____ [রাগ] Anxiety [উদ্বেগ]
- iii. _____ [বৈষম্য] Denial] iii. _____ Inability to perform interest/leisure/recreational activities [প্রত্যাখ্যান করা]
- iv. _____ Depression iv. _____ Inability to perform responsibilities at home [বিষণ্ণতা] [বিনোদনমূলক কার্যক্রম করতে না পারা]
- v. _____ Dissatisfaction v. _____ Inability to perform roles as spouse, parent, sibling, or friend [অসন্তোষ] [স্বামী পিতামাতা, ভাইবোন বা বন্ধু হিসাবে ভূমিকা পালন করতে না পারা]
- vi. _____ Shock vi. _____ Inability to perform spiritual or religious activities [তীব্র মানসিক আঘাত] [আধ্যাত্মিক বা ধর্মীয় কার্যক্রম করতে না পারা]
- vii. _____ Fear of rejection at work vii. _____ Inability to perform work duties [কর্মক্ষেত্রে প্রত্যাখ্যানের ভয়] [কাজের দায়িত্ব পালন করতে না পারা]
- viii. _____ Fear of re-injury viii. _____ Isolated [পুনরায় আঘাতের ভয়] [সামাজিকভাবে বিচ্ছিন্ন হয়ে যাওয়া]
- ix. _____ Sleeplessness ix. _____ Other [অন্যান্য] [নিদ্রাহীনতা]
- x. _____ Stress [মানসিক যন্ত্রণা]
- xi. _____ Worry [দুশ্চিন্তা]
- xii. _____ Frustration [হতাশা]
- xiii. _____ Other [অন্যান্য]

Appendix F: Supervision Contact Schedule

Bangladesh Health Professions Institute
 Department of Occupational Therapy
 4th Year B. Sc. in Occupational Therapy
 OT 401 Research Project

Thesis Supervisor- Student Contact, face to face or electronic and guidance record

Title of thesis: **Prevalence, Cause, and Response to Occupational Musculoskeletal Injuries among Occupational Therapists in Bangladesh: A Cross-Sectional Study**

Name of student: **Ratul Mitra**

Name and designation of thesis supervisor: **Anita Johan Ema**
Assistant Professor
Coordinator, M.Sc. in Occupational Therapy; BHPI; CRP

Appointment No	Date	Place	Topic of discussion	Duration (Minutes/Hours)	Comments of student	Student's signature	Thesis supervisor signature
1	08.08.23	BHPI	Topic discussion	1 hour	gathered different idea about my topic	<i>[Signature]</i>	<i>[Signature]</i>
2	09.08.23	BHPI	Discussion about title, question, aim, objective	1 hour	proper understanding of aim, object, question of the about my research	<i>[Signature]</i>	<i>[Signature]</i>
3	14.08.23	BHPI	Literature mainly HW 40 min. and searching topic reader	40 min.	proper understanding my research reader and literature mainly	<i>[Signature]</i>	<i>[Signature]</i>

4	09.09.23	BHPI	Discussed about methodology	20 mint	Got to know proper understanding about methodology	RL	AYNA
5	11.09.23	BHPI	Feedback on research proposal and professional writing	40 mint	Got a clear concept about study design and professional writing	RL	AYNA
6	13.09.23	BHPI	Feedback on literature review and note	1 hour	Got proper understanding about literature review	RL	AYNA
7	19.09.23	BHPI	Feedback on proposal writing and guideline of paper	1 hour	Got proper understanding about presentation	RL	AYNA
8	21.09.23	BHPI	Checked the research proposal	1 hour	Need to correct some sentence	RL	AYNA
9	23.09.23	BHPI	Discussed about the feedback of IRB presentation	30 mint	Got proper knowledge about my research	RL	AYNA
10	15.10.23	BHPI	Discussed about questionnaire and its preparation	1 hour	Need to correct some translation	RL	AYNA
11	21.10.23	BHPI	Discussed about field test	30 mint	Got proper understanding about the question	RL	AYNA
12	26.12.23	BHPI	Discussed about the list where OT work in B	1 hour	Got proper knowledge about the measurement process	RL	AYNA
13	26.12.23	BHPI	Discussed about data collection difficulties	1 hour	Solved some problem	RL	AYNA
14	16.01.23	BHPI	Discussed about data analysis	1 hour	Got proper understanding about analysis	RL	AYNA

15	19.01.24	BHP I	Checked results, dimension procedure	40 min	Got proper understanding about results	R	Ajma
16	21.01.24	BHP I	Discussed about 1st draft	2h	Got proper understanding about association	R	Ajma
17	19.02.24	BHP I	Discussed about next part	40 min	Got proper understanding about results	R	Ajma
18	03.03.24	BHP I Online	Discussed about 2nd draft of research	40 min 12 hour	Got proper feedback on Overall 2nd draft	R	Ajma
19	05.03.24	BHP I Online	Discussed about dimension part	40 min 1 hour	Got proper understanding about association	R	Ajma
20	15.04.24	BHP I Online	Got feedback on overall final draft	1 hour	Need to connect Abstract part	R	Ajma
21	16.04.24	Online	Got minor feedback on my final version	1 hour	Got proper understanding of overall final draft on	R	Ajma
22							
23							
24							
25							