

# **Sleep Quality and It's Associated Factors among Patients with Mental Illness**



By

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*This thesis is submitted in total fulfilment of the requirements for the subject  
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### Statement of Authorship

Except where it is made in the text of the thesis, this thesis contains no material published elsewhere or extracted in whole or in part from a thesis presented by me for any other degree or seminar. No other person's work has been used without due acknowledgement in the main text of the thesis. This thesis has not been submitted for the award of any other degree in any other tertiary institution. The ethical issue of the study has been strictly considered and protected. In case of dissemination of the findings of this project for future publication, the research supervisor will be highly concerned, and it will be duly acknowledged as an undergraduate thesis.

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## **Dedication**

This study is dedicated to my parents and my beloved husband, whose unconditional love, support, and encouragement have guided me at every step of my life.

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| <b>List of Abbreviations</b> |
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|             |                                                |
|-------------|------------------------------------------------|
| <b>BSc</b>  | Bachelor in Science                            |
| <b>BHPI</b> | Bangladesh Health Professions Institute        |
| <b>CBT</b>  | Cognitive Behavioral Therapy                   |
| <b>CRP</b>  | Centre for the Rehabilitation of the Paralysed |
| <b>CI</b>   | Confidence Interval                            |
| <b>HSC</b>  | Higher Secondary School Certificate            |
| <b>IRB</b>  | Institutional Review Board                     |
| <b>MBCT</b> | Mindfulness Based Cognitive Therapy            |
| <b>MBSR</b> | Mindfulness Based Stress Reduction             |
| <b>OSA</b>  | Obstructive Sleep Apnoea                       |
| <b>OT</b>   | Occupational Therapy                           |
| <b>PSQI</b> | Pittsburgh Sleep Quality Index                 |
| <b>PTSD</b> | Post-traumatic stress disorder                 |
| <b>REM</b>  | Rapid Eye Movement                             |
| <b>RLS</b>  | Restless Leg Syndrome                          |
| <b>SD</b>   | Standard Deviation                             |
| <b>SPSS</b> | Statistical Package for Social Science         |
| <b>SSC</b>  | Secondary School Certificate                   |
| <b>WHO</b>  | World Health Organization                      |

## Abstract

**Background :** Sleep has been considered as occurring under the responsibility of occupational therapy practice since it is crucial for physical, cognitive, and emotional functioning as well as for participation and performance at work. Sleep and other basic needs must be met for both physical and mental well-being. Concepts like sleep latency, total sleep duration, and regular sleep schedule are all part of the concept of sleep quality. In people with mental illnesses, poor sleep quality can lead to symptoms like fatigue, concentration loss, hallucination, delusion, and loss of interest.

**Aim :** The aim of the study is to evaluate the overall sleep quality and it's associated factors among patients with mental illness using the Pittsburgh Sleep Quality Index (PSQI).

**Methods :** The study used a cross-sectional quantitative design to conduct a face-to-face interview among 140 participants who were the patients with mental illness. All the participants were taken through a purposive sampling technique. The age range of the participants was (15 -60) years, both male n= 69 (49.3%) and female n= 71 (50.7%), where individuals were diagnosed with a mental illness. A Self developed sociodemographic questionnaire and standardized questionnaires Pittsburgh Sleep Quality Index (PSQI) were used to collect data to know the overall sleep quality and it's associated factors among patients with mental illness. The data was analyzed using the SPSS software.

**Results :** The results mainly showed that sleep quality among the participants was poor, with 94.3% experiencing poor sleep and only a small proportion about 5.7% reporting good sleep. The mean sleep quality score was 1.94 , SD ( $\pm$  0.233), indicating overall poor sleep among the participants. Overall, the findings highlight a high rate of poor sleep quality in this population.

**Conclusion :** The findings of the current study discussed that sleep disruption is a common part of the presentation of mental health conditions. Recognizing and addressing the two-way connection between mental health and sleep disorders holds great potential for enhancing the well-being of those suffering from these issues. It is essential to keep increasing public education and awareness of the importance of treating sleep disorders and mental health issues. Enhancing mental health services in Bangladesh requires more well-designed epidemiological and clinical research.

**Keywords :** Sleep, Sleep Disorder, Sleep quality, Mental Illness, Mental Health.

## CHAPTER I : INTRODUCTION

### 1.1 Background

Sleep is a natural process where a person becomes unconscious for a while and then wakes up due to internal or external factors (Savaşan & Çam, 2019). Sleep disorders are among the most common health issues today and a major reason people visit doctors. Insomnia is usually divided into two types: difficulty falling asleep and waking up too early in the morning (Hohagen et al. 1994; Sobieraj et al., 2013). Many people with mental health issues struggle with poor sleep, especially insomnia. In both hospitals and outpatient care, up to 78% of individuals experience this problem (O'Sullivan et al., 2015).

Sleep is a natural state where an organism temporarily loses partial or full connection with its environment, a state that can be reversed by stimuli of varying intensity. Good physical and mental health relies on fulfilling essential needs like sleep. Factors like sleep onset, total sleep duration, and consistency in sleep patterns all contribute to sleep quality, which is a key indicator of various health conditions. Poor sleep quality can lead to a range of emotional, mental, and motivational problems. Studies show that between 50% and 80% of individuals with psychiatric conditions experience sleep disorders, and these issues are especially common in people with anxiety, depression, bipolar disorder, and hyperactivity. (Özkan et al., 2015). People who sleep less than seven hours a day and have poor sleep quality are more likely to experience depression symptoms.(Savaşan & Çam, 2019). Sleep problems are very common in people with neuropsychiatric conditions throughout life. Up to 80% of individuals with schizophrenia experience sleep issues, such as taking longer to fall asleep, getting less sleep, and having poor sleep quality. These sleep problems are

already seen in people with early signs of psychosis and seem to be linked to the severity of their symptoms. People with anxiety and depression also often deal with sleep disturbances, including non-restorative sleep. When compared to healthy individuals, those with depression and related mood disorders experience much higher rates of both insomnia (40–90%) and hypersomnia (5–10%) (Müller et al., 2016). The Bangladeshi government allocates 0.44% of its total health budget to mental health. Of this expenditure, 67% is directed towards mental hospitals. Additionally, fewer than 0.11% of the population has access to free essential psychotropic medications (Hasan et al., 2021).

Sleep is one occupational domain that needs to be evaluated in connection to adequate rest and sleep, sleep preparation, and sleep participation, according to the American Occupational Therapy Association's 2008 revision of the occupational therapy practice framework: domain and process (Fung, Wiseman-Hakes, et al., 2013). Experts in clinical psychology have been actively exploring how sleep problems and mental health are connected (Benedict & Formella, 2024). This review explores how sleep problems might play a direct role in mental health issues rather than just being a side effect. If sleep problems actually contribute to major mental disorders, they should appear before the disorders start, be common in people seeking treatment, and most importantly, improving sleep should help reduce other mental health symptoms (Freeman et al., 2020).

Occupational therapists are beginning to recognise sleep apnoea as a new area in which they can apply their knowledge and skills to help people improve their sleep and participation in daily activities (Opp Hofmann 2008; Fung, Wiseman-hakes, et al., 2013).

The University of Alberta, Faculty of Rehabilitation Medicine, established a "Sleep and Function Interdisciplinary Group," headed by a researcher from the Department of Occupational Therapy, to advance knowledge of the significance of sleep and how it relates to function. Critical evaluations of the data supporting non-pharmacological sleep aids for dementia patients are among the noteworthy contributions this group has made to the sleep literature (Brown et al 2013). In order to improve daily occupational performance and sleep quantity and quality, we advise additional assessments of the efficacy of occupational therapy educational, cognitive-behavioral, and environmental interventions. These would offer a more extensive body of evidence to guide occupational therapy practice (Fung, Wiseman-Hakes, et al., 2013).

## **1.2 Justification of the study**

The first occupational therapist to acknowledge the need of sleep was Adolf Meyer. He suggested in "The Philosophy of Occupational Therapy" that rest and sleep were equally important to working and participate in maintaining health and wellbeing (Meyer, 1922). Sleep was first defined as a daily living activity by the American Occupational Therapy Association (AOTA). The Occupational Therapy Practice Framework: Domain and Process (AOTA, 2008) reclassified rest and sleep as occupational domain in 2008. This change in focus acknowledged the important impact that rest and sleep can have on involvement (Gentry & Loveland, 2013) (Tester & Foss, 2018).

Occupational therapists are qualified to evaluate sleep issues and their impact on participation and performance in the workplace. They can also determine when a referral to a sleep clinic is necessary. Three crucial procedures should be involved in this: (1) the regular examination of a person's self-reported sleep quantity and quality, morning and energy levels, and need for naps during the day; (2) the identification of

life circumstances (e.g., anxiety, stress, caregiving and/or work obligations), behaviors (e.g., diet, exercise, and caffeine intake), and environmental factors (e.g., light or noise) that can either promote or inhibit sleep and (3) an awareness of how sleep and the impact of sleep issues on a person's everyday job performance and functional capacities (Fung, Wiseman-Hakes, et al., 2013).

After the evaluation is over, occupational therapists can educate patients and their partners and offer strategies to support the best possible sleep quality. From a personal standpoint, occupational therapists can teach people how to manage their time and stress levels (e.g., through time management and cognitive behavioral techniques) in addition to teaching them how to be conscious of their pain, energy levels, sleepiness, and fatigue (Ponsford et al. 2012). It is possible to teach someone how to change their habits in order to get the most out of their sleep (e.g., by establishing regular sleep and wake times, exercising, and changing their nutrition) (AOTA 2008). Occupational therapists can also give people techniques to deal with the effects of sleep deprivation such as scheduling daily routines in accordance with peak energy levels, scheduling rest periods, and pacing activities (Fung, Wiseman-Hakes, et al., 2013).

Through this study, patients are able to understand how mental illnesses such as depression, anxiety, schizophrenia, and bipolar disorder may affect their sleep patterns, causing them to have difficulty falling asleep, staying asleep, or waking up feeling restless. The study's conclusions can motivate patients to seek appropriate sleep disturbance treatment as part of their overall mental health care plan, which may involve behavioural therapy, medication, or lifestyle modifications.

### **1.3 Operational Definition**

#### ***1.3.1 Sleep Quality :***

A person's level of satisfaction with all aspects of their sleep experience is referred to as sleep quality. Sleep efficiency, sleep latency, sleep duration, and wakefulness after sleep start are the four characteristics of good sleep (Msn et al., 2022). Sleep is a natural process where a person becomes unconscious for a while and then wakes up due to internal or external factors (Savaşan & Çam, 2019).

#### ***1.3.2 Mental illness :***

All diagnosable mental diseases are generally referred to as mental illness. Changes in thinking, emotion, or behaviour (or a combination of these) caused by suffering and/or poor functioning are the symptoms of mental diseases (Grob, 2006).

### **1.4 Aim of the study**

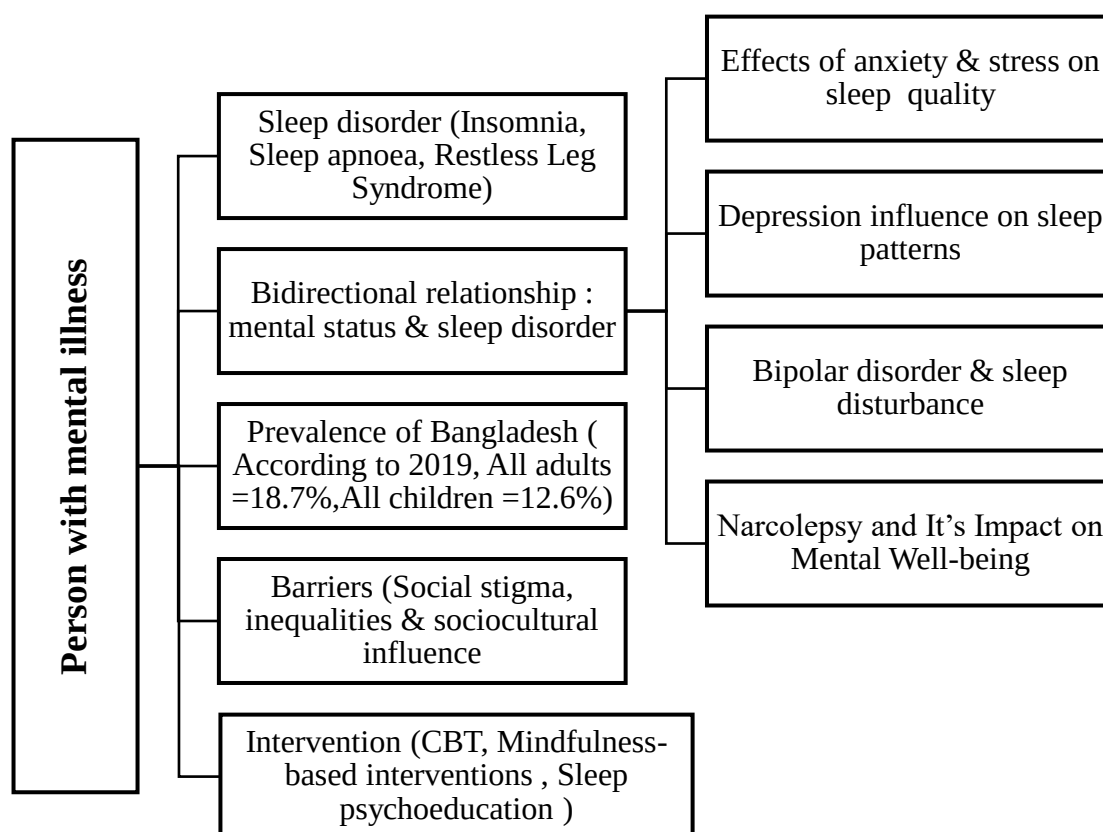
The aim of the study is to evaluate the overall sleep quality and it's associated factors among patients with mental illness using the Pittsburgh Sleep Quality Index (PSQI).

## CHAPTER II : LITERATURE REVIEW

This chapter provides information on the Sleep quality and it's associated factors among patients with mental illness. This chapter also discuss the Prevalence of Bangladesh, Bidirectional relationship: Mental status and sleep disorder , Barriers, Sleep disorder, Intervention with the life of individuals with mental illness.

**Fig 2.1**

*Overview of literature review findings*



## **2.2 Person with mental illness**

In most of the developing world, mental health is a significant public health issue that risks social and economic advancement. An estimated 13% of the world's disease burden is attributed to mental diseases. WHO (2008). However, the health system in the majority of underdeveloped nations continues to completely disregard mental health. For instance, mental health receives a terrible 0.5% of Bangladesh's overall health expenditure (Islam, 2015).

However, since individual expenses account for almost 65% of all health care spending, mental illness especially impacts the underprivileged and impoverished. The report evaluates the state of mental health in Bangladesh now based on an analysis of secondary sources. According to the report, Bangladesh's mental health treatment system faces a number of complex issues, including a lack of public mental health facilities, a lack of qualified workers, insufficient funding, and social stigma. Bangladesh still lacks a thorough mental health strategy that would support the overall healthcare system (Islam, 2015).

How people with mental illness are treated and how policymakers make choices are influenced by attitudes towards them. In every social and religious culture throughout history, people with mental illness have unfortunately been socially rejected and faced with continuously unfriendly attitudes (Vijayalakshmi et al., 2012).

## **2.3 Sleep disorder (Insomnia, Sleep apnoea, Restless Leg Syndrome)**

### **2.3.1 Insomnia**

Depending on the criteria, 8–40% of people in the general population struggle with insomnia. A further 8–10% of people have chronic insomnia, and 20–30% of the general population has poor sleep (i.e., insomnia symptoms such as trouble falling asleep or staying asleep, early morning awakenings, or non-restorative sleep at any given

time).1.2 Additionally, 4% of people regularly take sleeping medications.3. However, until relatively recently, the relationship between sleeplessness and serious medical morbidity was not investigated. As a result, from the point of view of public health, insomnia and the mental and physical health issues it causes are now considered to be minor issues (Manuscript & Health, 2014). The Diagnostic and Statistical Manual of Mental Disorders (DSM)-III-R4 first included sleep disorders in 1987. It offered general diagnostic criteria for "insomnia disorders" based on subjective complaints of difficulty falling asleep or staying asleep or of non-restorative sleep, occurring at least three times a week for at least one month, and related experiences related to daytime functioning. (Manuscript & Health, 2014).

Early on in medical history, it was found that insomnia and mental health were related. Robert Burton described how ancient Greek doctors treated patients with depression by providing opium, consuming alcohol, relaxing music, and reading in his book "Anatomy of Melancholia" (1621) (Riemann et al., 2020). Different forms of depression were linked to distinct symptoms of insomnia in Kraepelin's (1909) first modern classification of mental diseases. In particular, patients with neurotic depression had trouble falling asleep, but patients with chronic depression experienced trouble maintaining their sleep. (Hertenstein et al., 2023)

### **2.3.2 Sleep apnoea**

In the general adult population in the United States, sleep apnoea affects 13% of men and 6% of women. It frequently occurs with a number of chronic health disorders, such as obesity, hypertension, and chronic obstructive pulmonary disease. Research indicates that several medical illnesses are risk factors for sleep apnoea, are made worse by it, and develop after it first appears. Therefore, research, public health policy, and clinical practice have made managing physical health issues among individuals with sleep

apnoea a high priority (Kaufmann et al., 2018).

Research indicates a correlation between sleep apnoea and mental health disorders, with mood, anxiety, and post-traumatic stress disorder being strongly comorbid with sleep apnoea. Additionally, there are indications of increased risk of sleep apnoea in schizophrenia and psychosis. Additionally, there is more recent data that suggests a link between suicide thoughts and actions and sleep apnoea, however these have mostly been found in case reports and studies with smaller sample sizes (Kaufmann et al., 2018).

