



Prevalence of sleep disorders and severity of insomnia in psychiatric outpatients attending a tertiary level mental health care facility in Punjab, India



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ARTICLE INFO

Keywords:

Sleep disorders
Psychiatric patients
Insomnia

ABSTRACT

Background: Sleep disorders are frequently associated with psychiatric disorders and can be both cause and effect of the same.

Aim: To study the prevalence of sleep disorders and the severity of insomnia in psychiatric outpatients.

Methods: 500 patients were randomly selected using purposive sampling from patients attending a tertiary level mental health care facility were evaluated for the presence of any sleep disorder along with their sleep quality. In patients having insomnia, severity of the same was determined.

Results: 83.4% of the population had some type of sleep disorder. Symptoms of insomnia were reported by 78.2% of the population and 29.2% had moderate to severe insomnia. 78.4% of the population had poor sleep quality. Significant difference was noted among the different psychiatric groups when insomnia severity index (ISI) was compared. In multinomial logistic regression, chance of severe insomnia is more if the diagnosis is depression, but less if mania or ocd, compared to psychosis.

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

1. Introduction

From a behavioral standpoint, sleep is defined as a state of decreased awareness of environmental stimuli that is distinguished from states such as coma or hibernation by its relatively rapid reversibility (Benca et al., 2009). It has been found that there is massive interaction between the physiologic systems involved in regulation of sleep and wakefulness and those of the same involved in the regulation of emotion and other behaviors. Relationship between sleep problems and psychiatric disorders is complex and multifaceted. Sleep disturbances are so commonly observed in the psychiatric patients that they have been incorporated in the official diagnostic criteria of some disorders like the depressive disorders and the generalised anxiety disorders. Comorbidity of sleep and psychiatric disorders might be due to one disorder being a risk factor or cause of the other; they might both be manifestations of the same or overlapping physiological disturbances; one might be a consequence of the other or in some cases, the sleep disturbances can be both cause and consequence of the psychiatric disorders (Krystal, 2012). The third edition of international

classification of sleep disorders [ICSD-3] (American Academy of Sleep Medicine, 2014) classifies sleep disorders in seven major categories: insomnia, sleep related breathing disorders [SRBD], hypersomnolence, circadian rhythm sleep-wake disorders, parasomnias, sleep-related movement disorders and other sleep disorders.

Previous researches on the prevalence of sleep problems in psychiatric patients have revealed diverse results. Kaufmann et al. (2011), found 78% of their study population to have some sleep problem. In a study of forensic psychiatric population, the prevalence was found to be 30% (Kamphuis et al., 2013). As recorded by Berlin et al. (1984), out of 100 consecutive psychiatric outpatients, 80 had sleep disorder of which 72 had insomnia. Other studies also found insomnia to be very common in psychiatric patients (almost 40%) and it was found in 75% of acutely disordered patients (Ford and Kamerow, 1989).

In India, till date, there is no published data on the prevalence of sleep disorders in the psychiatric population. Prompted by the dearth of any research on this topic, we planned this study to find out the prevalence of the different sleep disorders in psychiatric outpatients. The aim of this study was to explore the sleep quality and the severity of

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insomnia across the study population in addition to determining the prevalence of sleep disorders.

2. Material and methods

The participants of this cross-sectional study were the patients coming for the first time to the outpatients department of a tertiary mental health care centre located in Amritsar, a city of Punjab, India. The study was approved by the institutional ethical committee. Sample size was decided a priori to be 500. A mixture of systematic and purposive method of sampling was adapted whereby every fifth new patient was chosen for the study if he or she met the inclusion criteria of the study and if not, the next eligible patient was taken up for the study. The study was conducted during 1st July 2016–31st March 2017.

Participants who gave a valid consent for the study were evaluated for inclusion and exclusion criteria. Mini International Neuropsychiatric Interview [MINI] (Sheehan et al., 1998) was administered to screen the patients for the presence of a psychiatric disorder. Patients aged ≥ 18 years, having a psychiatric diagnosis according to MINI and drug naïve or drug free for one month for oral antipsychotics and three months for depot preparations were included in the study. Patients not having a psychiatric diagnosis according to MINI, being a shift worker, being mentally retarded, having co-morbid substance abuse including nicotine or caffeine, having hearing disability or having dementia were excluded from the study.

