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Association Betwen Demographic Characteristics and Insomnia Severity Among Psychiatric Patients: An Observational Study

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ABSTRACT

Insomnia is a common comorbidity in psychiatric patients, potentially impacting the course and prognosis of mental health disorders. This study investigates the relationships between demographic factors, stress and insomnia severity in patients with psychiatric diagnoses, providing insight into the distribution and characteristics of sleep disturbances in this population. This cross-sectional observational study included 50 psychiatric patients, assessed for non-organic insomnia, comorbid insomnia, and psychiatric morbidity without insomnia. Data were collected on age, gender, marital status, religious affiliation, education, family type, residence, socioeconomic status, and stress levels. Insomnia severity was measured using the Insomnia Severity Index. Most patients were 21-40 years old, married and from nuclear families, with no significant demographic differences across diagnostic groups. Comorbid insomnia was more common in females, with no statistical significance in the timing of onset between genders. Stress was reported in a majority of insomnia cases but was not significantly correlated with diagnostic categories. Insomnia severity significantly varied with the diagnosis and demographic factors such as gender, occupation, age and socioeconomic status were associated with the incidence and nature of insomnia and comorbid conditions. Insomnia and its severity are influenced by various demographic factors within the psychiatric population. Gender, occupation, age and socioeconomic status play significant roles in the occurrence and characteristics of insomnia, irrespective of the underlying psychiatric condition. These findings suggest the needfor demographic-specific strategies in the management of insomnia comorbid with psychiatric disorders.

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Key Words

Nsomnia, psychiatric patients, comorbidity, demographic factors, insomnia severity index, stress

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INTRODUCTION

Sleep, a restorative necessity, is fundamental for a healthy and joyful existence. Devoid of its tranquility, life would be distressingly harsh. The rhythmic alternation of sleep's quietude with the vigour of wakefulness encapsulates the essence of living[1]. This pivotal role of sleep has intrigued both spiritualists and scientists, stirring explorations into its profound mysteries and leading to assertions that liken sleep to a reversible form of death, underscoring its depth and significance[2].

In the realm of health and well-being, sleep is universally acknowledged as vital, sparking widespread concern over its quality and leading to the pervasive discussion of sleep disturbances and disorders[3]. While complaints about sleep are common, not all disturbances meet the clinical threshold for a disorder like insomnia, which, despite being widely reported, is diagnosed less frequently due to strict criteria[4].

Amidst this landscape, where sleep-related terminology often breeds more confusion than clarity, there is an urgent call for a unified sleep lexicon to aid in global research and understanding[5]. Insomnia emerges as the most prevalent sleep disorder, often co-occurring with psychiatric conditions and recognized as a symptomatic hallmark of various mental disorders. The last decade has witnessed a paradigm shift, acknowledging a complex, bidirectional link between sleep and psychiatric disorders[6].

The present study aims to assess the sleep disturbances among a specific cohort of newly diagnosed and untreated psychiatric outpatients. It seeks to delineate the frequency, nature and severity of these disturbances, examining them through nosological, temporal and contextual lenses and considering the socio-demographic factors that may influence them. This investigation strives to contribute to the evolving understanding of sleep' impact on mental health and to pave the way for more nuanced therapeutic approaches.

MATERIALS AND METHODS

The present observational study comprising 50 subjects was conducted in the Department of Psychiatry at the Kamineni Institute of Medical Sciences, Narketpally, in the Nalgonda district of Telangana State from October 2013 to September 2015.

Inclusion criteria:

- Patients aged between 21-60 years, of either sex
- New patients with no history of prior treatment
- Subjects who consented to participate in the study

Exclusion criteria:

- Individuals with medical illnesses, substance-related disorders and organic syndromes
- Subjects who were unwilling to provide written consent

Ethical considerations: The study was approved by the Institutional Ethics Committee of the Kamineni Institute of Medical Sciences, Narketpally.

Data collection instruments:

- A self-structured intake proforma was used to gather socio-demographic details, psychosocial history and objective data C
- The Socio-Economic Scale (SES) by O.P. Aggarwal, which is a 22-item questionnaire assessing various indicators of socio-economic status
- The International Classification of Diseases-10 (ICD-10) for the classification of mental and behavioral disorders
- A self-structured sleep history questionnaire, designed based on standard sleep screening tools to assess and classify sleep disturbances
- The Insomnia Severity Index (ISI) by Charles M. Morin, PhD, a 7-item scale for screening and measuring the severity of insomnia, validated in India
- The Athens Insomnia Scale (AIS), an 8-item scale quantifying sleep disturbances according to ICD-10 criteria, also validated in India

Data collection procedure: Patients attending the outpatient services of the Psychiatry department were included in the study. After obtaining informed consent, a senior psychiatrist evaluated the subjects using the ICD-10 criteria. Socio-demographic data and psychosocial history were recorded, with additional objective data collected from attendants to corroborate the clinical history. Sleep disturbances were assessed using the self-structured sleep history questionnaire, with additional information obtained from bed partners when possible. Relevant tools were utilized for further evaluation of identified sleep disorders.