OSA, or obstructive sleep apnoea, is a common condition. According to studies, it affects 2–3% of women and 3–7.5% of men. In addition to increasing mental retardation, sleep apnoea symptoms can imitate negative symptoms of schizophrenia and depression. Many medications used to treat mental illnesses may make OSA symptoms worse. Additionally, OSA is a risk factor for metabolic and cardiovascular disorders, which are major clinical issues in people with mental illnesses and limit their expected duration of life (Szauliński et al., 2015). The breathing condition known as obstructive sleep apnoea (OSA) is characterised by recurrent episodes of upper airway obstruction while you're asleep. The prevalence of OSA, as defined by an apnea-hypopnea index (AHI)  $\geq 5$  and without the inclusion of a daytime sleepiness criterion, was reported to be 24% for men and 9% for women under the age of 65 in a significant US study of OSA diagnosed by polysomnography (PSG); the inclusion of a daytime sleepiness criterion decreased these estimates to 4% for men and 2% for women. OSA can be related to metabolic syndrome, which includes co-occurring diabetes, hypertension, and obesity. Adults with OSA frequently express psychological symptoms like worry and depression (Gupta & Simpson, 2015).

### **2.3.3 Restless Leg Syndrome**

Willis-Ekbom illness, another name for restless legs syndrome (RLS), is a common

neurological sensorimotor disorder that is frequently related to severe sleep disruptions and a lower quality of life (Weber et al., 2022). RLS, a sleep-related movement disorder that has been found to be more common in women and the elderly, is characterised by an impulse to move a person's extremities, mostly the legs. According to the International Classification of Sleep Disorders, Third Edition, the clinical and diagnostic characteristics of RLS include an impulse to move the legs accompanied by pain or discomfort, which is usually eased by moving the extremities. This urge is more severe in the evening and at rest (Talih et al., 2021).

RLS is linked to sleep fragmentation and frequent sleep arousals in addition to making it difficult to fall asleep (mimicking insomnia). The desire to move the legs or the actual mechanical movement of the legs is most likely the cause of the sleep disturbance in RLS (Talih et al., 2021).

Psychiatric medications can have negative impacts on sleep patterns, while psychiatric drugs can positively modulate sleep and occasionally improve sleep patterns. While certain medications may promote restlessness during the day, they can enhance sleep at night. While selective serotonin reuptake inhibitors can increase awareness during the day, they may worsen restless legs syndrome (RLS) at night, resulting in worse quality sleep (Talih et al., 2021).

## **2.4 Bidirectional relationship: mental status & sleep disorder**

There is a complicated, mutual relationship between sleep issues and mental health. Mental health issues have an adverse effect on the quality of sleep, and sleep disturbances can lead to or worsen mental health concerns. Because of this complex relationship, management must take a comprehensive strategy that addresses underlying mental health issues as well as symptoms connected to sleep.

#### **2.4.1 Effects of anxiety & stress on sleep quality**

It has been discovered that stress and anxiety have a major negative influence on sleep quality, resulting in disorders and disruptions. According to studies, those who are more stressed and anxious are more likely to have difficulty going asleep, staying asleep, and having inadequate sleep (Kalmbach et al., 2016). Anxiety-related disturbing ideas and increased physiological arousal can disrupt the onset and maintenance of sleep (Fernandez-Mendoza et al., 2015). Moreover, long-term stress might interfere with the hypothalamic-pituitary-adrenal (HPA) axis's regular operation and exacerbate insomnia (Kalmbach et al., 2016) (Sun lei, 2023).

#### **2.4.2 Depression influence on sleep patterns**

Changes in sleep patterns, such as insomnia, hypersomnia, and disturbances in sleep architecture, are closely associated with depression. According to research, people who are depressed frequently have trouble going asleep, wake up early, and wake up frequently during the night (Riemann et al., 2017). Depression is frequently associated with changes in the architecture of sleep, including decreased slow-wave and rapid eye movement (REM) sleep. Additionally, having insomnia symptoms is linked to worse treatment outcomes and an increased likelihood of developing more severe depressive symptoms in people with depression (Riemann et al., 2017; Sun lei, 2023).

#### **2.4.3 Bipolar disorder & sleep disturbance**

Extreme mood swings, including manic and depressive episodes, are an indication of bipolar disorder. In both the manic and depressed stages of bipolar disorder, sleep problems are common. People frequently suffer disrupted sleep patterns, increased sleep latency, and decreased sleep requirement during manic episodes. On the other hand, hypersomnia, excessive daytime sleepiness, and longer sleep duration are frequently linked to depressive episodes (Grunze et al., 2013). The sleep abnormalities

seen in bipolar illness are caused in part by changes in the regulation of sleep-wake cycles and interruption of these cycles (Sun lei, 2023).

#### **2.4.4 Narcolepsy and It's Impact on Mental Well-being**

**The Effects of Narcolepsy on Mental Health** The neurological condition known as narcolepsy, which is marked by excessive daytime drowsiness and unpredictable sleep episodes, can significantly affect mental health. The link between narcolepsy and mental health conditions such as bipolar illness, anxiety disorders, and depression has been brought to light by recent studies (Bassetti et al., 2021). The disruptive nature of narcolepsy symptoms, like cataplexy (emotion-induced loss of muscular tone) and abrupt sleep attacks, can seriously hinder day-to-day functioning and lead to psychological discomfort. For people with narcolepsy, managing their symptoms with a mix of behavioural techniques, medication, and lifestyle changes is essential to enhancing their mental health (Sun lei, 2023).

### **2.5 Prevalence of Bangladesh**

#### **2.5.1 Adults**

In Bangladesh, the first nationwide survey on mental health was carried out between 2003 and 2005. 2019 saw the completion of the second (and most latest) nationwide representative survey. The mental health of the people of Bangladesh has been severely damaged by the coronavirus disease 2019 (COVID-19) epidemic. According to one study, compared to pre-pandemic rates, the prevalence of anxiety (33.7%), stress (59.7%), and depression (57.9%) symptoms in the adult population has significantly increased. According to a different study, stress, anxiety, and depression symptoms were present in 28.5%, 33.3%, and 46.92% of pupils placed under home quarantine, respectively (Hasan et al., 2021).

**Table 2.5.1.1**

Distribution the prevalence of Bangladesh in Adults :

|            | 1974         | 2005  | 2019  |
|------------|--------------|-------|-------|
| All adults | 31.4%        | 16.1% | 18.7% |
| Men        | Not reported | 12.9% | 12.5% |
| Women      | Not reported | 19.0% | 18.8% |

## 2.5.2 Children

The frequency of mental problems in children in Bangladesh ranged from 13.4% to 22.9%, according to a comprehensive assessment of the literature conducted between 1998 and 2004. Prevalence estimates are consistent with previous decades, according to seven community-based surveys conducted in 2004 and 2009. The 2019 nationwide representative survey provided the most recent data, which show that the prevalence is lower for females than for males (Hasan et al., 2021).

**Table 2.5.1.2**

Distribution the prevalence of Bangladesh in Children :

|              | 2004         | 2009         | 2019  |
|--------------|--------------|--------------|-------|
| All children | 15.0%        | 18.4%        | 12.6% |
| Boys         | Not reported | Not reported | 13.7% |
| Girls        | Not reported | Not reported | 11.5% |

## 2.6 Barriers (Social stigma, inequalities & sociocultural influence)

High social stigma attached to mental illness also affects help-seeking behaviour. Thus, mentally ill persons suffer in silence, with social isolation and unfair treatment.

Morbidity from psychiatric illness remains high and is rarely regarded as a public health

concern. Common stigma towards the mentally ill in Bangladesh is attributable to superstition surrounding causation of mental illness. Mental disorder is perceived to be a consequence of possession by evil spirits, as opposed to biological or psychological mechanisms, leading to neglect and abuse of those with mental illness (Hasan et al., 2021).

## **2.7 Intervention**

When it comes to treating sleep disturbances in people with mental health issues, psychological therapies are essential. The goal of these interventions is to determine and treat the psychological issues that cause sleep problems (Sun lei, 2023). According to Manber et al. (2011), cognitive behavioural treatment for insomnia (CBT-I) has demonstrated notable effectiveness in enhancing sleep quality and reducing anxiety and depressive symptoms. CBT-I helps people create better sleep habits and enhance their overall mental health by addressing inappropriate sleep-related thoughts and actions (Sun lei, 2023). The usefulness of mindfulness-based interventions in treating mental health issues has been accepted. Examples of these programs are mindfulness-based cognitive therapy (MBCT) and mindfulness-based stress reduction (MBSR), and enhancing the quality of sleep. Developing present-moment awareness and accepting one's thoughts and feelings are key components of these therapy (Sun lei, 2023). Sleep psychoeducation is educating people on the reciprocal relationship between sleep and mental health, sleep physiology, and sleep hygiene techniques. The goals of psychoeducational therapies are to remove beliefs about sleep, encourage sound sleeping practices, and increase understanding about sleep (Sun lei, 2023).

## 2.8 Summary of Key Gaps

- Lack of studies in Asian contexts Limited research on OT sleep interventions in mental health settings.
- Limited research on integrating sleep treatments with standard psychiatric care.
- Lack of awareness and implementation of integrated approaches in clinical practice.
- There was no information provided regarding whether there is an association between gender and overall sleep quality.
- In Bangladesh, no evidence was studied in relevant that can evaluate overall sleep quality and its associated factors among patients with mental illness.

## CHAPTER III : METHODS and MATERIALS

### 3.1 Study Question, Aim, Objectives

#### 3.1.1 Study Question

What are the factors that influence sleep quality among patients with mental illness?

#### 3.1.2 Aim

The aim of the study is to evaluate the overall sleep quality and it's associated factors among patients with mental illness using the Pittsburgh Sleep Quality Index (PSQI).

#### 3.1.3 Objectives

- To identify the overall sleep quality among patients with mental illness.
- To identify the prevalence of sleep disturbances, subjective sleep quality, sleep latency, sleep duration, and habitual sleep efficiency in individuals with mental health conditions.
- To identify sleep disturbances, use of sleeping medication and Daytime dysfunction in individuals with mental illness.
- To identify the association between sociodemographic information and overall sleep quality among patients with mental illness.

### 3.2 Study Design

#### 3.2.1 Study Method

The student researcher followed the quantitative method to examine the sleep quality and it's associated factors among patients with mental illness. Researcher used this method to find out the relationships between sleep quality and its associated factors among patients with mental illness and analyzed numerical data. This method ensures precise data collection. Quantitative method dominate in aetiological and health

services research. Because items that can be measured or counted earn scientific credibility over those that cannot, quantitative approaches have been used extensively. Quantitative methods look at how certain conditions (independent variable) affect a desired result (dependent variable) in ways that can be quantified (Wang & Cheng, 2020).

### **3.2.2 Study Approach**

In this study, the student researcher used a cross-sectional approach. Researcher used this study approach to evaluate the overall sleep quality and it's associated factors among patients with mental illness. A cross-sectional approach is an observational study approach used in medical research that examines data from a population at a single point in time. Researchers analyse study participants' exposures and outcomes simultaneously in a cross-sectional study. In clinical research, cross-sectional studies have primarily been used to determine the prevalence of a condition. In a cross-sectional study, researchers usually describe the distribution of variables in a population. They may evaluate a population's illness prevalence or the relationship between an exposure and an outcome (Wang & Cheng, 2020).

In this study, student researcher chose this approach because it helped to conduct data from a same target population at a single point in time so that researcher can achieve her aim and objectives.

## **3.3 Study Setting and Period**

### **3.3.1 Study Setting**

This study was conducted through 4 different organizations, Such as :

- National Institute of Mental Health (NIMH), Sher e Bangla Nogor, Dhaka- 1207.
- CRP - Rabia Noor Mental Health Day Centre, Mirzanagar, Nabinagar, Ashulia, Savar, Dhaka, Bangladesh.

- Centre for the Rehabilitation of the Paralysed (CRP), Mirpur, Dhaka-1206.
- Therapist Point & Shonirvor Special School for Autism and Neurodevelopmental Disorder, Dogormora, Savar, Dhaka

### **3.3.2 Study Period**

The study period was between June 2025 to December 2025, and the data collection period was from August 2025 to September 2025.

## **3.4 Study Participants**

### **3.4.1 Study Population**

The study population includes all individuals diagnosed with mental illness according to inclusion criteria.

### **3.4.2 Sampling Techniques**

To conduct the study, the participant was selected through a purposive sampling process based on some inclusion and exclusion criteria. This technique allows the student researcher to focus on individuals who are most relevant to the study, ensuring that the sample provides rich, in-depth data about the relationship between mental illness and sleep quality. Sometimes this approach is less time-consuming and less costly. It is very useful when some of the units are very important and must be included (Rai & Thapa, 2019).

### **3.4.3 Inclusion Criteria**

- Individuals who diagnosed with a mental illness.
- Age range (15-60) year.
- Both male and female participants.

### 3.4.4 Exclusion Criteria

- Those who are not diagnosed by expert professionals.
- Patients with aggressive behaviors.

### 3.4.5 Sample size

Sample Size estimation :

According to the standard formula,

$n$  = number of sample

$p$  = sample proportion = 18.7% (Hasan et al., 2021). = 0.187

$q$  =  $1-p$  ; proportion of the target population

$$= 1 - 0.187$$

$$= 0.813$$

$z$  = 1.96 (constant)

$d$  = the margin of error = 0.05;

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

$$n = \frac{(1.96)^2 \times 0.187 \times 0.813}{(0.05)^2}$$

$$n = 233.61$$

According to the equation, the sample should be 233.61 population, but the researcher collected 140 data from the population of the study. The researcher faced challenges in collecting a sufficiently large sample of patients with mental illness due to time limitation and limited budget , also the hospital granted permission for data collection

only after 26 days- by which time the maximum possible number of participants had already been reached. These were the main challenges faced during the data collection process.

### **3.5 Ethical Consideration**

#### **3.5.1 Ethical clearance**

Ethical clearance was obtained from the Institutional Ethical Review Board (IRB) of Bangladesh Health Professions Institute (BHPI) through the department of Occupational Therapy, BHPI. The IRB form number is CRP-BHPI/IRB/07/2025/1114 (see in details appendix-A). Student researcher took permission from Govt. hospital, day care center and special school to collect data from their institution. Student researcher also took permission from the author of the scale which used in this study.

#### **3.5.2 Informed consent**

For research involving human subjects, informed consent is both ethically and legally required. It is the procedure wherein a participant is educated about every facet of the trial, which is crucial for the participant to make a choice, and after reviewing all elements of the trial The participant freely affirms the importance of the research for the improvement of medical knowledge and societal welfare, as well as their willingness to take part in a specific clinical trial. The Nuremberg Code, the Declaration of Helsinki, and the Belmont Report all incorporate the idea of informed consent (Nijhawan & Janodia, 2013). Each participant was receive an information sheet from the student researcher detailing the study's purpose and procedures to ensure they fully understand their participation.(See appendix-B, Part I). After explaining the study's purpose, aim, objective the student researcher made a written consent from the participants before data collection begins (See appendix-B, Part II)

### **3.5.3 Withdrawal Form**

Participants had the right to withdraw from the study at any time before data analysis begins, without any consequences ( See appendix-B, Part III).

### **3.5.4 Unequal relationship**

The student researcher had not any kind of unequal relationship with the participants.

### **3.5.5 Risk and Beneficence**

This study does not claim any physical or psychological risks to participants, While there are no direct benefits to the participants.

### **3.5.6 Power Relationship**

The student researcher did not have any power relationships with any participants.

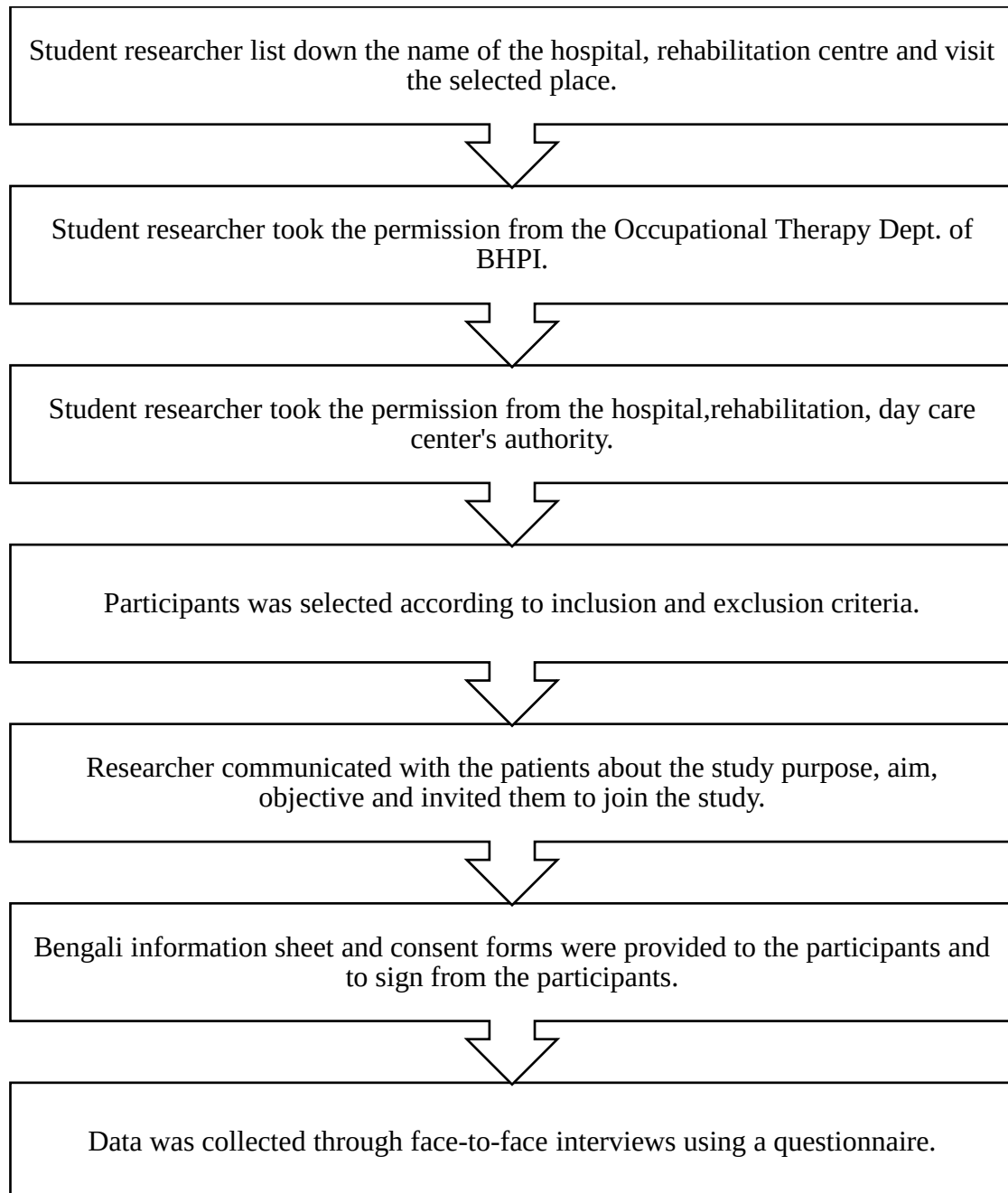
### **3.5.7 Confidentiality**

The study will maintain confidentiality of all participant details, with their name not disclosed in any published documentation. The original interview transcripts, featuring the participant's name, will only be accessible to the researchers, ensuring high privacy and security.

