Journal of Cardiovascular Disease Research

ISSN: 0975-3583, 0976-2833 VOL10, ISSUE 2, 2019

Descriptive study of sleep disorders in psychiatric patientsin psychiatry OPD attertiary-level hospital

Publish in 05.05.2019,

Dr Satya Prakash1, Dr Vikram Singh2, Dr Suresh Gocher[3]

1. Dr. Satya Prakash, Associate Professor, Department of Psychiatry, VIMS Gajraula UP, India, prakash9395@gmail.com
2. Dr Vikram Singh, Assistant Professor, Department of Psychiatry, Government Shri Kalyan Medical College, Sikar, Rajasthan, India
3. Dr. Suresh Gocher, Professor and Head, Department of Psychiatry, RNT Medical College, Udaipur, Rajasthan, India, sureshgocher1981@gmail.com

Corresponding author:

Dr. Satya Prakash, Associate Professor, Department of Psychiatry, VIMS Gajraula UP, India, S.prakash9395@gmail.com

Abstract

Background: Sleep disturbances amongst those with psychiatric disorders are quite common and may occur as a primary disorder or in association with any psychiatric disorders.

Aim and objective: To find out the prevalence of sleep disorders and their associated factors in psychiatric outpatients.

Material and Method: This cross-sectional study was conducted among the patients presenting in the psychiatric OPD A total of 160 samples were included, and the purposive sampling technique was applied for sample collection. After written informed consent from participants, socio-demographic data were collected. The Athens Insomnia Scale (ASI) and screening symptoms of sleep disorders, were the tools applied to the participants to find out types of sleep disorders.

Result: In our study, sleep disorders were found in 65.6% of the patients presenting to psychiatric OPD. Insomnia was the most common finding, accounting for 57.5% of the participants. Narcolepsy was found in 11.4%, whereas parasomnia was found in 20.5%; periodic limb movement disorder/restless leg syndrome (PLMD/RLS) in 18.2%; disturbed circadian rhythm was found in 9.1%; and sleep-related breathing disorder was found in 18.18% of the participants. Patients diagnosed with mood disorders (80%) and primary headache disorders (82.9%) had more sleep problems compared to other diagnoses.

Conclusion: This study was the first in Nepal to assess the prevalence of sleep disorders in psychiatric outpatients. Our study emphasizes the importance of careful evaluation of sleep problems for proper management of the psychiatric patients.

Key words: sleep; psychiatric disorders; insomnia; ASI

Introduction

Sleep is a state of temporary, partial, and periodic communication loss of an organism with its surroundings that can be reversed by stimuli of varying intensities. Physical and psychological health depends on meeting basic necessities such as sleep [1–2]. Sleep quality comprises concepts such as sleep latency, total sleep duration, and regular sleep routine. Sleep quality is important as it is an indicator of many diseases [3-4]. Decreased sleep quality may cause emotional, mental, and motivational disorders. Sleep-associated problems cause morbidity, an increase in mortality, and decreased life quality. Sleep problems are important for patients with psychiatric disorders as for all hospitalized individuals. Epidemiological

ISSN: 0975-3583, 0976-2833 VOL10, ISSUE 2, 2019

studies conducted in the general population indicate a positive correlation between psychopathology and sleep disorders. It is stated that the incidence of a sleep disorder in patients with psychiatric diagnoses varies between 50% and 80%. Sleep disorders are quite common in patients with anxiety, depression, bipolar disorder, and hyperactivity [2-6]. Insufficiency of sleep quality in individuals with psychiatric disorders may cause an occurrence of signs such as tiredness, concentration loss, hallucination, delusion, and loss of interest. Additionally, inpatients receiving treatment in psychiatric clinics often complain about sleep disorders [5–6]. These patients usually mention subjective sleep complaints such as shortened sleep duration, increased duration of falling asleep, frequent awakening, and failure of having deep sleep [7-8]. It is known that inpatients have a variety of sleep disorders because of both environmental and personal reasons. Common environmental factors leading to sleep disorders are noise, bright light, and recurrent staff interventions. Moreover, endogenous factors for these patients are delirium, depression, stress, and pain [9–11]. Sleep problems are frequently seen in patients with psychiatric disorders, and a decrease in sleep duration, frequent awakenings, and changes in sleep stages are indicated in an objective sleep assessment. These sleep disorders, added to their chronic diseases, further lower the functional living and life qualities of the patients [12–14]. Handling sleep and sleep disorders, which are common problems among hospitalized individuals, constitutes a part of care. The identification of individuals having sleep disorders and factors affecting sleep is important in the care process with regard to planning nursing intervention [8, 11, 15].

