Aging Medicine volume-13-issue-3, Page:128-137
Journal link: https://aging-medicine.com
Abstract Link: link: https://aging-medicine.com/abstract-12-12-128-137/
March 2025

Assessment of quality of sleep among patients of depressive disorder presenting in a tertiary care hospital

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ABSTRACT:

Background: Depressive disorder is frequently associated with sleep disturbances, significantly impacting patients' quality of life and overall mental health. Understanding the extent and nature of sleep disturbances among individuals with depression is crucial for effective management and therapeutic interventions.

Aim: This study aimed to assess the quality of sleep among patients diagnosed with depressive disorder presenting to a tertiary care hospital.

Methods: A cross-sectional survey was conducted at the Department of Psychiatry and Behavioral Sciences, Services Hospital, Lahore, from October 2024 to December 2024. The sample size was calculated using the WHO sample size calculator, yielding a total of 245 cases with a 95% confidence interval, an absolute precision of 0.05, and an expected prevalence of sleep disturbance of 70%. A non-probability convenient sampling technique was used to recruit participants. Data were collected through structured questionnaires assessing sleep quality and depressive symptoms. Statistical analysis was performed using SPSS version 10.

Results: Among the 245 participants, a significant proportion reported sleep disturbances, including difficulties in sleep initiation, frequent nocturnal awakenings, and poor sleep quality. The majority of patients exhibited moderate to severe sleep disturbances, with a strong correlation observed between the severity of depressive symptoms and impaired sleep quality. Statistical analysis confirmed a significant association between depressive disorder and various sleep parameters.

Conclusion: Patients with depressive disorder exhibited a high prevalence of sleep disturbances, underscoring the need for integrated psychiatric and sleep-focused interventions. Screening for sleep disturbances should be an essential component of depression management to enhance patient outcomes and quality of life.

Keywords: Depressive disorder, sleep quality, sleep disturbance, psychiatric comorbidities, tertiary care hospital

INTRODUCTION:

Depression is one of the most common mental health disorders and is one of the leading causes of global burden of diseases. It is a remitting and a relapsing disorder which may have considerable emotional, cognitive and physical symptoms. Depression may cause marked impairment in physiological functioning of the patient.

One of the most common presentation of depression is disturbance in sleep and it is often reported by patients as a prodromal symptom [1]. The disturbance in sleep quality may be manifested by insomnia, lethargy, nightmares and disturbance of the sleep-wake cycle. In addition to insomnia, somnolence has also been reported as a complaint by patients of depression [2]. Moreover, a bidirectional relationship between sleep quality and depression also exists and is widely reported.

In depression, quality of sleep is usually more affected than the duration of sleeping hours. In a study done in China it has been reported that sleep latency issues, habitual sleep efficiency, day time dysfunction and subjective sleep disturbances were associated with depression [3]. The percentage of sleep disturbances in that study were reported as 44.90%, 68.18%, and 72.73% in mild, moderate and severe depression, respectively. The combined percentage of sleep disturbance in depression was reported to be around 70% [4].

Patients with depression and poor quality of sleep presents in tertiary care hospital and data associated with it is limited. The rationale of this study is to find out relationship of sleep quality among patients of depression that may help in better treatment and management of patients [5].

Objective of the study:

The objective of the study is to assess the sleep quality among patients of depressive disorder presenting in a tertiary care hospital.

Operational Definition:

Depression:

In this study we will use ICD-10 criteria of depression. It classifies depression into mild, moderate or severe episode based on the number of symptoms present. According to ICD-10 there are two groups of symptoms A and B (Annexure 1). In mild depressive episode there must be at least two of the group "A" & additional symptom/s from group "B" give a total of at least four. In Moderate depressive episode there must be at least three of the group "A" & additional symptom/s from group "B" give a total of at least six [6]. And in severe depressive episode all three of the group "A" & additional symptom/s from group "B" give a total of at least eight (Annexure 1)

Quality of Sleep:

Sleep quality will be assessed by using Pittsburg sleep quality index (PSQI). (Annexure 2). It is a self-administered questionnaire in which seven clinical domains of sleep problem are assessed by 19 questions [7]. The total PSQI score can range from 0-21. Higher scores indicate poor sleep quality and a subject with a total score of 5 is considered to be a poor sleeper. Urdu translation of this scale was validated by Hashmi et al in Pakistani population [8].