### 3.6 Data Collection Process

**Figure 3.6.1** Participant Recruitment Process

Overview of the participant's participant recruitment processs



### 3.6.2 Data Collection Method

The data collection method for this cross-sectional quantitative study was conducted through a structured questionnaire-based survey, including the Pittsburgh Sleep Quality Index (PSQI) to assess the overall sleep quality. The student researcher collected data using a structured questionnaire, which included the Pittsburgh Sleep Quality Index (PSQI), a widely validated tool for measuring sleep patterns and disturbances over the past month. The questionnaire was administered through face-to-face interviews, ensuring that participants clearly understood each question and were able to provide accurate responses. Each interview required approximately 25 to 30 minutes, privacy and confidentiality were ensured throughout data collection.

Face-to-face data gathering has several benefits, such as participant engagement, direct observation, deeper investigation, use of non-verbal clues, control over data collection, improved data quality, and process supervision (Celestine, 2024).

### 3.6.3 Data Collection Instrument

#### 3.6.3.1 Socio-Demographic Variables

Socio-Demographic information includes age, gender, educational background and employment.

#### 3.6.3.2 Measurement Variables of Data Collection Tool

- Pittsburgh Sleep Quality Index (PSQI) which assesses components like sleep duration, disturbances, latency, efficiency, and overall sleep quality.
- Paper, Pen., Pencil etc.

**Scale :** Pittsburgh Sleep Quality Index (PSQI)

**Pittsburgh Sleep Quality Index :** The validity and reliability of the scale developed by Buysse et al. in Turkish was conducted by Ağargün et al. PSQI is a self-report scale with 19 titles assessing sleep quality and disorders over the last month. Each title of the

test was equally scored between 0 and 3. The scale comprises seven subscales assessing subjective sleep quality, sleep latency, sleep duration, habitual sleep activity, sleep disorders, sleeping pill use, and daytime functionality loss. A total PSQI score between 0 and 21 was obtained by adding the subscales. The sleep quality of those having a total score of 5 and below is assessed as “good” and those having a total score of above 5 is assessed as “poor.” A total PSQI score being above 5 indicates that the sleep quality is insufficient with 89.6% sensitivity and 86.5% specificity and a medium level of dysfunctioning in at least two or three of the above subscales (Ozkan, 2016).

An overall score is obtained by adding together all seven PSQI components scores with a minimum and maximum score of 0 and 21 respectively. Higher scores indicate poorer sleep quality. Also, a PSQI total score of  $> 5$  is indicative of poor sleep (Ong et al., 2020).

#### **3.6.4 Field Note**

Student researcher, at first translated the sociodemographic questionnaire and the PSQI questionnaire into Bengali with the help of an expert, so that participants could easily understand them during data collection. Before conducting the pilot test, Student researcher introduced herself to the participants, then took the permission from the participants and build up rapport with the participants. The participants were informed about the aim, objectives, and purpose of the study. The pilot test was conducted with two participants, and they were able to understand the questionnaires easily. Therefore, no major changes were required in the questions.

### **3.7 Data Management and Analysis**

#### **3.7.1 Data Management**

The data were analysed using the latest software, Statistical Package for Social Science (SPSS). The analysis of the data was evaluated by the package software of IBM SPSS Statistics 20.0 (IBM SPSS Inc, Chicago, IL, USA), and  $p < 0.05$  was accepted to be statistically significant (Özkan et al., 2015).

#### **3.7.2 Data Analysis**

Student researcher use Descriptive Statistics for data analysis. It is useful to find out the mean, standard deviation, frequencies, and percentages to summarise participant characteristics, evaluate the overall sleep quality and its associated factor among patients with mental illness. Normality of the data distribution was assessed, and the findings showed that the data were not normally distributed. Therefore, non-parametric tests were used for inferential analysis. The Mann–Whitney U test was used to compare differences in sleep quality between two independent groups. The Kruskal–Wallis H test was used to compare sleep quality among three or more groups. The Chi-square test applied to examine the association between categorical variables, as gender and sleep quality, marital status and sleep quality, or electronic device use and sleep quality. When expected cell counts were low, Fisher’s Exact Test was used as an alternative to Chi-square to ensure accurate results. All statistical tests were interpreted at a 95% confidence interval (CI).

### **3.8 Quality Control and Quality Assurance**

Before collecting data, the student researcher conducted a pilot test. Permission was obtained from the responsible authority first, followed by consent from two participants. These participants were informed about the study's aim, objectives, purpose, and confidentiality measures. After that, they provided their data. Once the data was collected, the researcher realized there was no need to change the questionnaire because the participants clearly understood the questions in Bengali. The student researcher properly collected the data and then reviewed it with the supervisor. In total, the student researcher collected 140 responses through face-to-face interviews. The data is securely stored on the desks of both the student researcher and the honorable supervisor to prevent unauthorized access. The student researcher also rechecked the data to ensure its accuracy and maintenance. Next, the data was entered into SPSS for analysis. It was checked for any missing values, then recoded, and tested for normality. Since the data was not normally distributed, non-parametric tests were conducted to determine if the results were statistically significant.

## CHAPTER IV: RESULTS

This chapter presents the findings of the study through tables and figures, focusing on the participants' socio-demographic information, clinical characteristics of the participants, and sleep quality status. The chapter also highlights the distribution of Pittsburgh Sleep Quality Index (PSQI) components, overall sleep quality categories, and explores potential factors associated with poor sleep quality among individuals receiving psychiatric care.

### 4. 1 Sociodemographic information

**Table 4.1**

*Distribution of sociodemographic information of the respondents*

| <b>Variable</b>                  | <b>Category</b>          | <b>Frequency<br/>(n = 140)</b> | <b>Percentage<br/>(%)</b> |
|----------------------------------|--------------------------|--------------------------------|---------------------------|
| <b>Age (in years)</b>            | 15-24 Years              | 43                             | 30.7                      |
|                                  | 25-34 Years              | 52                             | 37.1                      |
|                                  | 35-44 Years              | 27                             | 19.3                      |
|                                  | 45-54 Years              | 7                              | 5.0                       |
|                                  | 55-64 Years              | 11                             | 7.9                       |
| <b>Gender</b>                    | Male                     | 69                             | 49.3                      |
|                                  | Female                   | 71                             | 50.7                      |
| <b>Marital status</b>            | Unmarried                | 58                             | 41.4                      |
|                                  | Married                  | 74                             | 52.9                      |
|                                  | Divorced                 | 6                              | 4.3                       |
|                                  | Widowed                  | 2                              | 1.4                       |
| <b>Educational qualification</b> | Illiterate               | 3                              | 2.1                       |
|                                  | Primary                  | 45                             | 32.1                      |
|                                  | Secondary/ Dakhil        | 47                             | 33.6                      |
|                                  | Higher Secondary/ Alim   | 19                             | 13.6                      |
|                                  | Bachelor's/ Fazil        | 18                             | 12.9                      |
|                                  | Master's or above/ Kamil | 8                              | 5.7                       |

|                                        |                  |    |      |
|----------------------------------------|------------------|----|------|
| <b>Monthly family income (in taka)</b> | <25000 taka      | 89 | 63.6 |
|                                        | >25000 taka      | 51 | 36.4 |
| <b>Occupation</b>                      | Unemployed       | 52 | 37.1 |
|                                        | Student (male)   | 7  | 5.0  |
|                                        | Student (female) | 19 | 13.6 |
|                                        | Housewife        | 33 | 23.6 |
|                                        | Service holder   | 5  | 3.6  |
|                                        | Business         | 13 | 9.3  |
|                                        | Other            | 11 | 7.9  |

Table 4.1 represents the overview of the sociodemographic information, including age, gender, marital status, educational qualifications, monthly family income, and occupation. Among  $n = 140$  participants, the participants were between 16 and 60 years old, with a mean age of 31.06 years ( $SD \pm 11.21$ ). Most belonged to the 25–34 year age group (37.1%,  $n = 52$ ) and the 15–24 year group (30.7%,  $n = 43$ ), indicating a predominantly young sample. Gender distribution was almost equal, with males (49.3%,  $n = 69$ ) and females (50.7%,  $n = 71$ ). More than half of the respondents were married (52.9%,  $n = 74$ ), while 41.4% ( $n = 58$ ) were unmarried, and a small number were divorced (4.3%,  $n = 6$ ) or widowed (1.4%,  $n = 2$ ). Educational attainment varied, with most having secondary/Dakhil education (33.6%,  $n = 47$ ) and primary education (32.1%,  $n = 45$ ), followed by higher secondary/Alim (13.6%,  $n = 19$ ), bachelor's/Fazil (12.9%,  $n = 18$ ), and master's/Kamil or above (5.7%,  $n = 8$ ), while only 2.1% ( $n = 3$ ) were illiterate. Monthly family income ranged widely from 7,000 to 250,000 taka, with a mean of 31,114.29 taka ( $SD \pm 35,736.66$ ), and the majority earned below 25,000 taka (63.6%,  $n = 89$ ). Occupationally, 37.1% ( $n = 52$ ) were unemployed, 23.6% ( $n = 33$ ) were housewives, 13.6% ( $n = 19$ ) were female students, 5% ( $n = 7$ ) were male students, 9.3% ( $n = 13$ ) were engaged in business, 3.6% ( $n = 5$ ) were service holders, and 7.9% ( $n = 11$ ) were involved in other occupations.

## 4.2 Participants' Mental Illness Types and Health Conditions

**Table 4.2**

*Distribution of Participants' Mental Illness Types and Health Conditions*

| <b>Variable</b>                                       | <b>Category</b>                                                                     | <b>Frequency<br/>(n = 140)</b> | <b>Percentage<br/>(%)</b> |
|-------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------|---------------------------|
| <b>Type of<br/>mental<br/>illness</b>                 | Depression                                                                          | 2                              | 1.4                       |
|                                                       | Bipolar Disorder                                                                    | 39                             | 27.9                      |
|                                                       | Schizophrenia                                                                       | 58                             | 41.4                      |
|                                                       | Personality Disorder                                                                | 5                              | 3.6                       |
|                                                       | Major Depressive<br>Disorder                                                        | 11                             | 7.9                       |
|                                                       | Substance Induce<br>Disorder                                                        | 16                             | 11.4                      |
|                                                       | Obsessive Compulsive<br>Disorder                                                    | 6                              | 4.3                       |
|                                                       | Others (Dissociative<br>Disorder, Condcut<br>disorder, Somatic<br>symptom disorder) | 3                              | 2.1                       |
| <b>Mental<br/>Illness<br/>duration<br/>(in month)</b> | <60 months                                                                          | 79                             | 56.4                      |
|                                                       | >60 months                                                                          | 61                             | 43.6                      |
| <b>Physical<br/>illness</b>                           | Physical illness<br>Diabetes                                                        | 12                             | 66.7                      |
|                                                       | Physical illness High<br>Blood Pressure                                             | 10                             | 55.6                      |

Table 4.2 presents the distribution of mental illness types, illness duration, and associated physical health conditions among the 140 respondents. Schizophrenia was the most commonly reported mental illness, affecting 41.4% (n = 58) of the respondents, followed by bipolar disorder at 27.9% (n = 39). Other conditions included substance-induced disorder 11.4% (n = 16), major depressive disorder 7.9% (n = 11), obsessive–compulsive disorder 4.3% (n = 6), personality disorder 3.6% (n = 5), and depression 1.4% (n = 2), while 2.1% (n = 3) were diagnosed with other disorders such as dissociative disorder, conduct disorder, or somatic symptom disorder. Regarding the duration of mental illness, over half of the with their condition for less than 60 months

56.4% (n = 79), while 43.6% (n = 61) had experienced their illness for more than 60 months. The mean duration of illness was 78.46 months (SD  $\pm$ 73.07), ranging from 1 to 360 months. In terms of physical comorbidity, diabetes was reported in 66.7% (n = 12) of cases, while high blood pressure was present in 55.6% (n = 10), indicating a significant burden of physical health issues among the participants.

### 4.3 Lifestyle and Behavioral Characteristics of the Participants

**Table 4.3**

*Distribution of Lifestyle and Behavioral Characteristics of the Participants*

| <b>Variable</b>                               | <b>Category</b>                      | <b>Frequency<br/>(n = 140)</b> | <b>Percentage<br/>(%)</b> |
|-----------------------------------------------|--------------------------------------|--------------------------------|---------------------------|
| <b>Electronic device</b>                      | Electronic device before sleep phone | 44                             | 83.0                      |
|                                               | Electronic device before sleep TV    | 9                              | 17.0                      |
| <b>Duration of device use (in minutes)</b>    | <20 minutes                          | 92                             | 65.7                      |
|                                               | >20 minutes                          | 48                             | 34.3                      |
| <b>Tea/coffee</b>                             | Personal habit tea                   | 37                             | 90.2                      |
|                                               | Personal habit Coffee                | 4                              | 9.8                       |
| <b>Tea/ Coffee taking (in times ) per day</b> | <2 times                             | 127                            | 90.7                      |
|                                               | >2 times                             | 13                             | 9.3                       |
| <b>Personal habit</b>                         | Personal habit Smoking               | 34                             | 65.4                      |
|                                               | Personal habit Alcohol               | 4                              | 7.7                       |
|                                               | Personal habit Tobacco               | 12                             | 23.1                      |
|                                               | Personal habit Cannabis              | 5                              | 9.6                       |
|                                               | Personal habit betel leaf            | 6                              | 11.5                      |
| <b>Currently taking medicine</b>              | No                                   | 1                              | 0.7                       |
|                                               | Yes                                  | 139                            | 99.3                      |

Table 4.3 presents the information related to electronic device use, tea/coffee consumption, personal habits, and current medication status among the 140 participants. A majority of the participants reported using electronic devices before sleep, with

83.0% (n = 44) using mobile phones and 17.0% (n = 9) using television. Regarding the duration of electronic device use, 65.7% (n = 92) used devices for less than 20 minutes prior to sleep, while 34.3% (n = 48) used them for more than 20 minutes. The mean duration of device use was 47.05 minutes (SD  $\pm$ 88.22), ranging from 0 to 420 minutes. In terms of beverage habits, tea consumption was highly prevalent, with 90.2% (n = 37) reporting tea as a regular habit, compared to 9.8% (n = 4) who consumed coffee. Daily intake patterns showed that 90.7% (n = 127) consumed tea or coffee fewer than two times per day, while 9.3% (n = 13) consumed these beverages more than two times per day, with a mean intake of 0.76 times per day (SD  $\pm$ 1.66). Personal habit data further revealed that 65.4% (n = 34) smoked, 23.1% (n = 12) used tobacco, 11.5% (n = 6) consumed betel leaf, 9.6% (n = 5) used cannabis, and 7.7% (n = 4) reported alcohol use. Finally, nearly all respondents were currently taking prescribed medication, with 99.3% (n = 139), whereas only 0.7% (n = 1) were not taking any medication.

#### 4.4 Sleep Environment Characteristics of the Participants

**Table 4.4**

*Distribution of Sleep Environment Characteristics of the Participants*

| <b>Variable</b>           | <b>Category</b> | <b>Frequency<br/>(n = 140)</b> | <b>Percentage<br/>(%)</b> |
|---------------------------|-----------------|--------------------------------|---------------------------|
| <b>Room Condition</b>     | Quiet           | 96                             | 68.6                      |
|                           | Noisy           | 19                             | 13.6                      |
| <b>While Sleeping</b>     | Sometimes noisy | 25                             | 17.9                      |
| <b>Lighting Condition</b> | Dim light       | 16                             | 11.4                      |
|                           | Bright light    | 6                              | 4.3                       |
| <b>While Sleeping</b>     | Dark            | 118                            | 84.3                      |

Table 4.4 presents the sleeping environment of the respondents, focusing on room condition and lighting during sleep. More than half of the participants reported sleeping in a quiet room 68.6% (n = 96), while 13.6% (n = 19) experienced a noisy environment,

and 17.9% (n = 25) stated that their room was sometimes noisy during sleep. Regarding lighting conditions, the majority of respondents preferred sleeping in a dark environment 84.3% (n = 118). A smaller proportion slept with dim light 11.4% (n = 16), whereas only 4.3% (n = 6) reported sleeping in bright light.