Previous prevalence studies on sleep in psychiatric patients have shown that sleep complaints are commonly reported by psychiatric patients, and polysomnographic studies show objective evidence of disturbed sleep associated with all major psychiatric disorders. [16] However, research on the prevalence of sleep problems in psychiatric patients has revealed diverse results. Kaufmann et al. (2011) found 78% of their study population to have some sleep problems. [17], while Kamphuis et al. (2013) showed a prevalence of 30% [18]. Considering the larger differences in prevalence in previous studies and no published data on the prevalence of sleep disorders in the psychiatric population till date found in India, this study aims at exploring the prevalence of sleep disorders among the adult psychiatric patients in theoutpatient clinic and find out the socio-demographic correlates in the hope that an improved understanding of the prevalence and correlates could provide useful guidance for targeted treatments and management.

Materials and methods

This was an observational, cross-sectional study done in the psychiatry department at a VIMS Gajraula, UP. Approval for the study was taken from the Institutional Review Committee.

Inclusion criteria: were subjects aged 18 years and above attending psychiatry OPD for the 1st time irrespective of the diagnosis.

Exclusion criteria were being mentally retarded, having dementia, patients with language barriers, and patients who refused to participate in the study. Exclusion was done considering their comprehensive capacity.

Data collection was carried out with

- semi-structured questionnaire to collect demographic and clinical variables in detail (age, gender, education, employment, marital status, type of family, BMI, presenting complaints, past illness, use of any substances).

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- The Athens Insomnia Scale (ASI) tool was applied. [19] The AIS is a self-assessment psychometric instrument designed for quantifying insomnia based on the ICD-10 criteria. The high measures of consistency, reliability, and validity of the AIS make it an invaluable tool in sleep research and clinical practice.[19] It was converted into Hindi. e of six or more is diagnosed as insomnia.Backward and forward translathe questionnaire to check the reliability of questionnaire with the help of English and Hindi language experts. It consists of eight items. A score of six or more is diagnosed as insomnia.
- Screening symptoms of sleep disorder(s): As a part of a structured interview the questions specific to narcolepsy, circadian sleep rhythm disorder, parasomnia, sleep breathing disorder, and restless leg syndrome/periodic limb movements of sleep (RLS/PLMS) were asked to the patients for appropriate diagnosis of sleep disorders following the clinical guidelines for clinicians by the British Association of Psychopharmacology [20]. Clinical diagnosis of psychiatric illnesses was done by a consultant psychiatrist using ICD-10 diagnostic criteria.

Participants were asked specific questions: 'do

You sometimes fall asleep in the daytime completely without warning?' (narcolepsy); 'Are you a heavy snorer?' (obstructive sleep apnea); 'do your legs often twitch or can't keep still in bed?' (restless leg syndrome/periodic limb movements in sleep); 'do you tend to sleep well but just at the "wrong times"?' (circadian rhythm sleep disorder); 'do you have unusual behaviors associated with your sleep that trouble you or that are dangerous?' (parasomnia); If patients responded positively to any of the questions, additional questions were asked for more information about their symptoms of sleep disorder. Several other studies have used this standard questionnaire in the research [21].

Statically analysis

Data were coded and entered into a Microsoft Excel sheet and exported and analyzed using Statistical Package for Social Science (SPSS) version 16. Descriptive statistics like frequency and percentage were used to find the descriptive information of variables. In inferential Statistics, the chi-square test was used to find the association between significant sleep disorder types and sociodemographic and clinical variables. A P value less than 0.05 is considered asstatistically significant.