The patient-rated questionnaires were translated into colloquial language (Punjabi) and were back-translated and forward-translated, and checked by linguists for comparability. Data collection was conducted by face-to-face interview. Illiterate patients were assisted by their attendants, or, the interviewer for answering the questionnaires. The diagnosis determined by MINI was later confirmed by a qualified psychiatrist as per the International Classification for Diseases, 10th Revision: Diagnostic criteria for research [ICD-10 DCR] (World Health Organization, 1993). The patients were classified under the broad headings of Major Depressive Episode (MDE), Manic Episode, Psychotic Disorders, Generalised Anxiety Disorder (GAD) and Obsessive-Compulsive Disorder (OCD). Sleep history was collected from the patients according to a questionnaire. The Sleep Quality was then assessed by the help of the Pittsburgh Sleep Quality Index [PSQI] (Buysse et al., 1989). Severity of insomnia was found out in patients having symptoms of insomnia by the Insomnia Severity Index [ISI] (Bastien et al., 2001).

Screening questions-sleep history and physical: This set of screening questions was formulated by Harding (2004). It consists of six clusters of questions to screen for individual sleep disorders along with other relevant details like sleep hygiene, nocturnal awakenings, work schedule, circadian rhythm, medication, family history and habits. Past medical history, allergies, review of systems and physical examinations are also included.

Pittsburgh sleep quality index (PSQI): The PSQI was developed by Buysse et al. in 1989. It is a simple screening tool for assessing the quality of sleep over the preceding month for patients with significant sleep disturbances. Nineteen items generate seven component scores: A. subjective sleep quality, b. sleep latency, c. sleep duration, d. habitual sleep efficiency, e. sleep duration, f. use of sleeping medication and g. daytime dysfunction. The sum of these seven component scores yields one global score. Apart from the first four open questions, the rest are assessed on a 4-point Likert scale. The global score can range from '0' to '21' and a score $\gg > 5$ suggests poor sleep quality.

Insomnia severity index (ISI): The ISI is a 7-item self-report questionnaire assessing the nature, severity, and impact of insomnia. The usual recall period is the "last month" and the dimensions evaluated are: severity of sleep onset, sleep maintenance, and early morning awakening problems, sleep dissatisfaction, interference of sleep difficulties with daytime functioning, noticeability of sleep problems by others, and distress caused by the sleep difficulties. A 5-point Likert scale is used to rate each item (e.g., 0 = no problem; 4 = very severe

problem), yielding a total score ranging from 0 to 28. The total score is interpreted as follows: not clinically significant insomnia (0–7); sub-threshold insomnia (8–14); moderate insomnia (15–21); and severe insomnia (22–28).

Demographic details were recorded for each patient which included sex (male/female); age (in years); residence (rural/urban/sub-urban); religion (Sikh/Hindu/Christian/Islam); marital status (married/single/separated/divorced) and level of education (nil/primary/middle school/secondary/higher secondary/graduate/others).

2.1. Statistical analysis

Analysis was done using SPSS-20 (Statistical Package for the Social Sciences, 2011, New York, USA). Frequencies and percentages were computed for discontinuous variables. Mean and standard deviation with range for continuous variables were calculated. ANOVA (Analysis of Variance) with post hoc Bonferroni was used for comparison as per the requirement.

Multinomial regression analysis was done in patients having insomnia, with psychiatric diagnosis according to MINI as independent variable and category of Insomnia Severity Index (not clinically significant, subthreshold, moderate and severe) as dependent variable.

3. Results

3.1. Demographic characteristics of the sample

Out of 500 patients enrolled for the study, majority were female 275 (55%). Most patients (51.8%) were between 18 and 40 years of age with mean age of 42.20 years (Standard Deviation (SD) = 15.296); most of the patients came from rural background (65.8%); Sikhism was the most common religious faith followed (75.6%). Majority of the patients were married (75.2%). 10.2% of the population was illiterate whereas secondary level education was completed by 25.4% of the population.

3.2. Clinical diagnosis of the study population

In our study sample of 500 patients, most patients were diagnosed to be having MDE (44.2%), followed by psychotic disorders (24.8%), manic episode (15.4%), GAD (9.6%) and OCD (6%).

3.3. Sleep problems of the study population (Table 1)

In our study, sleep disorders were found in 83.4% of the population. Insomnia was the most common finding accounting for 73.4% of the population and it was also co-morbid with other sleep disorders in another 4.8% of the population. Parasomnia was found in 4.8%; sleepiness was found in 3.2%; disturbed circadian rhythm was found in 2% and SRBD in 2.2% of the population. Two co-morbid sleep disorders were found in 5.4% and more than two diagnoses were found in 0.8% of the population.

3.4. The sleep quality of the study population

Overall sleep quality as evaluated by the PSQI revealed a mean score of 9.65 (standard deviation = 4.54), the value ranging from 0 to 16. Poor sleep quality was present in 392 out of 500 (78.4% of the population).

3.5. Distribution of insomnia among the different psychiatric groups

Symptoms of insomnia were found in 391 individuals out of 500. Out of them, 186 (47.57%) had MDE, 93 (23.8%) had psychotic disorders, 69 (17.6%) had manic episode, 29 (7.4%) had GAD and 14 (3.6%) had OCD.

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