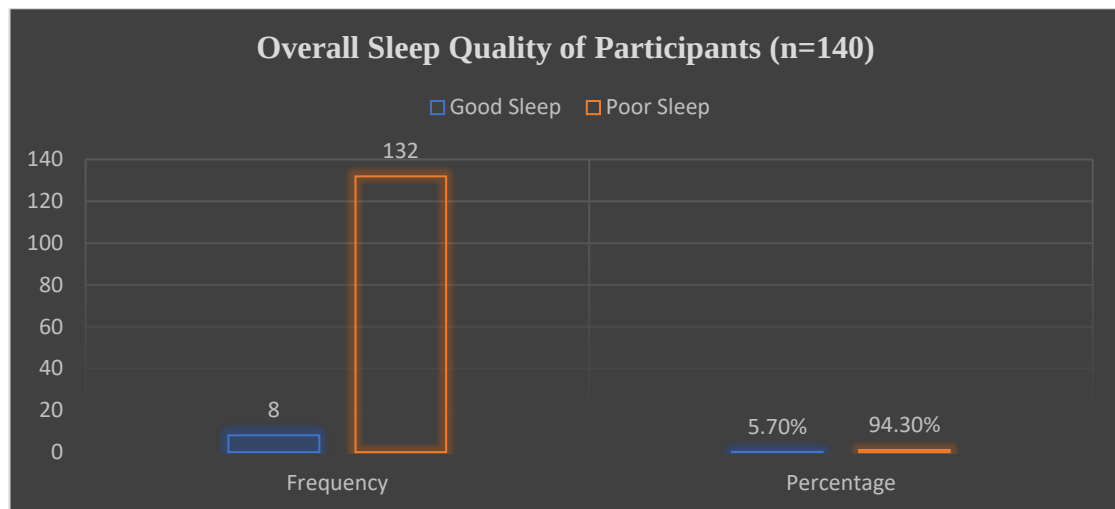
#### 4.5 Overall Sleep Quality of the Participants

**Table 4.5**

*Distribution of Overall Sleep Quality of the Participants*

| Variable              | Category   | Frequency<br>(n = 140) | Percentage<br>(%) |
|-----------------------|------------|------------------------|-------------------|
| Overall Sleep quality | Good Sleep | 8                      | 5.7               |
|                       | Poor Sleep | 132                    | 94.3              |
|                       | Minimum    | 1                      |                   |
|                       | Maximum    | 2                      |                   |
|                       | Mean       | 1.94                   |                   |
|                       | SD         | (±.233)                |                   |
| <b>Total</b>          |            |                        | 100               |

Table 4.5 presents the distribution of overall sleep quality among the 140 respondents based on their global PSQI scores. The findings indicate that only 5.7% (n = 8) of the participants had good sleep quality, whereas an overwhelming majority (94.3%, n = 132) were classified as having poor sleep quality. The mean global PSQI score was 1.94, SD ( $\pm 0.233$ ), with scores ranging from 1 to 2. These results demonstrate that most respondents experienced poor sleep quality, reflecting significant disruptions in sleep-related behaviors and patterns.

**Figure 4.5***Overview of overall Sleep Quality***4.6 Subjective sleep quality****Table 4.6***Distribution of Subjective sleep quality among the Participants*

| Subjective sleep quality (PSQI Component 1) |                      |            |
|---------------------------------------------|----------------------|------------|
|                                             | Frequency<br>(n=140) | Percent(%) |
| Component 1                                 | Very good            | 6.4        |
|                                             | Fairly good          | 44.3       |
|                                             | Fairly bad           | 35.7       |
|                                             | Very bad             | 13.6       |

Table 4.6 explain the first component of the PSQI that assesses subjective sleep quality, measured by participants' responses to question 9. Among the 140 respondents, 6.4% (n = 9) reported their sleep as very good, 44.3% (n = 62) reported fairly good sleep, 35.7% (n = 50) reported fairly bad sleep, and 13.6% (n = 19) rated their sleep as very bad. In scoring this component, responses are assigned points from 0 to 3: "very good" = 0, "fairly good" = 1, "fairly bad" = 2, and "very bad" = 3. These scores contribute to

the calculation of the global PSQI score, with higher values indicating poorer subjective sleep quality.

#### 4.7 Sleep latency

**Table 4.7**

*Distribution of Sleep latency among the Participants*

| <b>Sleep latency (PSQI Component 2)</b> |               |                      |           |
|-----------------------------------------|---------------|----------------------|-----------|
|                                         |               | Frequency<br>(n=140) | Percent % |
| Component 2                             | ≤ 15 minutes  | 8                    | 5.7       |
|                                         | 16-30 minutes | 33                   | 23.6      |
|                                         | 31-60 minutes | 16                   | 11.4      |
|                                         | > 60 minutes  | 83                   | 59.3      |

Table 4.7 explain the PSQI Component 2 that measures sleep latency, or the time taken to fall asleep, using questions 2 and 5a. Among 140 participants, 5.7% (n = 8) scored 0, 23.6% (n = 33) scored 1, 11.4% (n = 16) scored 2, and 59.3% (n = 83) scored 3, indicating that most participants experienced longer sleep latency. For Q2, sleep latency is scored as follows: less than 15 minutes = 0, 16–30 minutes = 1, 31–60 minutes = 2, and more than 60 minutes = 3. For Q5a, which assesses the frequency of trouble falling asleep, scores are: not during the past month = 0, less than once a week = 1, once or twice a week = 2, and three or more times a week = 3. The sum of these subscores is converted to the Component 2 score (0 = 0, 1–2 = 1, 3–4 = 2, 5–6 = 3), with higher scores indicating worse sleep latency.

#### 4.8 Sleep duration

**Table 4.8**

*Distribution of Sleep duration among the Participants*

| <b>Sleep duration (PSQI Component 3)</b> |           |                   |           |
|------------------------------------------|-----------|-------------------|-----------|
|                                          |           | Frequency (n=140) | Percent % |
| Component 3                              | > 7 hours | 13                | 9.3       |
|                                          | 6-7 hours | 31                | 22.1      |
|                                          | 5-6 hours | 48                | 34.3      |
|                                          | < 5 hours | 48                | 34.3      |

Table 4.8 explain the PSQI Component 3 that assesses sleep duration using question 4. Among 140 participants, 9.3% (n = 13) scored 0, 22.1% (n = 31) scored 1, 34.3% (n = 48) scored 2, and 34.3% (n = 48) scored 3, indicating that a substantial proportion of participants had shorter sleep durations. For scoring, sleep duration is categorized as follows: more than 7 hours = 0, 6–7 hours = 1, 5–6 hours = 2, and less than 5 hours = 3, with higher scores representing shorter sleep duration and poorer sleep quality.

#### 4.9 Sleep efficiency

**Table 4.9**

*Distribution of Sleep efficiency among the Participants*

| <b>Sleep efficiency (PSQI Component 4)</b> |        |                   |           |
|--------------------------------------------|--------|-------------------|-----------|
|                                            |        | Frequency (n=140) | Percent % |
| Component 4                                | > 85%  | 23                | 16.4      |
|                                            | 75-84% | 29                | 20.7      |
|                                            | 65-74% | 27                | 19.3      |
|                                            | < 65%  | 61                | 43.6      |

Table 4.9 explain the PSQI Component 4 that evaluates sleep efficiency, calculated as the percentage of hours slept relative to hours spent in bed, using questions 1, 3, and 4. Among 140 participants, 16.4% (n = 23) scored 0, 20.7% (n = 29) scored 1, 19.3% (n =

27) scored 2, and 43.6% (n = 61) scored 3, indicating that a considerable number of participants had low sleep efficiency. Sleep efficiency is scored as follows: greater than 85% = 0, 75–84% = 1, 65–74% = 2, and less than 65% = 3, with higher scores indicating poorer sleep efficiency.

#### 4.10 Sleep disturbance

**Table 4.10**

*Distribution of Sleep disturbance among the Participants*

| <b>Sleep disturbance (PSQI Component 5)</b> |                              |                      |           |
|---------------------------------------------|------------------------------|----------------------|-----------|
|                                             |                              | Frequency<br>(n=140) | Percent % |
| Component 5                                 | not during the<br>past month | 2                    | 1.4       |
|                                             | less than once a<br>week     | 91                   | 65.0      |
|                                             | once or twice a<br>week      | 47                   | 33.6      |

Table 4.10 explain the PSQI Component 5 that assesses sleep disturbances using questions 5b to 5j. Among 140 participants, 1.4% (n = 2) scored 0, 65.0% (n = 91) scored 1, and 33.6% (n = 47) scored 2, indicating that most participants experienced some degree of sleep disturbance. For scoring, each question (5b–5j) is rated as follows: not during the past month = 0, less than once a week = 1, once or twice a week = 2, and three or more times a week = 3. The sum of these subscores is converted to the Component 5 score: 0 = 0, 1–9 = 1, 10–18 = 2, and 19–27 = 3, with higher scores indicating greater sleep disturbance.

#### 4.11 Use of sleep medication

**Table 4.11**

*Distribution of Use of sleep medication among the Participants*

| <b>Use of sleep medication (PSQI Component 6)</b> |                            |                      |           |
|---------------------------------------------------|----------------------------|----------------------|-----------|
|                                                   |                            | Frequency<br>(n=140) | Percent % |
| Component 6                                       | not during the past month  | 60                   | 42.9 %    |
|                                                   | less than once a week      | 7                    | 5.0 %     |
|                                                   | once or twice a week       | 18                   | 12.9 %    |
|                                                   | three or more times a week | 55                   | 39.3 %    |

Table 4.11 explain the PSQI Component 6 that measures the use of sleep medication based on question 6. Among 140 participants, 42.9% (n = 60) scored 0, 5.0% (n = 7) scored 1, 12.9% (n = 18) scored 2, and 39.3% (n = 55) scored 3, indicating that a substantial proportion of participants used sleep medication with varying frequency. Scoring for this component is as follows: not during the past month = 0, less than once a week = 1, once or twice a week = 2, and three or more times a week = 3, with higher scores reflecting more frequent use of sleep medication.

#### 4.12 Daytime dysfunction

**Table 4.12**

*Distribution of Daytime dysfunction among the Participants*

| <b>Daytime dysfunction (PSQI Component 7)</b> |                               |                      |           |
|-----------------------------------------------|-------------------------------|----------------------|-----------|
|                                               |                               | Frequency<br>(n=140) | Percent % |
| Component 7                                   | Never                         | 26                   | 18.6 %    |
|                                               | Once or twice                 | 26                   | 18.6 %    |
|                                               | Once or twice each week       | 44                   | 31.4 %    |
|                                               | Three or more times each week | 44                   | 31.4 %    |

PSQI Component 7 evaluates daytime dysfunction using questions 7 and 8. Among 140 participants, 18.6% (n = 26) scored 0, 18.6% (n = 26) scored 1, 31.4% (n = 44) scored 2, and 31.4% (n = 44) scored 3, indicating that many participants experienced moderate to severe daytime dysfunction. Scoring is based on the sum of subscores from Q7 and Q8. For Q7, responses are: not during past month = 0, less than once a week = 1, once or twice a week = 2, and three or more times a week = 3. For Q8, responses are: no problem at all = 0, only a very slight problem = 1, somewhat of a problem = 2, and a very big problem = 3. The sum of these subscores is converted to the Component 7 score: 0 = 0, 1–2 = 1, 3–4 = 2, and 5–6 = 3, with higher scores indicating greater daytime dysfunction.

#### 4.13 Chi-Square Tests

**Table 4.13**

*Overview of Chi-Square Tests*

|                       |           | Sleep quality |            | Total | Chi-Square Tests      |
|-----------------------|-----------|---------------|------------|-------|-----------------------|
|                       |           | Good Sleep    | Poor Sleep |       | Asymp. Sig. (2-sided) |
| <b>Gender</b>         | Male      | 5             | 64         | 69    | 0.441                 |
|                       | Female    | 3             | 68         | 71    |                       |
|                       | Total     | 8             | 132        | 140   |                       |
|                       |           | Sleep quality |            | Total | Chi-Square Tests      |
|                       |           | Good Sleep    | Poor Sleep |       | Asymp. Sig. (2-sided) |
| <b>Marital Status</b> | Unmarried | 5             | 53         | 58    | 0.620                 |
|                       | Married   | 3             | 71         | 74    |                       |
|                       | Divorced  | 0             | 6          | 6     |                       |
|                       | Widowed   | 0             | 2          | 2     |                       |
|                       | Total     | 8             | 132        | 140   |                       |

|                                  |                           |               |            |       | Chi-Square Tests      |
|----------------------------------|---------------------------|---------------|------------|-------|-----------------------|
|                                  |                           | Sleep quality |            | Total | Asymp. Sig. (2-sided) |
|                                  |                           | Good Sleep    | Poor Sleep |       |                       |
| <b>Educational Qualification</b> | Illiterate                | 1             | 2          | 3     | 0.088                 |
|                                  | Primary                   | 2             | 43         | 45    |                       |
|                                  | Secondary/Dakhil          | 1             | 46         | 47    |                       |
|                                  | Higher Secondary/Alim     | 3             | 16         | 19    |                       |
|                                  | Bachelor's/Fazil          | 1             | 17         | 18    |                       |
|                                  | Master's or above/Kamil   | 0             | 8          | 8     |                       |
|                                  | Total                     | 8             | 132        | 140   |                       |
|                                  |                           |               |            |       | Chi-Square Tests      |
|                                  |                           | Sleep quality |            | Total | Asymp. Sig. (2-sided) |
|                                  |                           | Good Sleep    | Poor Sleep |       |                       |
| <b>Occupation</b>                | Unemployed                | 2             | 50         | 52    | 0.568                 |
|                                  | Student (Male)            | 0             | 7          | 7     |                       |
|                                  | Student (Female)          | 2             | 17         | 19    |                       |
|                                  | Housewife                 | 1             | 32         | 33    |                       |
|                                  | Service holder            | 0             | 5          | 5     |                       |
|                                  | Business                  | 2             | 11         | 13    |                       |
|                                  | Other                     | 1             | 10         | 11    |                       |
| Total                            |                           | 8             | 132        | 140   |                       |
|                                  |                           |               |            |       | Chi-Square Tests      |
|                                  |                           | Sleep quality |            | Total | Asymp. Sig. (2-sided) |
|                                  |                           | Good Sleep    | Poor Sleep |       |                       |
| <b>Type of Mental Illness</b>    | Depression                | 0             | 2          | 2     | 0.653                 |
|                                  | Bipolar Disorder          | 4             | 35         | 39    |                       |
|                                  | Schizophrenia             | 2             | 56         | 58    |                       |
|                                  | Personality Disorder      | 0             | 5          | 5     |                       |
|                                  | Major Depressive Disorder | 0             | 11         | 11    |                       |
|                                  | Substance Induce          | 2             | 14         | 16    |                       |
|                                  |                           |               |            |       |                       |

| Disorder                                                                   |  |               |            |       |
|----------------------------------------------------------------------------|--|---------------|------------|-------|
| Obsessive Compulsive Disorder                                              |  | 0             | 6          | 6     |
| Others (Dissociative Disorder, Conduct disorder, Somatic symptom disorder) |  | 0             | 3          | 3     |
| Total                                                                      |  | 8             | 132        | 140   |
| Chi-Square Tests                                                           |  |               |            |       |
| Asymp. Sig. (2-sided)                                                      |  |               |            |       |
|                                                                            |  | Sleep quality |            | Total |
|                                                                            |  | Good Sleep    | Poor Sleep |       |
| <b>Physical illness Diabetes</b>                                           |  |               |            | 0.372 |
| No                                                                         |  | 8             | 120        | 128   |
| Yes                                                                        |  | 0             | 12         | 12    |
| Total                                                                      |  | 8             | 132        | 140   |
| Chi-Square Tests                                                           |  |               |            |       |
| Asymp. Sig. (2-sided)                                                      |  |               |            |       |
|                                                                            |  | Sleep quality |            | Total |
|                                                                            |  | Good Sleep    | Poor Sleep |       |
| <b>Room Condition While Sleeping</b>                                       |  |               |            | 0.485 |
| Quiet                                                                      |  | 6             | 90         | 96    |
| Noisy                                                                      |  | 0             | 19         | 19    |
| Sometimes noisy                                                            |  | 2             | 23         | 25    |
| Total                                                                      |  | 8             | 132        | 140   |
| Chi-Square Tests                                                           |  |               |            |       |
| Asymp. Sig. (2-sided)                                                      |  |               |            |       |
|                                                                            |  | Sleep quality |            | Total |
|                                                                            |  | Good Sleep    | Poor Sleep |       |
| <b>Lighting Condition While Sleeping</b>                                   |  |               |            | 0.488 |
| Dark                                                                       |  | 6             | 112        | 118   |
| Dim light                                                                  |  | 1             | 15         | 16    |
| Bright light                                                               |  | 1             | 5          | 6     |
| Total                                                                      |  | 8             | 132        | 140   |

|                           |     |               |            |       | Chi-Square Tests      |
|---------------------------|-----|---------------|------------|-------|-----------------------|
|                           |     |               |            |       | Asymp. Sig. (2-sided) |
|                           |     | Sleep quality |            | Total | 0.435                 |
|                           |     | Good Sleep    | Poor Sleep |       |                       |
| <b>Personal habit tea</b> | No  | 5             | 98         | 103   |                       |
|                           | Yes | 3             | 34         | 37    |                       |
| Total                     |     | 8             | 132        | 140   |                       |

The table explains the relationship between sleep quality and various sociodemographic, mental illness types and health conditions, and environmental factors. Across all variables, including gender, marital status, educational level, occupation, type of mental illness, diabetes status, room and lighting conditions while sleeping, and tea consumption, no statistically significant associations were found (all  $P$ -values  $> 0.05$ ). This indicates that poor sleep quality was consistently high among participants regardless of their demographic characteristics, clinical diagnoses, or lifestyle habits.