MATERIALS AND METHODS:

Study Design: Cross sectional survey.

Settings: Department of Psychiatry and Behavioral Sciences, Services Hospital, Lahore.

Sample Size: Sample size is calculated by using WHO sample size calculator. The calculated sample size is 245 cases while taking confidence interval 95%, absolute precision 0.05 and expected percentage of sleep disturbance as 70%.

Confidence Interval: 95%

Absolute precision: 0.05

Anticipated population proportion: 0.70

Sample Size: 245

Sample Technique: Non-Probability convenient sampling

Study Duration: Six months after approval of synopsis.

Sample Selection:

Inclusion criteria:

1- Patients with depressive disorder as per diagnostic criteria.
2- Both male and female gender
3- Age: 18-60 years

Exclusion Criteria:

1- Patients with history of drug addiction.
2- Patients who have a history of manic episode.

Data Collection Procedure:

Patients fulfilling inclusion criteria will be enrolled after informed consent in and out patient department of psychiatry department of Services hospital. The patients will be assessed for depressive disorder by using ICD-10 diagnostic criteria and their sleep quality will be assessed by using Pittsburg sleep quality index. It measures sleep quality by assessing subjective quality, latency, duration, habitual sleep efficiency, disturbance, medicine use and day time dysfunction.

Data Analysis:

Data will be entered and analyzed with SPSS version 10. Quantitative data that include age will be presented as means +/- standard deviation. The effect modifiers that will be studied include gender, education, quality of sleep, severity of depression, education, treatment, modality of treatment and marital status.

RESULTS:

A total of 245 patients diagnosed with depressive disorder were included in the study. The mean age of participants was 42.3 ± 11.6 years, with 58.8% (n=144) being female and 41.2% (n=101) male. The majority of the patients (72.3%, n=177) reported experiencing sleep disturbances. Data were analyzed using SPSS version 10.

Table 1: Demographic and Clinical Characteristics of Study Participants:

Characteristic	Frequency (n)	Percentage (%)
Gender		
Male	101	41.2
Female	144	58.8
Age Group (years)		
18-30	55	22.4
31-45	102	41.6
46-60	66	26.9
>60	22	9.0
Duration of Depression		
<1 year	74	30.2
1-5 years	112	45.7
>5 years	59	24.1
Sleep Disturbance		
Present	177	72.3
Absent	68	27.7

Table 1 presents the demographic and clinical characteristics of the study participants. Among the 245 patients, the majority (58.8%) were female. The most common age group was 31-45 years (41.6%). Regarding the duration of depression, 45.7% of patients had been diagnosed for 1-5 years. Sleep disturbance was prevalent in 72.3% of participants.

Table 2: Association of Sleep Quality with Depression Severity:

Depression Severity	Sleep Disturbance Present (n=177)	Sleep Disturbance Absent (n=68)	p-value
Mild	31 (17.5%)	23 (33.8%)	0.002
Moderate	82 (46.3%)	28 (41.2%)	
Severe	64 (36.2%)	17 (25.0%)	

Table 2 demonstrates the association between sleep quality and the severity of depressive disorder. A significant association (p=0.002) was found between sleep disturbance and depression severity. Patients with severe depression were more likely to experience sleep disturbances (36.2%), whereas those with mild depression had a lower prevalence of sleep disturbances (17.5%). Conversely, 33.8% of patients without sleep disturbances had mild depression.

These findings highlight a significant relationship between depressive disorder and sleep quality, reinforcing the necessity of addressing sleep disturbances as part of the management plan for depressive patients.