Observation and Results

Table No. 1: Socio-demographic and clinical variables

Characteristics	Category	Frequency	Percent
Gender	Male	70	43.75
	Female	90	56.25
Age group(years)	18-39	72	45
	40-65	88	55
Marital Status	Unmarried	50	31.25
	Married	75	46.9
	Separated/Widowed/Divorce	35	21.9
	Illiterate	35	21.9

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Education level	Primary	70	43.75
	Secondary and above	55	34.4
Type of Family	Nuclear	74	46.25
	Joint	86	53.25
BMI	Not obese	90	56.25
	Obese	70	43.75
Presenting Complains	Sleep disturbance	85	53.1
	Others	75	46.9
Diagnosis	Substance disorder	20	12.5
	F20	40	25
	Mood disorder	35	21.9
	Anxiety	10	6.25
	Primary headache disorders	30	18.75
	Others	25	15.6
Past History	Psychiatric	74	46.25
	No Psychiatric	86	53.75
Substance use	Alcohol	55	34.4
	OTC drugs	45	28.1
	Nicotine	120	75
	None	85	53.12

Out of 160 patients enrolled in the study, the majority were female, 90 (56.3%). Most patients, 88 (55%), were between 40 and 65 years of age. The majority of the patients were married, 75 (46.9%), whereas 50 (31.25%) were unmarried, and 54 (24.9%) were either separated from or divorced from their spouse or were widowed. 21.9% of the patients were illiterate, whereas primary level education was completed by 46.9% of the patients. 86 (53.25%) of patients belonged to the joint family, whereas only 74 (46.25%) of patients were from the nuclear family. Only 70 (43.75%) patients included in the study were obese, and the majority of patients (56.25%) fall under the non-obese category. In the majority of patients 85 (53.1%) presenting to OPD, sleep disturbance was one of the presenting complaints. 46.9% of patients were not having similar or any other psychiatric illnesses in the past. Most respondents, 120 (75%), consumed nicotine, followed by alcohol in 73 (33.6%) patients, whereas 55 (34.4%) of patients consumed over-the-counter (OTC) drugs for sleep. While 85 (53.12%) of patients had not consumed any substance. A large proportion of the participants were diagnosed with either schizophrenia spectrum disorder (25%), mood disorders (21.9%), followed by anxiety disorder (6.5%), primary headache disorder (18.75%), and substance use disorder (15.6%). [Table-1]

Table No.2: Types of Sleep Disorders

Types of sleep disorders	Frequency	Percent
Narcolepsy	5	11.4
Sleep-breathing disorder	8	18.18
Periodic MLS	8	18.2
Circadian rhythm sleep disorder	4	9.1

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Parasomnia	9	20.5
Others	10	22.7
Total	**44**	**100**

Table No.3: Frequency of Insomnia

Insomnia	**Frequency**	**Percent**
Yes	92	57.5
No	68	42.5
Total	**160**	**100.0**

In our study, sleep disorders were found in 65.6% of the population. Insomnia was the most common finding, accounting for 57.5% of the participants. Narcolepsy was found in 11.4%, whereas parasomnia was found in 20.5%; periodic limb movement disorder/restless leg syndrome (PLMD/RLS) in 18.2%; disturbed circadian rhythm was found in 9.1%; and sleep-related breathing disorder was found in 18.18% of the patients. Two co-morbid sleep disorders were found in 9.1% of the patients. [Table:2,3]

Table No.4: Frequency of insomnia and psychiatric disorders

		Substance disorder (20)	**F20(40)**	**Mood disorder (35)**	**Anxiety (10)**	**Others (25)**	**Primary headache disorders (30)**
Insomnia	Yes	11(55)	18(45)	25(71.4)	6(60)	13(52)	26(86.7)
	No	10(45)	22(55)	10(28.6)	4(40)	12(48)	4(13.3)