## CHAPTER V: DISCUSSION

The study aimed to know the overall sleep quality and its associated factors among patients with mental illness (age range 15-60 years). For this study, data was collected through face-to-face interview and participants were recruited through purposive sampling techniques. Overall Sleep Quality was measured by PSQI scale. Concerning this study purpose, it was important to find out the sociodemographic factors.

The current study found that, among 140 participants, 49.3 % (n=69) participants were male and 50.7% (n=71) were female. So, the female participants response rate was 1.4% times higher than male participants. Other studies also reported that patients with mental illness are more common in female rather than male. In this study, the mean age of the female was 64.4% (n=85) and the male was 35.6% (n=47) (Ozkan, 2016).

The current study found that, among n=140 participants, the participants were between 16 and 60 years old, with a mean age of 31.06 years SD ( $\pm 11.21$ ); most belonged to the (25–34) year 37.1% (n=52) and (15–24) year groups 30.7% (n=43), indicating a predominantly young sample. Other studies reported that patients with mental illness are more common at the age of 42-48 year (n=26) 19.7% and 29-35 year (n=24) 18.2% (Ozkan, 2016) , which are slightly different from this study .

The current study found that, Schizophrenia was the most commonly reported mental illness, affecting (n =58) 41.4% of the respondents, followed by bipolar disorder at (n = 39) 27.9%. Other conditions included substance-induced disorder (n = 16) 11.4% , major depressive disorder (n = 11) 7.9%, obsessive–compulsive disorder (n = 6) 4.3%, personality disorder (n = 5) 3.6% and depression (n =2) 1.4%, while (n=3) 2.1% were diagnosed with other disorders such as dissociative disorder, conduct disorder, or somatic symptom disorder. Other studies reported that most, 61.0% of the participants

had a diagnosis of schizophrenia and 16% were bipolar disorder (Shumye et al., 2021), which is nearly matched the this study.

The current study found that, personal habit data further revealed that (n = 34) 65.4% smoked, (n = 12) 23.1% used tobacco, (n = 6) 11.5% and (n = 4) 7.7% reported alcohol use. Other studies reported that among 387 participants, (n=47) 12.1% use alcohol, (n=31) 8.01% use tobacco (Shumye et al., 2021). In comparison with the other study, the prevalence of alcohol use in the current study (11.5%) was quite similar to the previous findings (12.1%). However, tobacco use was noticeably higher in the present study (23.1%) compared to the other study, where only 8.01% of participants reported tobacco use.

The current study aimed to know the overall sleep quality and its associated factors among patients with mental illness. Among the 140 respondents, The current study findings indicate that only 5.7% (n = 8) of the participants had good sleep quality, whereas an overwhelming majority (94.3%, n = 132) were classified as having poor sleep quality. Other studies reported that among 132 participants, only 6.8% (n=9) had good sleep quality, and 93.2% (n=123) had poor sleep quality (Ozkan, 2016) , which is nearly matched the this study.

The current study could not identify any significant association between gender and sleep problems. Among males (n = 69), 5 reported good sleep and 64 reported poor sleep. Among females (n = 71), 3 reported good sleep and 68 reported poor sleep. The Chi square test was not statistically significant, (Exact Sig. = 0.4)  $p > 0.05$ , indicating no relationship between gender and sleep quality. The current study did not find a significant correlation between age and sleep quality.

The current study discussed the participants' sleep quality was unaffected by their bipolar diagnosis. Likewise, Özkan et al. discovered that no connection between

PSQI scores and bipolar disorder. Özkan et al.'s study revealed no connection between depression and sleep quality. The current study revealed that patients' sleep quality was not influenced by their diagnosis of schizophrenia. Patients with schizophrenia have fewer sleep issues than those with other mental illnesses, according to Kaufmann et al. In a similar way, Özkan et al.'s study found no association between schizophrenia and sleep quality. Additionally, the results of the binary analysis showed that patients' sleep quality was not influenced by a personality disorder diagnosis (Örsal & Eren, 2019).

The current study explored the relationship between sleep quality and various sociodemographic, age, mental illness types and health conditions, and environmental factors. Across all variables, including gender, marital status, educational level, occupation, type of mental illness, diabetes status, room and lighting conditions while sleeping, and tea consumption, no statistically significant associations were found (all  $P$ -values  $> 0.05$ ). This indicates that poor sleep quality was consistently high among participants regardless of their demographic characteristics, clinical diagnoses, or lifestyle habits. Other studies reported that the PSQI overall mean scores and the patients' socioeconomic status were statistically analysed and the results of the analyses showed that patients who were married, housewives, and residents of the city's centres had higher PSQI general mean scores, and the correlation between them was statistically significant ( $P < 0.05$ ). Subjective sleep quality scores, marital status, education level, disease diagnosis, and career were found to be statistically significantly correlated ( $P < 0.05$ ) with the PSQI subscales and other variables (Ozkan, 2016).

## CHAPTER VI: CONCLUSION

### 6.1 Strength and Limitation

#### 6.1.1 Strength

- The study design perfectly matched to Quantitative Cross-Sectional study design according to the study aim and objective. Quantitative approaches look at how certain conditions (independent variable) affect a desired result (dependent variable) in ways that can be quantified (Wang & Cheng, 2020).
- Got Author's permission for using PSQI scale in this study.
- Student researcher conducted a pilot test. Permission was got from the responsible authority smoothly.
- Participants were informed about the study's aim, objectives, purpose, and confidentiality measures.
- The questionnaire was administered through face-to-face interviews, and participants clearly understood each question.
- A good rapport was successfully established with the participants for the face-to-face interviews.
- Diagnosis of the patients was confirmed by the expert professionals.

#### 6.1.2 Limitations

- According to sample size calculation, the study population was 233 but researcher collected 140 data due to delay permission, time and budget limitation, which could not generalize the results.
- Some participants were reluctant to provide data.
- Some patients were aggressive, so it was not possible to collect data from them.

## 6.2 Practice Implication

Occupational therapists can provide strategies to encourage better sleep quality and educate patients and their carers. From a personal perspective, occupational therapists can teach patients how to be aware of their pain, energy, fatigue, and sleepiness as well as how to manage their time and stress levels (e.g., through time management and cognitive behavioural techniques) (Ponsford et al. 2012). It is feasible to teach someone how to modify their behaviours to increase their sleep (e.g., by creating regular sleep and wake periods, exercising, and adjusting their nutrition) (AOTA 2008). Occupational therapists can also teach patients strategies to manage the consequences of sleep deprivation, such as planning rest intervals, pacing activities, and structuring daily routines in accordance with peak energy levels (Fung, Wiseman-hakes, et al., 2013).

Even while our knowledge of the connection between mental health and sleep disorders has advanced significantly, there are still a number of study gaps that need to be filled. Research employing advanced neuroimaging techniques and longitudinal designs is required to clarify the underlying mechanisms and causal links between mental health and sleep problems (Motivala, 2019). Interdisciplinary cooperation is essential to obtaining a thorough grasp of the mutual relationship between mental health and sleep disorders. To combine information and skills, researchers from disciplines like psychology, psychiatry, neuroscience, sleep medicine, and chronobiology should work together (Grandner et al., 2014). Increasing public knowledge of the connection between sleep and mental health is crucial for early detection, prevention, and treatment. The bidirectional association between mental health and sleep disorders should be emphasised in educational efforts, with a focus on how treating one might improve the other (Thorndike et al., 2011). Healthy sleep practices, stress reduction strategies, and

the significance of getting expert assistance for mental health issues can all be promoted by public health programs (Crawford et al., 2020; Sun lei, 2023).

### **6.3 Conclusion**

Sufficient and adequate sleep is one of the primary need for both physical and mental well-being. Because it is a sign of multiple illnesses, sleep quality is crucial. Emotional, mental, and motivational issues may result from poor sleep quality. In people with mental illnesses, poor sleep quality can result in symptoms like fatigue, difficulty focussing, hallucinations, delusions, and restlessness.

The study aimed to evaluate the overall sleep quality and its associated factors among patients with mental illness using the Pittsburgh Sleep Quality Index (PSQI). The studies found that patients with mental illness have poor sleep quality. The findings indicate that only 5.7% ( $n = 8$ ) of the participants had good sleep quality, whereas an overwhelming majority (94.3%,  $n = 132$ ) were classified as having poor sleep quality. Poor sleep quality was 88.6% higher than good sleep quality. But the findings of the studies did not suggest any significant relation between sleep quality and gender as the chi square test (Exact Sig. = 0.4)  $p > 0.05$  was not statistically significant. This study also provides additional sociodemographic data on patients with mental illness. Based on the findings obtained, poor sleep quality are frequently seen in patients with mental illness.

It is important that services be designed to improve the quality of sleep for patients with mental illness (e.g., collaborating with sleep clinics, keeping updated on patients' quality of sleep outside of hospitals, in facilities like community mental health centres, providing patients with trainings on sleep hygiene, etc.) and that medical staff are well-informed about these concerns and provided with appropriate guidance.

## CHAPTER VII: LIST OF REFERENCE

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## APPENDICES

### Appendix A: Ethical Approval Form

#### Part I: IRB Letter



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

Ref: CRP-BHPI/IRB/07/2025/1114

Date: 21.07.2025

To  
 Meher Nigar Tanzin  
 4<sup>th</sup> Year, B.Sc. in Occupational Therapy  
 Session: 2020-21, Student ID: 122200445  
 BHPI, CRP, Savar, Dhaka-1343, Bangladesh

**Subject:** Approval of the thesis proposal **Sleep Quality and Its Associated Factors among Patients with Mental Illness** by ethics committee.

Dear Meher Nigar Tanzin,  
 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 Nayan Kumer Chanda, Assistant Professor, Department of Occupational Therapy, Bangladesh Health Professions Institute (BHPI), CRP as thesis supervisor. The Following documents have been reviewed and approved:

| SL No. | Name of the Documents                                    |
|--------|----------------------------------------------------------|
| 1      | Research Proposal                                        |
| 2      | Pittsburgh Sleep Quality Index (PSQI) (English & Bangla) |
| 3      | Information sheet & consent form                         |

The purpose of the study is to evaluate the overall sleep quality and its associated factors among patients with mental illness. The study involves use of a Pittsburgh Sleep Quality Index (PSQI) to evaluate the overall sleep quality and its associated factors among patients with mental illness that may take 25 to 30 minutes to fill in the questionnaire and there is no likelihood of any harm to the participants. There is no benefit to the participants. The members of the Ethics committee have approved the study to be conducted in the presented form at the meeting held at 8:30 AM on 17 June, 2025 at BHPI (50<sup>th</sup> IRB Meeting).

The institutional Ethics committee expects to be informed about the progress of the study, any changes occurring in the course of the study, any revision in the protocol and patient information or informed consent and ask to be provided a copy of the final report. This Ethics committee is working accordance to Nuremberg Code 1947, World Medical Association Declaration of Helsinki, 1964 - 2013 and other applicable regulation.

Best regards,

Muhammad Millat Hossain  
 Associate Professor, Project and Course Coordinator, MRS  
 Member Secretary, Institutional Review Board (IRB)  
 BHPI, CRP, Savar, Dhaka-1343, Bangladesh

## Part II: Approval Letter

Date: 24/06/25  
 The Chairman  
 Institutional Review Board (IRB)  
 Bangladesh Health Professions Institute (BHPI)  
 CRP-Savar, Dhaka-1343, Bangladesh

**Subject: Application for review and ethical approval.**

Sir,

With due respect I would like to draw your kind attention 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 Paralysed (CRP), affiliated to Faculty of Medicine, University of Dhaka. I would like to conduct a thesis titled, **"Sleep quality and it's associated factors among patients with mental illness"** with myself, as the principal investigator and Nayan Kumer Chanda, Assistant Professor, Department of Occupational Therapy, Bangladesh Health Professions Institute (BHPI), CRP as my thesis supervisor. The purpose of the study is to evaluate the overall sleep quality and it's associated factors among patients with mental illness.

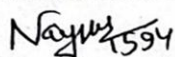
Pittsburgh Sleep Quality Index (PSQI) will be used in the study that will take about 25 to 30 minutes. Other related information will be collected from the Socio-demographic questions. Data collectors will receive informed consents from all participants. Any data collected will be kept confidential.

Therefore, I look forward to having your approval for the thesis proposal and to start data collection. I also assure you that I will maintain all the requirements for study.

Sincerely yours,

  
 Meher Nigar Tanzin  
 4<sup>th</sup> Year, B.Sc. in Occupational Therapy  
 Session: 2020-21, Student ID: **122200445**  
 BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Recommendation from the thesis supervisor/concerned authority:

  
 Nayan Kumer Chanda  
 Assistant Professor, Department of Occupational Therapy  
 Bangladesh Health Professions Institute (BHPI),  
 CRP, Savar, Dhaka-1343

### Part III: Data Collection Permission Letter from Mirpur CRP



বাংলাদেশ হেলথ প্রফেশন ইনস্টিটিউট (বিএইচপিআই)  
**Bangladesh Health Professions Institute (BHPI)**  
 (The Academic Institute of CRP)

CRP, Chapain, Savar, Dhaka-1343 Tel: 02-7745464-5, 7741404, Fax: 02-7745069

Date: 02/08/2025

To  
 The Deputy General Manager,  
 CRP-Mirpur,  
 Plot A/5; Block A, Mirpur 14,  
 Dhaka-1206

**Subject: Regarding permission for data collection for undergraduate research.**

Sir,

With due respect I would like to draw your kind attention that I am a student of 4<sup>th</sup> Year B.Sc. in Occupational Therapy at Bangladesh Health Professions Institute (BHPI) which is an academic institute of Centre for the Rehabilitation of the Paralysed (CRP), affiliated to Faculty of Medicine, University of Dhaka. According to my course curriculum, I have to conduct research, and my research title is **"Sleep Quality and Its Associated Factors among Patients with Mental Illness."** with myself & Nayan Kumer Chanda as my thesis supervisor. The purpose of this study is to evaluate the overall sleep quality and its associated factors among patients with mental illness. In order to fulfill the objectives of this study, I would like to collect data from individuals who are currently receiving services from Mental Health Day Centre of your organization and the data collection period is from 02/08/2025 to 15/09/2025. I assure you that collected information that will be used solely for academic purpose and confidentiality will be maintain in accordance with ethical guideline. Your permission and support would be invaluable in facilitating the successful completion of my research.

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

Sincerely yours,

*Meher*

Meher Nigar Tanzin

4<sup>th</sup> Year, B.Sc. in Occupational Therapy

Session: 2020-21; Student ID: 122200445

BHPI, CRP, Savar, Dhaka-1343, Bangladesh

**Recommendation from the Head of the Department:**

*[Signature]*  
 Prof. Sk. Moniruzzaman

Professor & Head

Department of Occupational Therapy

Bangladesh Health Professions Institute (BHPI)

CRP, Savar, Dhaka-1343

**Attachments:** Copy of IRB Approval Letter.

*Attn: In-Charge of Dept.  
 Please allow the student to  
 collect data from MH-Unit.  
 Mansurul 17-08-25  
 Allowed.  
 Ralash Hussain  
 19/8*

## Part IV: Data Collection Permission Letter from National Institute of Mental Health (NIMH)

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার  
পরিচালক ও অধ্যাপকের কার্যালয়  
জাতীয় মানসিক স্বাস্থ্য ইনস্টিটিউট ও হাসপাতাল  
শের-ই-বাংলা নগর, ঢাকা- ১২০৭

স্মারক নং-এনআইএমএইচ/একাডেমিক/২০২৫/ ২৫৬

তারিখঃ ২৪/৬/২৫

বরাবর

এসকে মনিরুজ্জামান  
অধ্যাপক এন্ড প্রধান  
অকুপেশনাল থেরাপি বিভাগ  
পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্র (সিআরপি)  
চাপাইন, সাভার, ঢাকা।

**বিষয় :** গবেষণা সংক্রান্ত তথ্য (ডাটা) সংগ্রহের অনুমতি প্রদান প্রসঙ্গে।

উপরোক্ত বিষয়ের আলোকে বাংলাদেশ হেলথ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই), ঢাকা এর বিএসসি চতুর্থ বর্ষের শিক্ষার্থী কে জাতীয় মানসিক স্বাস্থ্য ইনস্টিটিউট, শেরে বাংলা নগর, ঢাকায় “Sleep Quality and Its Associated Factors among Patients with Mental Illness.” বিষয়ক গবেষণা সংক্রান্ত থিসিসের তথ্য উপাত্ত (ডাটা) সংগ্রহের জন্য অনুমতি প্রদান করা হলো।

২৪-০৮-২৫  
(অধ্যাপক ডা. মোঃ মাহবুবুর রহমান)  
পরিচালক (ভারপ্রাপ্ত) ও  
অধ্যাপক (চলতি দায়িত্ব), সাইকিয়াট্রি  
জাতীয় মানসিক স্বাস্থ্য ইনস্টিটিউট, ঢাকা।  
তারিখঃ

স্মারক নং-এনআইএমএইচ/একাডেমিক/২০২৫/

অনুলিপি অবগতি ও প্রয়োজনীয় ব্যবস্থা গ্রহণের জন্য প্রেরণ করা হলো :-

- ১। সহযোগী অধ্যাপক, চাইল্ড, এডলোসেন্ট এন্ড ফ্যামিলি সাইকিয়াট্রি বিভাগ, এনআইএমএইচ, ঢাকা।।
- ২। সহযোগী অধ্যাপক, জেরিয়াট্রিক এন্ড অর্গানিক সাইকিয়াট্রি, এনআইএমএইচ, ঢাকা।
- ৩। ড. মোঃ জহির উদ্দিন, সহকারী অধ্যাপক, ক্লিনিক্যাল সাইকোলজি, এনআইএমএইচ, ঢাকা।
- ৪। মোঃ জামাল হোসেন, সাইকিয়াট্রিক সোসাল ওয়ার্কার, এনআইএমএইচ, ঢাকা।
- ৫। রেসিডেন্ট সাইকিয়াট্রিস্ট, এনআইএমএইচ, ঢাকা।
- ৬। প্রশাসনিক কর্মকর্তা, এনআইএমএইচ, ঢাকা।
- ৭। পরিচালক মহোদয়ের ব্যক্তিগত সহকারী, জাতীয় মানসিক স্বাস্থ্য ইনস্টিটিউট, ঢাকা।
- ৮। সহকারী লাইব্রেরিয়ান, এনআইএমএইচ, ঢাকা।
- ৯। অফিস কপি।

২৫  
(অধ্যাপক ডা. মোঃ মাহবুবুর রহমান)  
পরিচালক (ভারপ্রাপ্ত) ও  
অধ্যাপক (চলতি দায়িত্ব), সাইকিয়াট্রি  
জাতীয় মানসিক স্বাস্থ্য ইনস্টিটিউট, ঢাকা

**Part V: Data Collection Permission Letter from CRP - Rabia Noor Mental Health Day Centre**



**বাংলাদেশ হেলথ প্রফেশন ইনস্টিটিউট (বিএইচপিআই)**  
**Bangladesh Health Professions Institute (BHPI)**

*(The Academic Institute of CRP)*

CRP, Chapain, Savar, Dhaka-1343 Tel: 02-7745464-5, 7741404, Fax: 02-7745069

Date: 02/08/2025

To  
 The Project Manager,  
 Meaningful Social Access for Persons with Mental Health Needs  
 CRP, Chapain, Savar, Dhaka-1343

**Subject: Regarding permission for data collection for undergraduate research.**

Sir,

With due respect I would like to draw your kind attention that I am a student of 4<sup>th</sup> Year B.Sc. in Occupational Therapy at Bangladesh Health Professions Institute (BHPI) which is an academic institute of Centre for the Rehabilitation of the Paralysed (CRP), affiliated to Faculty of Medicine, University of Dhaka. According to my course curriculum, I have to conduct research, and my research title is "Sleep Quality and Its Associated Factors among Patients with Mental Illness." with myself & Nayan Kumer Chanda as my thesis supervisor. The purpose of this study is to evaluate the overall sleep quality and its associated factors among patients with mental illness. In order to fulfill the objectives of this study, I would like to collect data from individuals who are currently receiving services from Rabia Noor Mental Health Day Centre and the data collection period is from 02/08/2025 to 15/09/2025. I assure you that collected information that will be used solely for academic purpose and confidentiality will be maintain in accordance with ethical guideline. Your permission and support would be invaluable in facilitating the successful completion of my research.