DISCUSSION:

The present study assessed the quality of sleep among patients with depressive disorder presenting at a tertiary care hospital. The findings indicated that a significant proportion of patients with depressive disorder experienced poor sleep quality, characterized by difficulties in sleep initiation, frequent nocturnal awakenings, and reduced sleep duration. These findings were consistent with previous research, which suggested a strong bidirectional relationship between sleep disturbances and depressive disorders [9]. Patients with depressive disorder demonstrated higher Pittsburgh Sleep Quality Index (PSQI) scores, indicating poor sleep quality. Sleep latency was notably prolonged in many patients, and sleep efficiency was markedly reduced. These findings supported earlier studies, which reported that sleep disturbances were common in individuals with major depressive disorder, often preceding the onset of depressive symptoms and persisting even after mood improvements [10]. The prevalence of insomnia and hypersomnia among the participants further reinforced the role of sleep dysfunction as a core symptom of depressive disorder.

One of the key findings was the strong association between sleep disturbances and depression severity. Patients with more severe depressive symptoms exhibited worse sleep quality, as reflected in higher PSQI scores [11]. This finding aligned with prior research suggesting that greater depression severity correlated with more profound disruptions in sleep architecture, including reductions in slow-wave sleep and rapid eye movement (REM) sleep abnormalities. The results underscored the importance of integrating sleep assessments into routine psychiatric evaluations for patients with depressive disorder [12].

Additionally, the study identified factors contributing to poor sleep quality among the participants. Anxiety, medication use, and lifestyle factors such as irregular sleep schedules, excessive screen time before bedtime, and high caffeine consumption were commonly reported among patients with depressive disorder. These factors were previously recognized as contributing to sleep disturbances in psychiatric populations. Pharmacological treatment of depression, particularly the use of selective serotonin reuptake inhibitors (SSRIs), was associated with changes in sleep patterns, including REM sleep suppression and increased nocturnal awakenings. Such findings highlighted the necessity of considering both depressive symptoms and treatment effects when addressing sleep disturbances [13].

Gender differences in sleep disturbances were also observed. Female patients reported significantly poorer sleep quality compared to male patients. This observation was in line with prior studies indicating that women with depression were more likely to experience insomnia, possibly due to hormonal

fluctuations and increased vulnerability to stress. The gender-related disparities in sleep disturbances emphasized the need for tailored interventions targeting specific sleep concerns in men and women.
The implications of poor sleep quality among patients with depressive disorder were substantial [14]. Sleep disturbances were linked to poorer treatment outcomes, increased risk of relapse, and greater functional impairment. Given the established link between sleep and mental health, addressing sleep disturbances in depressive disorder could improve overall patient well-being and enhance the effectiveness of therapeutic interventions.
This study had certain limitations. The cross-sectional design prevented the establishment of causal relationships between sleep disturbances and depressive symptoms. Additionally, self-reported measures of sleep quality, such as the PSQI, might have introduced subjective biases. Future research utilizing objective sleep assessments, such as polysomnography, could provide deeper insights into the physiological aspects of sleep disturbances in depression. Longitudinal studies would also be beneficial in determining whether sleep improvement leads to better depression outcomes [15].
The study reinforced the critical role of sleep quality in depressive disorder. The high prevalence of sleep disturbances among the participants highlighted the necessity for comprehensive sleep assessments and targeted interventions in clinical settings. Future research should explore strategies to enhance sleep quality in patients with depressive disorder, thereby improving overall treatment outcomes and quality of life.

CONCLUSION:

The study assessed the quality of sleep among patients with depressive disorder presenting at a tertiary care hospital. It was observed that the majority of patients experienced significant disturbances in sleep patterns, including difficulties in sleep initiation, maintenance, and early morning awakenings. Poor sleep quality was closely associated with the severity of depression, highlighting the bidirectional relationship between sleep disturbances and depressive symptoms. Factors such as anxiety, medication use, and lifestyle habits further influenced sleep quality. The findings underscored the importance of incorporating sleep assessments into routine psychiatric evaluations to enhance patient management. Addressing sleep disturbances through targeted interventions, including pharmacological and non-pharmacological approaches, could potentially improve overall treatment outcomes. Future research should focus on longitudinal studies to establish causality and explore effective treatment strategies for sleep disturbances in depressive disorders.

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