Table No.5: Frequency of types of sleep disorders and psychiatric disorders

Types of sleep disorders	**Substance disorder**	**F20**	**Mood disorder**	**Anxiety**	**Others**	**Primary headache disorders**
Narcolepsy	0(0)	1(7.7)	1(6.7)	1(10)	1(33.3)	1(7.1)
Sleep-breathing	1(33.3)	1(7.7)	3(20)	1(10)	0(0)	5(35.7)

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disorder						
Periodic MLS	1(33.3)	2(15.4)	4(25.7)	2(20)	1(33.3)	1(7.1)
Circadian rhythm sleep disorder	0(0)	3(23.1)	2(13.3)	2(20)	0(0)	1(7.1)
Parasomnia	0(0)	2(15.4)	3(20)	2(20)	1(33.3)	3(21.4)
Others	1(33.3)	4(30.8)	2(13.3)	2(20)	0(0)	3(21.4)

71.4% of patients with mood disorder (depression/mania) had insomnia; also, 86.7% of patients with primary headache complained of insomnia. Further, the study showed that there was a statistically significant association between sleep disorder and type of family, psychiatric diagnosis, and nicotine use. The results showed that patients staying in joint families (73.6%) had more sleep disorders as compared to those living in nuclear families (46.5%). Similarly, patients diagnosed with mood disorders (71.4%) and primary headache disorders (86.7%) had more sleep problems compared to other diagnoses. Patients who use nicotine had significant sleep problems as compared to other substance use. [Table 4,5]

Table No. 6: Association between variables and sleep disorders

Characteristics	**Category**	**Prevalence of sleep disorder**		**P value**
		No	**Yes**	
Gender	Male	28(42.9)	42(647.1)	0.757
	Female	30(33.3)	60(66.7)	
Age group(years)	18-39	26 (36.1)	46 (63.9)	00.071
	40-65	30 (34.1)	58 (65.9)	
Education Level	Illiterate	13 (37.1)	22 (62.9)	0.45
	Primary	25 (35.7)	45 (64.3)	
	Secondary and above	20(36.4)	35 (53.6)	
Marital Status	Unmarried	13 (26)	37 (74)	0.751
	Married	29 (34.1)	46(65.9)	
	Separated/Widowed/Divorce	12(48)	23(52)	
Type of Family	Nuclear	35(47.3)	39(52.7)	0.0267
	Joint	26(30.2)	60(69.8)	
BMI	Not obese	30(33.3)	60(6.7)	0.217
	Obese	30(42.9)	40(47.1)	
Past History	Psychiatric	30(40.5)	44(59.5)	0.865
	No Psychiatric	36(41.9)	50 (58.1)	
	Substance disorder	9(45)	11(55)	0.014
	F20	18(45)	22(55)	
	Mood disorder	7(20)	28(80)	
	Anxiety	4(40)	6(60)	
	Others	8(32)	17(68)	

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Diagnosis	Primary headache disorders	6(17.1)	29(82.9)	
Substance use	Alcohol	20(36.4)	35(65.6)	0.004
	OTC drugs	15(33.3)	30(66.7)	0.0015
	Nicotine	55(45.8)	65(54.2)	0.197
	None	25(29.4)	60(71.6)	0.0001

Discussion

The study aimed to find the prevalence and correlates of sleep disorders in patients seeking treatment for mental illness in a tertiary psychiatric hospital. The study showed that the prevalence of sleep disorders was 53.1% of the outpatients studied. This implies that sleep problems are a common feature of psychiatric disorders. The finding also hints at a possibly strong link between sleep problems and psychiatric disorder, which has been studied by many. Previous studies have also shown similar results. A study of prevalence done by Homboli et al. showed the overall prevalence of symptoms of sleep disorders in the psychiatric outpatient sample was 40.75%, and another prevalence study showed 83.4% of the study population had some type of sleep disorder. [21-22] Previous research suggests also that individuals with an underlying psychiatric disorder are at a higher risk of presenting with sleep symptoms as compared to the general population.[23-24]