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

Sincerely yours,

*Meher*

Meher Nigar Tanzin  
 4<sup>th</sup> Year, B.Sc. in Occupational Therapy  
 Session: 2020-21; Student ID: 122200445  
 BHPI, CRP, Savar, Dhaka-1343, Bangladesh

*Permission is granted for data collection from CRP-Rabia Noor Mental Health Day Centre and strongly advised to maintain ethical standards and confidentiality in accordance with the code of ethics related to the psychosocial field*

**Recommendation from the Head of the Department:**

*[Signature]*

Prof. Sk. Moniruzzaman  
 Professor & Head

Department of Occupational Therapy  
 Bangladesh Health Professions Institute (BHPI)  
 CRP, Savar, Dhaka-1343

**Attachments: Copy of IRB Approval Letter.**

*[Signature]*  
 09.08.25

**Md. Rebiul Hasan**  
 Project Manager  
 Mental Health Project-CRP

## Part VI: Data Collection Permission Letter from Therapist point and Shanirvhar Special School



### বাংলাদেশ হেলথ প্রফেশন ইনস্টিটিউট (বিএইচপিআই) Bangladesh Health Professions Institute (BHPI)

(The Academic Institute of CRP)

CRP, Chapain, Savar, Dhaka-1343 Tel: 02-7745464-5, 7741404, Fax: 02-7745069

Date: 19/08/2025

To  
The Chairperson,  
Therapist point and Shanirvor Special School for Autism and Neurodevelopmental Disorder.  
Dogormora, CRP Road, Savar, Dhaka-1343

**Subject: Regarding permission for data collection for undergraduate research.**

Dear Sir/Madam,

With due respect I would like to draw your kind attention that I am a student of 4<sup>th</sup> Year B.Sc. in Occupational Therapy at Bangladesh Health Professions Institute (BHPI) which is an academic institute of Centre for the Rehabilitation of the Paralysed (CRP), affiliated to Faculty of Medicine, University of Dhaka. According to my course curriculum, I have to conduct research, and my research title is "Sleep Quality and Its Associated Factors among Patients with Mental Illness." with myself & Nayan Kumer Chanda as my thesis supervisor. The purpose of this study is to evaluate the overall sleep quality and its associated factors among patients with mental illness. In order to fulfill the objectives of this study, I would like to collect data from who are currently receiving services from your organization and the data collection period is from 02/08/2025 to 15/09/2025. I assure you that collected information that will be used solely for academic purpose and confidentiality will be maintain in accordance with ethical guideline. Your permission and support would be invaluable in facilitating the successful completion of my research.

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

Sincerely yours,

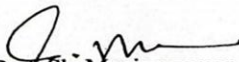
Meher

Meher Nigar Tanzin  
4<sup>th</sup> Year, B.Sc. in Occupational Therapy  
Session: 2020-21; Student ID: 122200445  
BHPI, CRP, Savar, Dhaka-1343, Bangladesh



Permission  
Granted  
Nayan  
19/08/25

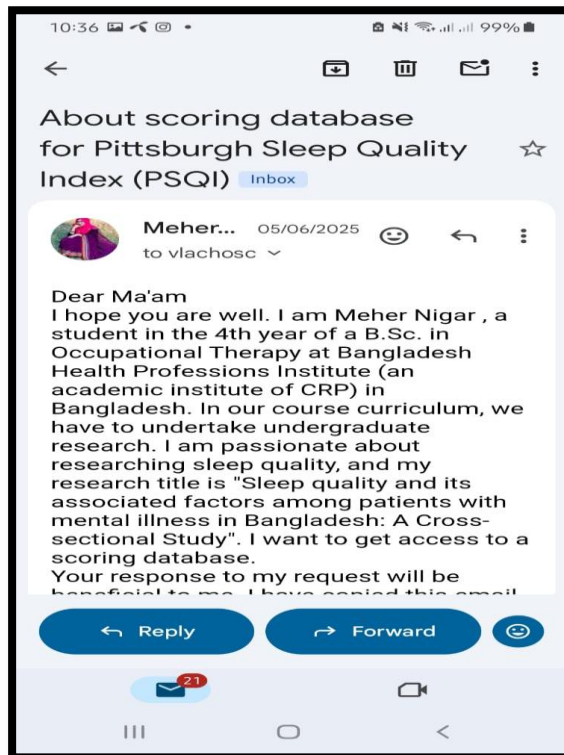
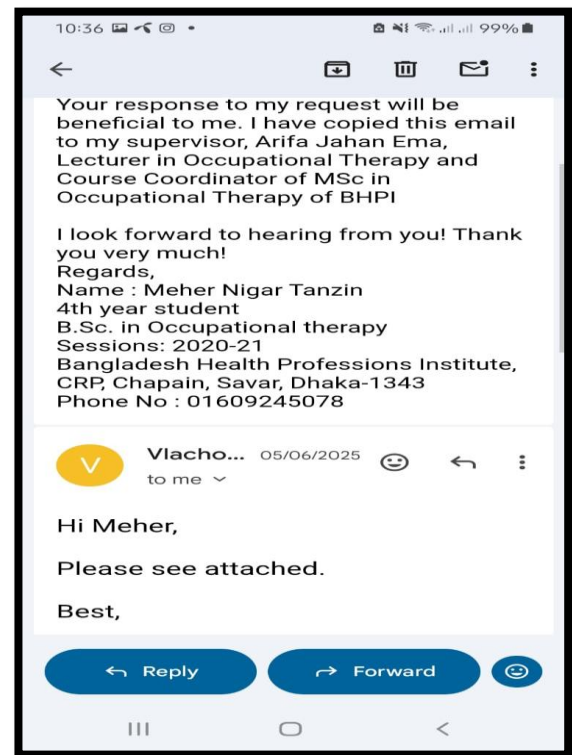
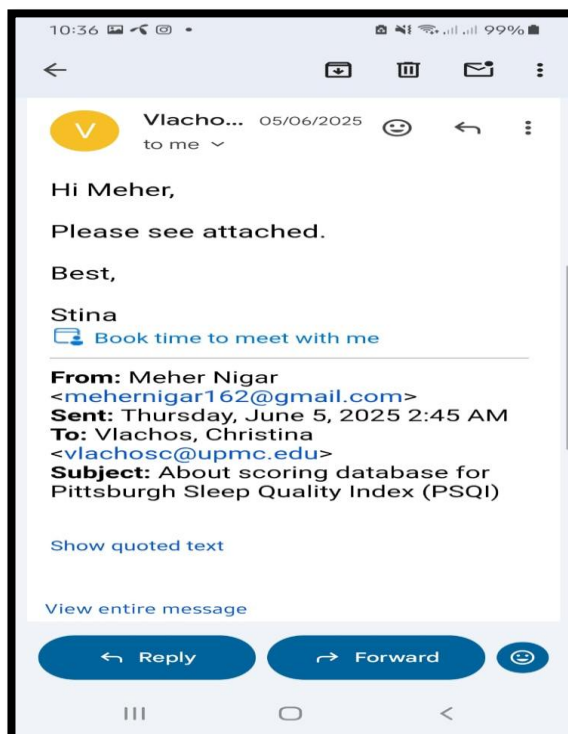
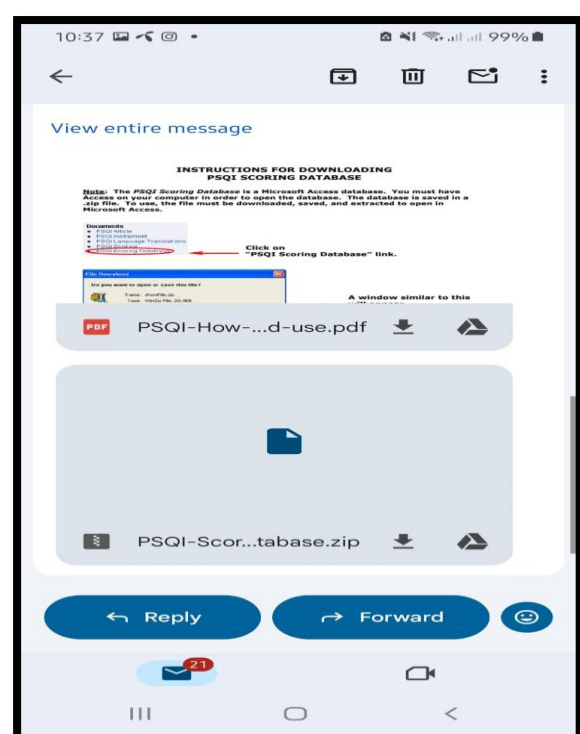
**Recommendation from the Head of the Department:**

  
Prof. Sk. Moniruzzaman  
Professor & Head  
Department of Occupational Therapy  
Bangladesh Health Professions Institute (BHPI)  
CRP, Savar, Dhaka-1343

Md. Nayem Nizam Majumder  
B.Sc OT (CRP, DU), MDS (JU-Incourse)  
Senior Occupational Therapist & M.D  
Therapist Point & Shanirvor Special School

**Attachments:** Copy of IRB Approval Letter.

## Part VII: Permission from Author of PSQI scale



## Appendix B: Information Sheet and Consent Form [English Version]



### BANGLADESH HEALTH PROFESSIONS INSTITUTE (BHPI)

Department of Occupational Therapy

CRP-Chapain, Savar, Dhaka-1343, Tel : 02-7745464-5, 7741404, Fax : 02-7745069

Code no.: .....

### Research information

**Research title :** Sleep Quality and Its Associated Factors among Patients with Mental Illness.

**Researcher :**

**Meher Nigar Tanzin,**

4th Year, B.Sc. in Occupational Therapy, Session: 2020- 2021,

Bangladesh Health Profession Institute (BHPI), Savar, Dhaka -1343

**Supervisor:**

**Nayan Kumer Chanda**

Assistant Professor

Department of Occupational Therapy

Bangladesh Health Professions Institute (BHPI), CRP ,Savar, Dhaka -1343

**Research place :** Bangladesh Health Profession Institute.

## **Part I: Information Sheet Introduction**

### **Introduction :**

I am Meher Nigar Tanzin, 4<sup>th</sup> year, B.Sc. in Occupational Therapy student at Bangladesh Health Professions Institute (BHPI), session 2020-2021, have to conduct a thesis as a part of this Bachelor course, under thesis supervisor Nayan Kumer Chanda, Assistant Professor, Department of Occupational Therapy. You are going to have details information about the study purpose, data collection process, and ethical issues. Before you decide, you can talk to anyone you feel comfortable with about the research. If this consent form contains some words that you do not understand, please ask me to stop. I will take the time to explain.

### **What is the purpose of this research?**

Sleep Quality and Its Associated Factors among Patients with Mental Illness, aims to assess the prevalence of sleep disturbances and identify factors influencing sleep quality among individuals with mental illness. By identifying the specific factors that contribute to poor sleep, this study will guide the development of targeted interventions to improve sleep quality, ultimately enhancing the overall well-being of these individuals. This study is particularly relevant to the field of occupational therapy, as improving sleep quality is an important component of promoting engagement in meaningful activities and daily routines.

### **What does the research involve?**

Participants will complete a structured questionnaire, including the Pittsburgh Sleep Quality Index (PSQI) to assess sleep patterns, along with questions on demographics, psychiatric diagnosis, medication use, and lifestyle habits. Statistical analysis will be conducted to identify correlations and factors associated with poor sleep quality. Data collection will be anonymous and confidential.

**Why were you chosen for this research?**

You have been selected for this study because you have first hand experience that can provides valuable insights into the impact of sleep disturbances on mental health.

**Source of funding**

The research has been carried out on a self-funded basis.

**Consenting to participate in the project and withdrawing from the research**

The research requires your approval through a consent form, which you must sign and submit during the interview. Your participation is voluntary and there is no obligation to grant consent. If you withdraw before the data analysis phase, there will be no negative consequences. Your decision to refrain from answering specific questions will also have no adverse effects. Your comfort and autonomy are our top priorities throughout the process.

**Possible benefits and risks to participants**

Participation in this research may not yield direct benefits, but the information gathered will enhance sleep quality among patients with mental illness. The research is designed with low risk, but potential psychological discomfort may occur due to sharing experiences. If it arises during the interview, the student researcher will minimize it in the following way:

- You will be given a reminder that the participation is voluntary, you can withdraw from it anytime you want.
- The researcher will offer break during interview if the discomforts impact the interview. Additionally, the researcher will discuss about re-scheduling the interview if you prefer to continue later.

**Confidentiality**

The study will maintain confidentiality of all participant details, with their name not disclosed in any published documentation. A unique code will be used for de-identification after interviews, ensuring anonymous data analysis. The original interview transcripts, featuring the participant's name, will only be accessible to the researchers, ensuring high privacy and security.

**Storage of data**

The data collected will be stored in a password-protected computer and cloud system, accessible only to the researchers, and physical copies will be kept in locked filing cabinets at the Centre for the Rehabilitation of the Paralysed (CRP) for strict confidentiality.

**Results**

This research will combine interviews and data from interviews to create a comprehensive descriptive report. Highlights may be published in scholarly journals or conference proceedings. For a concise summary, contact project investigators using provided contact details. The study's outcomes may also be featured in conference proceedings.

**Complaints**

If you have any concerns or complaints about the research's conduct, you are welcome to contact the supervisor.

**Nayan Kumer Chanda**

Assistant Professor

Department of Occupational Therapy

Bangladesh Health Professions Institute (BHPI), CRP ,Savar, Dhaka -1343

Call: +8801735296444

Email : [nayanchanda2020@gmail.com](mailto:nayanchanda2020@gmail.com)

Thank you,

**Meher Nigar Tanzin**

4th Year, B.Sc. in Occupational Therapy, Session: 2020- 2021,

Bangladesh Health Profession Institute (BHPI), Savar, Dhaka -1343

## Part II: Consent Form

This research is a part of Occupational Therapy course and the name of this researcher is Meher Nigar Tanzin. She is a student of BHPI in Occupational Therapy in 4th year. The study is entitled as Sleep Quality and Its Associated Factors among Patients with Mental Illness.

In this study I'm agree to participate and participating voluntarily. The purpose and nature of the study has been explained to me clearly. I will not be bound to answer to anybody and I understand that I can withdraw from the study without repercussions at any time whether before it starts or while I am participating. I understand that it will have no influence on my present or future status as a patient in this clinic. I will receive the same care as any other patient seen in this institution. There will be no penalty or loss of benefits to which I am otherwise entitled. I also understand that all the information collected from interview used in the study would be kept safe and confidentiality. Only researcher will be eligible to assess in the information for her publication. I give permission for my interview with the researcher and I agree to quotation/publication of extracts from my interview. My name and address will not publish anywhere in this study. I can consult with researcher and research supervisor about the research process and I am willing to participate in the study with consent.

|                           |       |
|---------------------------|-------|
| Participant's Signature : | Date: |
| Researcher's Signature :  | Date: |

**Part III: Withdraw Form (Applicable only for voluntary withdrawers)**

**Research title :** Sleep Quality and Its Associated Factors among Patients with Mental Illness.

Researcher's Name: Meher Nigar Tanzin, 4th Year, B.Sc. in Occupational Therapy.

I, .....(Participant's Name) wish to withdraw from participating myself as a participant in this study.

Reason                                      for                                      withdrawing                                      :

.....  
.....

|                               |       |
|-------------------------------|-------|
| Name of the participant :     | Date: |
| Signature of the researcher : | Date: |

## Appendix B: Information Sheet and Consent Form [Bengali Version]



### বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই) অকুপেশনাল থেরাপি বিভাগ

সিআরপি-চাপাইন, সাভার, ঢাকা-১৩৪৩, টেলি: ০২-৭৭৪৫৪৬৪-৫, ৭৭৪১৪০৪, ফ্যাক্স: ০২-৭৭৪৫০৬৯

কোড নম্বর: .....

**গবেষনার বিষয়:** মানসিকভাবে অসুস্থ রোগীদের মধ্যে ঘুমের গুণমান ও এর সাথে সম্পর্কিত কারণসমূহ

**গবেষক:**

মেহের নিগার তানজিন,

বি.এস.সি. ইন অকুপেশনাল থেরাপি (৪র্থ বর্ষ), সেশন: ২০২০-২০২১ ইং,

বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই), সিআরপি, সাভার, ঢাকা-১৩৪৩

**তত্ত্বাবধায়ক:**

নয়ন কুমার চন্দ

সহকারী অধ্যাপক

অকুপেশনাল থেরাপি বিভাগ

বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই),

সিআরপি, সাভার, ঢাকা-১৩৪৩

**গবেষনার স্থান:** বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই)

## Part I: Information Sheet Introduction

### ভূমিকা:

আমি মেহের নিগার তানজিন, ঢাকা বিশ্ববিদ্যালয়ের চিকিৎসা অনুষদের অধীন বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট বি.এস.সি.ইন. অকুপেশনাল থেরাপি বিভাগের ৪র্থ বর্ষের ছাত্রী হিসেবে স্নাতক শিক্ষাবর্ষক্রম (২০২০-২০২১) সেশনে অধ্যয়নরত আছি। বিইচপিআই থেকে অকুপেশনাল থেরাপি বি.এস.সি. শিক্ষা কার্যক্রম সম্পন্ন করার জন্য একটি গবেষণা প্রকল্প পরিচালনা করা বাধ্যতামূলক। এই গবেষণা প্রকল্পটি অকুপেশনাল থেরাপি বিভাগের সহকারী অধ্যাপক নয়ন কুমার চন্দ এর সহত্বাবধানে সম্পন্ন করা হবে। এই অংশগ্রহনকারী তথ্য ও পত্রের মাধ্যমে গবেষণার প্রকল্পটির উদ্দেশ্য, উপাত্ত সংগ্রহের প্রণালি ও গবেষণাটির সাথে সংশ্লিষ্ট বিষয় কিভাবে রক্ষিত হবে তা বিস্তারিতভাবে আপনাকে উপস্থাপন করা হবে। যদি আপনি গবেষণায় অংশগ্রহণ করতে ইচ্ছুক থাকেন, সেক্ষেত্রে এই গবেষণার সম্পৃক্ত বিষয় সম্পর্কে স্পষ্ট ধারণা থাকলে সিদ্ধান্ত গ্রহণ সহজতর হবে। অবশ্য এখন আপনার অংশগ্রহন আমাদের নিশ্চিত করতে হবে না। যেকোন সিদ্ধান্ত গ্রহণের পূর্বে, যদি চান, আপনার আত্মীয়-স্বজন, বন্ধু অথবা আস্থাভাজন যেকারো সঙ্গে এই ব্যাপারে আলোচনা করতে পারেন। অপরপক্ষে, অংশগ্রহনকারী তথ্যপত্রটি পড়ে যদি কোন বিষয়বস্তুর বুঝতে সমস্যা হয় অথবা যদি কোন কিছু সম্পর্কে আরো বেশি জানার প্রয়োজন হয়, তবে নির্দিধায় প্রশ্ন করতে পারেন।

**গবেষণার শিরোনাম :** মানসিকভাবে অসুস্থ রোগীদের মধ্যে ঘুমের গুণমান ও এর সাথে সম্পর্কিত কারণসমূহ।

### গবেষণার উদ্দেশ্য :

এই গবেষণার শিরোনাম "মানসিক অসুস্থতা থাকা রোগীদের মধ্যে ঘুমের গুণমান ও সংশ্লিষ্ট

কারণসমূহ"। এর উদ্দেশ্য হলো মানসিক অসুস্থতা থাকা ব্যক্তিদের মধ্যে ঘুমের সমস্যা কতটা আছে তা জানা এবং কী কী কারণ ঘুমের গুণমানকে প্রভাবিত করে তা খুঁজে বের করা। ঘুমের গুণমান ভালো হলে মানুষের সার্বিক মানসিক ও দৈনন্দিন জীবনের কার্যক্রম ভালো হয়। এই বিষয়টি কর্মসূচিভিত্তিক থেরাপি (Occupational Therapy) ক্ষেত্রেও অনেক গুরুত্বপূর্ণ।

### **গবেষণায় কী করতে হবে?**

আপনাকে একটি প্রশ্নপত্র পূরণ করতে বলা হবে, যেখানে থাকবে ঘুমের মান যাচাই করার জন্য

“Pittsburgh Sleep Quality Index (PSQI)” নামের একটি স্কেল। এছাড়া আপনার বয়স, পেশা, মানসিক রোগের ধরন, ওষুধ ব্যবহার এবং দৈনন্দিন অভ্যাস সম্পর্কেও কিছু প্রশ্ন থাকবে। সব তথ্য গোপন রাখা হবে এবং আপনার নাম কোথাও প্রকাশ করা হবে না।

### **আপনাকে কেন এই গবেষণায় অন্তর্ভুক্ত করা হয়েছে?**

কারণ আপনি নিজে এই অভিজ্ঞতার ভেতর দিয়ে গেছেন, তাই আপনার মতামত আমাদের জন্য খুবই গুরুত্বপূর্ণ।

### **অর্থায়ন (Funding) :**

এই গবেষণাটি গবেষক নিজে অর্থায়ন করছেন। কোনো বাহ্যিক সাহায্য নেই।

### **অনুমতি এবং গবেষণা থেকে সরে আসা :**

গবেষণায় অংশগ্রহণের জন্য আপনাকে একটি সম্মতি ফর্মে স্বাক্ষর করতে হবে। আপনি ইচ্ছা করলে যেকোনো সময় গবেষণা থেকে সরে আসতে পারেন, এতে কোনো সমস্যা হবে না। আপনি যদি কোনো প্রশ্নের উত্তর না দিতে চান, তাহলেও কোনো সমস্যা নেই। আপনার ইচ্ছা এবং স্বাচ্ছন্দ্য আমাদের কাছে সবচেয়ে গুরুত্বপূর্ণ।

### অংশগ্রহণে সুবিধা ও সম্ভাব্য ঝুঁকি :

এই গবেষণায় অংশগ্রহণ করলে সরাসরি কোনো উপকার নাও পেতে পারেন, তবে আপনার দেওয়া

তথ্য মানসিক রোগীদের ঘুম উন্নত করার জন্য ভবিষ্যতে উপকারে আসবে। যদিও গবেষণাটি কম

ঝুঁকিপূর্ণ, তবুও আপনার ব্যক্তিগত অভিজ্ঞতা শেয়ার করার সময় কিছুটা অস্বস্তি হতে পারে। এ অবস্থায়

:

- আপনাকে মনে করিয়ে দেওয়া হবে যে আপনি যেকোনো সময় থেমে যেতে পারেন।
- যদি আপনি অস্বস্তি অনুভব করেন, তবে বিরতি দেওয়া হবে।
- চাইলে সাক্ষাৎকার পরে আবার নেওয়া হবে।

### গোপনীয়তা :

আপনার সব তথ্য গোপন রাখা হবে। আপনার নাম কোথাও ব্যবহৃত হবে না। একটি কোড দিয়ে তথ্য

সংরক্ষণ করা হবে, যাতে কেউ চিনতে না পারে। শুধু গবেষকরা মূল তথ্য দেখতে পারবেন।

### তথ্য সংরক্ষণ :

আপনার দেওয়া তথ্য পাসওয়ার্ড-দেওয়া কম্পিউটার এবং ক্লাউডে সংরক্ষিত থাকবে। কাগজে থাকা

কোনো তথ্য সুরক্ষিত কেবিনেটে রাখা হবে (CRP-তে), যাতে কোনো গোপনীয়তা লঙ্ঘিত না হয়।

### গবেষণার ফলাফল :

গবেষণার তথ্য বিশ্লেষণ করে একটি প্রতিবেদন তৈরি করা হবে। এই গবেষণার গুরুত্বপূর্ণ অংশ কোনো

জার্নাল বা সম্মেলনে প্রকাশ হতে পারে। আপনি চাইলে গবেষণার সংক্ষিপ্ত ফলাফল পেতে পারেন—

তখন গবেষকের সাথে যোগাযোগ করতে হবে।

### অভিযোগ করার নিয়ম :

যদি গবেষণা নিয়ে কোনো অভিযোগ বা প্রশ্ন থাকে, আপনি গবেষণার তত্ত্বাবধায়ক (supervisor) এর

সঙ্গে যোগাযোগ করতে পারে ।

### নয়ন কুমার চন্দ

সহকারী অধ্যাপক

অকুপেশনাল থেরাপি বিভাগ

বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই),

সিআরপি, সাভার, ঢাকা-১৩৪৩

**ফোন:** +৮৮০ ১৭৩৫ ২৯৬ ৪৪৪

**ইমেইল :** [nayanchanda2020@gmail.com](mailto:nayanchanda2020@gmail.com)

ধন্যবাদান্তে,

**মেহের নিগার তানজিন,**

বি.এস.সি. ইন অকুপেশনাল থেরাপি (৪র্থ বর্ষ), সেশন: ২০২০-২০২১ ইং,

বাংলাদেশ হেলথ প্রফেশনস ইনস্টিটিউট (বিএইচপিআই), সিআরপি, সাভার, ঢাকা-১৩৪৩

## Part II: Consent Form

এই গবেষণা অকুপেশনাল থেরাপি বিভাগের অধ্যয়নের একটি অংশ এবং গবেষকের নাম মেহের নিগার তানজিন । তিনি বাংলাদেশ হেলথ প্রফেশন্স ইনস্টিটিউট এর বি.এস.সি ইন অকুপেশনাল থেরাপি বিভাগের ৪র্থ বর্ষে অধ্যয়নরত একজন ছাত্রী এবং তার গবেষণার বিষয় মানসিকভাবে অসুস্থ রোগীদের মধ্যে ঘুমের গুণমান ও এর সাথে সম্পর্কিত কারণসমূহ।

এই গবেষণায় একজন অংশগ্রহণকারী এবং আমি এই গবেষণার উদ্দেশ্য পরিষ্কারভাবে বুঝতে পেরেছি। আমি এই গবেষণায় অংশ গ্রহণের জন্য সম্মত আছি এবং যে কোন সময় আমার অংশগ্রহণ প্রত্যাহার করতে পার। এই জন্য আমি কারো কাছে জবাব দিতে বাধ্য থাকব না। আমি বুঝতে পেরেছি যে, এই গবেষণায় অংশগ্রহণ করার ফলে আমি কোন ধরনের ক্ষতির সম্মুখীন হবো না। এই গবেষণার সাক্ষাৎকারের সকল তথ্যগুলো গবেষণার কাজে ব্যবহার করা হবে, সেগুলো সম্পূর্ণ ভাবে গোপনীয় থাকবে এবং আমার নাম ও পরিচয় প্রকাশ হবে না।

আমি গবেষণার পদ্ধতি, জটিলতা অথবা সুফলের ব্যাপারে যে কোন প্রশ্নের উত্তর দেওয়ার জন্য এই গবেষণার তত্ত্বাবধায়ক ও সহতত্ত্বাবধায়ক এর সাথে আলোচনা করতে পারব।

আমি উপরের সকল তথ্য সম্পর্কে জানি এবং এই গবেষণায় অংশগ্রহণে সম্মতি জানাচ্ছি।

|                                 |         |
|---------------------------------|---------|
| অংশগ্রহণকারীর স্বাক্ষর/ টিপসই : | তারিখ : |
| গবেষকের স্বাক্ষর :              | তারিখ : |

### Part III: Withdraw Form

**গবেষণার শিরোনাম :** মানসিকভাবে অসুস্থ রোগীদের মধ্যে ঘুমের গুণমান ও এর সাথে সম্পর্কিত কারণসমূহ ।

**গবেষক :** মেহের নিগার তানজিন, চতুর্থ বর্ষ অকুপেশনাল থেরাপি বিভাগ ।

আমি, .....( অংশগ্রহণকারীর নাম ) এই গবেষণায় একজন

অংশগ্রহণকারী হিসেবে নিজেকে অংশগ্রহণ করা থেকে প্রত্যাহার করতে চাই ।

প্রত্যাহারের কারণ:

.....

|                     |         |
|---------------------|---------|
| অংশগ্রহণকারীর নাম : | তারিখ : |
| গবেষকের স্বাক্ষর :  | তারিখ : |

## Appendix C: Questionnaire

### Part I (English Version)

#### Socio-demographic Questionnaire :

1. Participant's Name: \_\_\_\_\_ Date: \_\_\_\_\_
2. Address: \_\_\_\_\_
3. How old are you? Answer: \_\_\_\_\_ years
4. Gender:      a. Male      b. Female      c. Other: \_\_\_\_\_
5. What is your marital status?
  - a. Unmarried      b. Married      c. Divorced      d. Widowed
6. Your phone number: \_\_\_\_\_
7. What is your highest level of education?
  - a. Illiterate      b. Primary      c. Secondary / Dakhil      d. Higher Secondary / Alim
  - e. Bachelor's / Fazil      f. Master's or above / Kamil
8. What is your occupation?
  - a. Unemployed      b. Student (Male)      c. Student (Female)      d. Housewife
  - e. Service holder      f. Business      g. Other: \_\_\_\_\_
9. What is your monthly family income (in Taka)? Answer: \_\_\_\_\_ Taka
10. What type of mental illness do you have (if diagnosed)?
  - a. Depression      b. Bipolar Disorder      c. Schizophrenia      d. Anxiety Disorder
  - e. Personality Disorder      f. Major Depressive Disorder      g. Other: \_\_\_\_\_

11. Duration of your mental illness:      Answer: \_\_\_\_\_

12. Are you currently taking medication for mental health?

a. No                      b. Yes (If yes, please specify): \_\_\_\_\_

13. Do you have any physical illness (e.g., diabetes, hypertension, renal disease, etc.)?

a. No                      b. Yes (If yes, please specify): \_\_\_\_\_

14. How many times a day do you drink tea/coffee?

a. Answer: \_\_\_\_\_ times                      b. Not at all

15. Do you use TV / computer / phone before sleeping?

a. No                      b. Yes (If yes, how long?):                      Answer: \_\_\_\_\_

16. Which of the following personal habits do you have?

a. Smoking      b. Alcohol consumption      c. Tobacco use      d. Other: \_\_\_\_\_

e. None of these

17. What is the condition of your room while sleeping?

a. Quiet                      b. Noisy                      c. Sometimes noisy

18. What is the lighting condition in your room while sleeping?

a. Dark                      b. Dim light                      c. Bright light

### Pittsburgh Sleep Quality Index (PSQI)

**Instructions :** The following questions relate to your usual sleep habits during the **past month only**. Your answers should indicate the most accurate reply for the majority of days and nights in the past month. **Please answer all questions.**

1. During the past month, what time have you usually gone to bed at night?

---

2. During the past month, how long (in minutes) has it usually taken you to fall asleep each night?

---

3. During the past month, what time have you usually gotten up in the morning?

---

4. During the past month, how many hours of actual sleep did you get at night? (This may be different than the number of hours you spent in bed.) \_\_\_\_\_

| 5. During the past month, how often have you had trouble sleeping because you... | Not during the past month | Less than once a week | Once or twice a week | Three or more times a week |
|----------------------------------------------------------------------------------|---------------------------|-----------------------|----------------------|----------------------------|
| a. Cannot get to sleep within 30 minutes                                         |                           |                       |                      |                            |
| b. Wake up in the middle of the night or early morning                           |                           |                       |                      |                            |
| c. Have to get up to use the bathroom                                            |                           |                       |                      |                            |
| d. Cannot breathe comfortably                                                    |                           |                       |                      |                            |
| e. Cough or snore loudly                                                         |                           |                       |                      |                            |

|                                                                                                                                                    |                         |                                  |                             |                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------|-----------------------------|-----------------------|
| f. Feel too cold                                                                                                                                   |                         |                                  |                             |                       |
| g. Feel too hot                                                                                                                                    |                         |                                  |                             |                       |
| h. Have bad dreams                                                                                                                                 |                         |                                  |                             |                       |
| h. Have bad dreams                                                                                                                                 |                         |                                  |                             |                       |
| i. Have pain                                                                                                                                       |                         |                                  |                             |                       |
| j. Other reason(s),<br>please describe:                                                                                                            |                         |                                  |                             |                       |
| 6. During the past month,<br>how often have you<br>taken medicine to help<br>you sleep (prescribed or<br>“over the counter”)?                      |                         |                                  |                             |                       |
| 7. During the past month,<br>how often have you had<br>trouble staying awake<br>while driving, eating<br>meals, or engaging in<br>social activity? |                         |                                  |                             |                       |
|                                                                                                                                                    | No<br>problem at<br>all | Only a very<br>slight<br>problem | Somewhat<br>of a<br>problem | A very big<br>problem |
| 8. During the past month,<br>how much of a problem<br>has it been for you to<br>keep up enough<br>enthusiasm to get things<br>done?                |                         |                                  |                             |                       |
|                                                                                                                                                    | Very good               | Fairly good                      | Fairly bad                  | Very bad              |
| 9. During the past<br>month, how would you<br>rate your sleep quality<br>overall?                                                                  |                         |                                  |                             |                       |

|                                                                                               | No bed partner or room mate | Partner/room mate in other room | Partner in same room but not same bed | Partner in same bed        |
|-----------------------------------------------------------------------------------------------|-----------------------------|---------------------------------|---------------------------------------|----------------------------|
| 10. Do you have a bed partner or room mate?                                                   |                             |                                 |                                       |                            |
|                                                                                               | Not during the past month   | Less than once a week           | Once or twice a week                  | Three or more times a week |
| If you have a room mate or bed partner, ask him/her how often in the past month you have had: |                             |                                 |                                       |                            |
| a. Loud snoring                                                                               |                             |                                 |                                       |                            |
| b. Long pauses between breaths while asleep                                                   |                             |                                 |                                       |                            |
| c. Legs twitching or jerking while you sleep                                                  |                             |                                 |                                       |                            |
| d. Episodes of disorientation or confusion during sleep                                       |                             |                                 |                                       |                            |
| e. Other restlessness while you sleep, please describe:                                       |                             |                                 |                                       |                            |

## Part II Bengali Version

### সামাজিক ও ব্যক্তিগত তথ্য সংক্রান্ত প্রশ্নাবলী

১. অংশগ্রহণকারীর নাম : \_\_\_\_\_ তারিখ : \_\_\_\_\_

২. ঠিকানা :

৩. আপনার বয়স কত ? উত্তর : \_\_\_\_\_ বছর

৪. লিঙ্গ : ক. পুরুষ খ. নারী গ. অন্যান্য \_\_\_\_\_

৫. আপনার বৈবাহিক অবস্থা কী ?