The most common type of sleep disorder found in the study was insomnia, accounting for 57.5% of the total patients enrolled. The study showed narcolepsy was found in 11.4%, whereas parasomnia and periodic limb movement disorder/restless leg syndrome (PLMD/RLS) in 18.2%; disturbed circadian rhythm was found in 9.1%, and sleep-related breathing disorder was found in 18.18% of the participants. Similar results were found in other studies with some variation, which could be because of differences in sample size. The prevalence for symptoms of narcolepsy, sleep breathing disorder, PLMS/RLS, circadian rhythm disorder, and parasomnia was 12.5%, 14.5%, 14.8%, 4.5%, and 13.8%, respectively, in a study. [22] Such a high prevalence of sleep disorders in psychiatric patients emphasizes the need for independent assessment of sleep disorders regardless of the underlying other psychiatric or medical conditions. Sleep disorders had established a bi-directional relationship with psychiatric disorders. These findings could be of utmost importance in psychiatric practice as they could aid in early recognition as well as in the planning and management of sleep disorders to ensure optimal outcomes.

The study results showed that patients staying in joint families (69.8%) had more sleep disorders as compared to those living in nuclear families (52.7%). Though previous studies relating to family type and sleep disorders were not commonly found in the literature, a study on family strain and related issues showed that having strained family relationships and a lack of personal space in families living together is associated with more troubled sleep, while supportive family relationships are associated with less troubled sleep. [25] Similarly, patients diagnosed with mood disorders (80%) and primary headache disorders (82.9%) had more sleep problems compared to other diagnoses. Research suggests that sleep plays an important role in the development, progression, and maintenance of mood disorder symptoms.[26] It could be a cause as well as an effect, as mentioned above. The study found 70.6% of patients with mood disorders had insomnia, which was consistent with other studies as well. [27] Another fact finding in the study was that 82.9% of patients with primary headache syndrome (migraine, tension-type, cluster) had any sleep disorder, which was statistically significant. Literature showed that the pathophysiology of headache and sleep disorders shares the same

ISSN: 0975-3583, 0976-2833 VOL10, ISSUE 2, 2019

brain structures and pathways; dysregulation in thalamocortical circuits may be predisposing to sleep and headache disorders both. [28-29] Despite such a significant relationship, sleep disturbances are commonly underestimated and underdiagnosed in headache patients [30–31]. Patients who used nicotine had significant sleep problems as compared to other substances. The study also showed that 54.2% of patients had taken any over-the-counter (OTC) drug by themselves. Similar results were found in a few other studies; 17.5% of patients with insomnia symptoms reported taking sleeping pills, as shown by a study done in China at the outpatient department of a general hospital [32]. Sleep disorders are highly prevalent in psychiatric patients as a co-morbid diagnosis and not merely as an isolated symptom. This comorbidity may induce the chronification of both of the syndromes, so a detailed history of both disturbances must be taken, and clinicians should consider and behold the treatment of accompanying sleep complaints for an effective management of psychiatric diagnosis and a better quality of life.

This study was a cross-sectional study conducted among outpatients at a tertiary hospital in VIMS Gajraula, UP, and adopted a convenient sampling strategy. Hence,, this study finding is not generalizable to a large proportion of psychiatric population. Further, the questionnaire that was administered by the researcher was apt for screening the mere presence or absence of symptoms of sleep disorders in the past, so recall bias might be an issue. Lastly, the questionnaires used were comprehensive and had clinically relevant screening questions, yet the psychometric properties of this questionnaire are not well established. So, inclusion of polysomnographic evaluation would have ruled out false-positive responses and improved the rigor of the methodology.

Conclusion

Our study has highlighted that the symptoms of sleep disorders are not uncommon in psychiatric patients. Identifying and addressing sleep disorders in their early stages may have a positive impact on the management and quality of life of a psychiatric patient. Further, we recommend large-scale prospective studies to confirm the findings of this study.

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