ক. অবিবাহিত খ. বিবাহিত গ. তালাকপ্রাপ্ত ঘ. বিধবা

৬. আপনার ফোন নম্বর : \_\_\_\_\_

৭. আপনার শিক্ষাগত যোগ্যতা কী ?

ক. নিরক্ষর খ. প্রাথমিক গ. মাধ্যমিক শিক্ষা / দাখিল ঘ. উচ্চমাধ্যমিক শিক্ষা/ আলিম ও.

স্নাতক / ফাজিল চ. স্নাতকোত্তর বা তার বেশি / কামিল

৮. আপনার পেশা কী?

ক. বেকার খ. ছাত্র গ. ছাত্রী ঘ. গৃহিণী ঙ. চাকরিজীবী

চ. ব্যবসা ছ. অন্যান্য: \_\_\_\_\_

৯. আপনার মাসিক পারিবারিক আয় কত (টাকায়) ? উত্তর : \_\_\_\_\_ টাকা

১০. আপনার মানসিক রোগের ধরন কী (যদি নির্ণয় করা হয়ে থাকে) ?

ক. বিষণ্ণতা (ডিপ্রেশন) খ. বাইপোলার ডিজঅর্ডার গ. স্কিজোফ্রেনিয়া ঘ. উদ্বেগজনিত সমস্যা

(অ্যাংজাইটি) ঙ. পার্সোনালিটি ডিজঅর্ডার চ. মেজর ডিপ্রেশিভ ডিজঅর্ডার

ছ. অন্যান্য: \_\_\_\_\_

১১. আপনার মানসিক রোগের সময়কাল কতদিন ? উত্তর : \_\_\_\_\_

১২. বর্তমানে মানসিক স্বাস্থ্যের জন্য কি আপনি ওষুধ খাচ্ছেন ?

ক. না খ. হ্যাঁ (যদি হ্যাঁ হয়), লিখুন : \_\_\_\_\_

১৩. আপনার কি কোনো শারীরিক অসুস্থতা আছে (যেমন : ডায়াবেটিস, উচ্চ রক্তচাপ, রেনাল রোগ ইত্যাদি) ?

ক. না খ. হ্যাঁ (যদি হ্যাঁ হয়), লিখুন : \_\_\_\_\_

১৪. আপনি প্রতিদিন কতবার চা/কফি পান করেন ? ক. উত্তর : \_\_\_\_\_ বার খ. একবারও না

১৫. আপনি কি ঘুমানোর আগে টিভি / কম্পিউটার / ফোন ব্যবহার করেন ?

ক. না খ. হ্যাঁ (যদি হ্যাঁ হয়, তবে কতক্ষণ ব্যবহার করেন লিখুন) উত্তর : \_\_\_\_\_

১৬. নিম্নলিখিত ব্যক্তিগত অভ্যাসগুলির মধ্যে কোনটি আপনার আছে?

ক. ধূমপান খ. অ্যালকোহল গ্রহণ গ. তামাক ব্যবহার ঘ. অন্যান্য \_\_\_\_\_

ঙ. কোনটিই নয়

১৭. ঘুমানোর সময় আপনার রুমের অবস্থা কেমন থাকে ?

ক. শান্ত খ. শব্দপূর্ণ গ. কখনো শব্দপূর্ণ

১৮. ঘুমানোর সময় রুমের লাইটের অবস্থা কেমন থাকে ?

ক. অন্ধকার খ. হালকা আলো গ. উজ্জ্বল আলো

### পিটসবার্গ স্লিপ কোয়ালিটি ইনডেক্স (PSQI)

**নির্দেশাবলী :** নিম্নলিখিত প্রশ্নগুলো কেবল **গত মাসে** আপনার স্বাভাবিক ঘুমের অভ্যাসের সাথে সম্পর্কিত। আপনার উত্তরগুলি গত মাসের বেশিরভাগ দিন এবং রাতের জন্য সবচেয়ে সঠিক উত্তর নির্দেশ করবে। দয়া করে সব প্রশ্নের উত্তর দিন।

১. গত মাসে, আপনি সাধারণত রাতে কোন সময় / কখন বিছানায় গিয়েছেন? -----

২. গত মাসে, প্রতি রাতে ঘুমিয়ে পড়তে / ঘুম আসতে আপনার সাধারণত কতক্ষণ (মিনিটের মধ্যে) সময় লেগেছে?-----

৩. গত মাসে, আপনি সাধারণত সকালে কোন সময় ঘুম থেকে উঠেছেন? -----

৪. গত মাসে, আপনি রাতে কত ঘন্টা ঘুমিয়েছেন? (এটি আপনার বিছানায় কাটানো ঘণ্টার সংখ্যার চেয়ে আলাদা হতে পারে)-----

| ৫. গত মাসে, আপনার কতবার ঘুমাতে সমস্যা হয়েছে ঘুমে সমস্যার কারণ আপনি- | গত মাসে<br>১ বার ও না | সপ্তাহে ১<br>বারের ও<br>কম | সপ্তাহে ১<br>বার বা ২<br>বার | সপ্তাহে ৩<br>বা<br>ততোধিক |
|----------------------------------------------------------------------|-----------------------|----------------------------|------------------------------|---------------------------|
| ক. ৩০ মিনিটের মধ্যে ঘুমাতে পারেন নি                                  |                       |                            |                              |                           |
| খ. মাঝরাতে বা খুব ভোরে ঘুম থেকে উঠে পড়েছিলেন                        |                       |                            |                              |                           |
| গ. বাথরুম ব্যবহার করার জন্য উঠতে হয়েছিল                             |                       |                            |                              |                           |
| ঘ. আরামে শ্বাস নিতে পারেন নি                                         |                       |                            |                              |                           |
| ঙ. জোরে জোরে কাশি বা নাক ডেকেছেন                                     |                       |                            |                              |                           |
| চ. খুব ঠান্ডা লেগেছিল                                                |                       |                            |                              |                           |

|                                                                                                                                  |                               |                           |                                   |                    |
|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------|-----------------------------------|--------------------|
| ছ. খুব গরম লেগেছিল                                                                                                               |                               |                           |                                   |                    |
| জ. দুঃস্থ দেখেছিলেন                                                                                                              |                               |                           |                                   |                    |
| ঝ. কোন ব্যথা ছিল বা আছে                                                                                                          |                               |                           |                                   |                    |
| ঞ. অন্যান্য কারণ (গুলি), দয়া করে বর্ণনা করুন :                                                                                  |                               |                           |                                   |                    |
| ৬. গত মাসে, আপনি ঘুম আসার জন্য আপনি কতবার ওষুধ গ্রহণ করেছেন (নির্ধারিত বা "কাউন্টারে") ?                                         |                               |                           |                                   |                    |
| ৭. গত মাসে, গাড়ি চালানোর সময়, খাবার খাওয়ার সময় বা সামাজিক কার্যকলাপে জড়িত থাকার সময় আপনার কতবার জেগে থাকতে সমস্যা হয়েছে ? |                               |                           |                                   |                    |
|                                                                                                                                  | একবারেই সমস্যা হয়নি          | খুব সামান্য সমস্যা হয়েছে | কিছুটা সমস্যা হয়েছে              | অনেক সমস্যা হয়েছে |
| ৮. গত এক মাসে, কাজগুলি সম্পন্ন করার জন্য যথেষ্ট উৎসাহ বজায় রাখা আপনার পক্ষে কতটা সমস্যা হয়েছে ?                                |                               |                           |                                   |                    |
|                                                                                                                                  | খুব ভালো                      | মোটামুটি ভালো             | খারাপ                             | খুব খারাপ          |
| ৯. গত মাসে, সামগ্রিকভাবে আপনি আপনার ঘুমের গুণমানকে কিভাবে মূল্যায়ন করবেন ?                                                      |                               |                           |                                   |                    |
|                                                                                                                                  | কোনও শয্যাসঙ্গী বা রুমমেট নেই | অংশীদার / রুমমেট অন্য ঘরে | সঙ্গী একই ঘরে কিন্তু একই বিছানায় | সঙ্গী একই বিছানায় |

|                                                                                   |                           |                                |                              |                                  |
|-----------------------------------------------------------------------------------|---------------------------|--------------------------------|------------------------------|----------------------------------|
|                                                                                   |                           |                                | নয়                          |                                  |
| ১০. আপনার কি বেড পার্টনার বা রুমমেট আছে ?                                         |                           |                                |                              |                                  |
|                                                                                   | গত মাসে<br>১ বার ও<br>নয় | সপ্তাহে ১<br>বারের<br>চেয়ে কম | সপ্তাহে ১<br>বার বা ২<br>বার | সপ্তাহে ৩<br>বা<br>ততোধিক<br>বার |
| আপনার যদি রুমমেট বা শয়্যাসঙ্গী থাকে তবে তাকে জিজ্ঞাসা করুন যে গত মাসে আপনি কতবার |                           |                                |                              |                                  |
| ক. জোরে নাক ডেকেছেন                                                               |                           |                                |                              |                                  |
| খ. ঘুমের সময় শ্বাসের মধ্যে দীর্ঘ বিরতি নিয়েছেন                                  |                           |                                |                              |                                  |
| গ. ঘুমানোর সময় পা কাঁপানো বা ঝাঁকুনি হয়েছে                                      |                           |                                |                              |                                  |
| ঘ. ঘুমের সময় বিভ্রান্তি বা বিভ্রান্তির এপিসোডগুলি                                |                           |                                |                              |                                  |
| ঙ. ঘুমানোর সময় অন্যান্য অস্থিরতা দয়া করে বর্ণনা করুন :                          |                           |                                |                              |                                  |

## Appendix D: Supervision Record Sheet

Bangladesh Health Professions Institute  
Department of Occupational Therapy  
4<sup>th</sup> 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: Sleep Quality and It's Associated Factors among Patients with Mental Illness

Name of student: Meher Nigar Tanzin

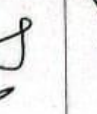
Name and designation of thesis supervisor: Nayan Kumar Chanda  
Assistant Professor  
Department of Occupational Therapy, BHPI, CRP

| Appointment No | Date    | Place         | Topic of discussion                                 | Duration (Minutes/Hours) | Comments of student                                   | Student's signature | Thesis supervisor signature |
|----------------|---------|---------------|-----------------------------------------------------|--------------------------|-------------------------------------------------------|---------------------|-----------------------------|
| 1              | 24/5/25 | OT Dept. BHPI | Overview of research supervision guideline          | 1 hr                     | Was helpful and effective prompt to initiate the work | Meher               | Nayan                       |
| 2              | 25/5/25 | OT Dept. BHPI | Discussion about study title, aim & objective       | 1.5 hr                   | Got a clear concept how to organize aim, objectives   | Meher               | Nayan                       |
| 3              | 29/5/25 | OT Dept. BHPI | Title, aim, objective correction & overall feedback | 1 hr                     | Got the clear understanding                           | Meher               | Nayan                       |

|    |          |                  |                                                                    |        |                                             |       |     |
|----|----------|------------------|--------------------------------------------------------------------|--------|---------------------------------------------|-------|-----|
| 4  | 1/06/25  | OT Dept.<br>BHPI | Methodology; Design & Approach                                     | 2 hr   | learn about design methodology, approach    | Meher | Not |
| 5  | 2/06/25  | OT Dept.<br>BHPI | Overview and discussion about literature review                    | 2 hr   | Got a structured outline                    | Meher | Not |
| 6  | 11/06/25 | OT Dept.<br>BHPI | Submission of article & scale questionnaire for dis-<br>semination | 45 min | Got clear concept about scale               | Meher | Not |
| 7  | 16/6/25  | OT Dept.<br>BHPI | Overview & Overall guideline about research proposal               | 2 hr   | Got a structured guidelines                 | Meher | Not |
| 8  | 25/6/25  | OT Dept.<br>BHPI | Research proposal feed-back and checked                            | 1.5 hr | Impactful for future write up               | Meher | Not |
| 9  | 07/7/25  | OT Dept.<br>BHPI | Discussion on Research Proposal feedback from IRB                  | 50 min | Helpful for thesis writing                  | Meher | Not |
| 10 | 13/7/25  | OT Dept.<br>BHPI | Discussion on Data collection process & permission                 | 1 hr   | Got clear understanding                     | Meher | Not |
| 11 | 15/7/25  | OT Dept.<br>BHPI | Discussion on data collection process & permission issues          | 1 hr   | Helpful to resolve some issues              | Meher | Not |
| 12 | 17/8/25  | OT Dept.<br>BHPI | Discussion on Bangla translated questionnaire & interpretation     | 1 hr   | Got a clear concept for interpretation      | Meher | Not |
| 13 | 23/8/25  | OT Dept.<br>BHPI | Updated about SPSS test & informed about all application           | 2 hr   | learn about how to question the participant | Meher | Not |
| 14 | 29/8/25  | OT Dept.<br>BHPI | Discuss about data entry in SPSS & updated about data collection   | 1.5 hr | learn about how to input data               | Meher | Not |

|    |          |                  |                                                                         |        |                                                      |       |                                                                                     |
|----|----------|------------------|-------------------------------------------------------------------------|--------|------------------------------------------------------|-------|-------------------------------------------------------------------------------------|
| 15 | 15/9/25  | OT Dept:<br>BHPI | Data analysis guideline<br>on Spss                                      | 1 hr   | helpful to how to<br>analyse the data                | Meher |    |
| 16 | 20/9/25  | OT Dept:<br>BHPI | Guideline for abstract<br>writing, 1st draft<br>correction, checking    | 1.5 hr | Correction 1st<br>draft accurately                   | Meher |    |
| 17 | 27/9/25  | OT Dept:<br>BHPI | Guideline for ongoing<br>research project                               | 30 min | Got the effective<br>guideline about<br>project work | Meher |    |
| 18 | 28/9/25  | OT Dept:<br>BHPI | Research related problem<br>discussion, introduction,<br>literature     | 1.5 hr | Got idea about<br>write up                           | Meher |    |
| 19 | 11/10/25 | OT Dept:<br>BHPI | Introduction, literature<br>& feedback                                  | 1 hr   | helpful feedback<br>about write up                   | Meher |  |
| 20 | 18/10/25 | OT Dept:<br>BHPI | Submission & discussion on<br>introduction, background<br>& methodology | 1 hr   | helpful feedback<br>about write up                   | Meher |  |

|    |          |                  |                                                |        |                                      |       |                                                                                   |
|----|----------|------------------|------------------------------------------------|--------|--------------------------------------|-------|-----------------------------------------------------------------------------------|
| 21 | 11/11/25 | OT Dept.<br>BHP1 | Data analysis related<br>problem discussion    | 2 hr   | Helpful discussion<br>about analysis | Meher |  |
| 22 | 19/11/25 | OT Dept.<br>BHP1 | Data analysis related<br>problem discussion    | 2 hr   | helpful discussion<br>about analysis | Meher |  |
| 23 | 31/12/25 | OT Dept.<br>BHP1 | 1st draft feedback                             | 3 hr   | effective feedback<br>on 1st draft   | Meher |  |
| 24 | 10/1/26  | OT Dept.<br>BHP1 | Guidelines for comple-<br>ting thesis write up | 1.5 hr | helpful guidelines<br>about write up | Meher |  |

|    |         |                  |                                                                    |        |                                                     |       |                                                                                     |
|----|---------|------------------|--------------------------------------------------------------------|--------|-----------------------------------------------------|-------|-------------------------------------------------------------------------------------|
| 25 | 14/1/26 | OT Dept:<br>BHPI | Discussion and sharing<br>about research result                    | 1.5 hr | helpful discussion<br>about result                  | Meher |    |
| 26 | 22/1/26 | OT Dept:<br>BHPI | Discussion about result<br>and overview of the<br>methodology part | 1.5 hr | helpful discussion<br>about result &<br>methodology | Meher |    |
| 27 | 12/2/26 | OT Dept:<br>BHPI | Discussion about 2nd<br>draft                                      | 45 min | got helpful<br>information                          | Meher |    |
| 28 | 16/2/26 | OT Dept:<br>BHPI | Feedback 2nd draft                                                 | 30 min | got helpful<br>information                          | Meher |    |
| 29 | 24/2/26 | OT Dept:<br>BHPI | Feedback powerpoint<br>presentation                                | 1 hr   | got idea about<br>effective presentation            | Meher |    |
| 30 | 28/2/26 | OT Dept:<br>BHPI | Feedback powerpoint<br>presentation                                | 30 min | effective feedback<br>about presentation            | Meher |  |

Note:

1. Appointment number will cover at least a total of 40 hours; applicable only for face to face contact with the supervisors.
2. Students will require submitting this completed record during submission your final thesis.