Statistical analysis: The data obtained were compiled and analyzed using the statistical package for social sciences (SPSS) software version 21. A probability $p>0.05$ was considered statistically significant.

RESULTS

In this observational study of 50 psychiatric patients the majority were in the 21-40 age range, slightly more men than women, predominantly married, and mostly identified as Hindu. Education levels varied, but a significant proportion had attended college. Participants were primarily from nuclear families, with a nearly even split between urban and rural residences. Most fell within the lower to upper-middle socio-economic status and there were no

Table 1: Exploring the Relationship between Diagnostic Categories and Socio-Demographic Characteristics

	Diagnosis				
Demography	Insomnia (%)	Comorbid insomnia (%)	Psychiatric morbidity without insomnia (%)	Total (%)	p-value*
Age (Years)					
21-40	10 (71.4)	21 (70)	06 (100)	37 (74)	0.300
41-60	04 (28.5)	09 (30)	00	13 (26)	
Total	14 (100)	30 (100)	06 (100)	50 (100)	
Sex					
Male	10 (71.4)	12 (40)	04 (66.6)	26 (52)	0.113
Female	04 (28.5)	18 (60)	02 (33.4)	24 (48)	
Total	14 (100)	30 (100)	06 (100)	50 (100)	
Marital status					
Married	12 (85.7)	23 (76.6)	04 (66.6)	39 (78)	0.617
Unmarried	02 (14.2)	07 (23.4)	02 (33.4)	11 (22)	
Total	14 (100)	30 (100)	06 (100)	50 (100)	
Religion					
Hindu	13 (92.8)	27 (90)	05 (83.4)	45 (90)	.809
Others	01 (7.2)	03 (10)	01 (16.6)	05 (10)	
Total	14 (100)	30 (100)	06 (100)	50 (100)	
Education					
Illiterate	01 (7.2)	10 (33.3)	00	11 (22)	0.175
School	06 (42.8)	10 (33.3)	02 (33.4)	18 (36)	
College	07 (50)	10 (33.4)	04 (66.6)	21 (42)	
Total	14 (100)	30 (100)	06 (100)	50 (100)	
Occupation					
Unskilled	02 (14.3)	08 (26.6)	01 (16.6)	11 (22)	0.472
Semiskilled	07 (50)	18 (60)	03 (50)	28 (56)	
Skilled	05 (35.7)	04 (13.4)	02 (33.4)	11 (22)	
Total	14 (100)	30 (100)	06 (100)	50 (100)	
Family					
Nuclear	13 (92.8)	24 (80)	05 (83.4)	42 (84)	0.825
Joint	01 (7.2)	05 (16.6)	01 (16.6)	07 (14)	
Others	00	01 (3.4)	00	01 (02)	
Total	14 (100)	30 (100)	06 (100)	50 (100)	
Residence					
Urban	06 (42.8)	10 (33.4)	04 (66.6)	20 (40)	0.304
Rural	08 (57.2)	20 (66.6)	02 (33.4)	30 (60)	
Total	14 (100)	30 (100)	06 (100)	50 (100)	
SES					
Upper high	00	00	00	00	0.114
High	00	00	00	00	
Upper middle	05 (35)	10 (33.3)	05 (83)	20 (40)	
Lower middle	08 (57.1)	13 (43.3)	01 (16.7)	22 (44)	
Poor	00	07 (23.3)	00	07 (14)	
Very poor	01 (7.1)	00	00	01 (02)	
Total	14	30	06	50	

*Chi- square; p > 0.05 is not significant

Table 2: Temporal Patterns of Insomnia in the Context of Comorbid Psychiatric Conditions

Diagnosis	Timing	Male	Female	Total	p-value*
Comorbid insomnia	Preceding	02	02	04	0.283
	Incidental	01	06	07	
	Succeed	09	10	19	
Total	12	18	30		

*Chi- square; p>0.05 is not significant

Table 3: Assessing the Relationship between Stress Levels and Diagnostic Categories

	Stressor			
Diagnosis	Present	Absent	Total	p-value*
Insomnia	10	04	14	0.106
Comorbid insomnia	23	07	30	
Psychiatric morbidity without insomnia	02	04	06	
Total	35	15	50	

*Chi- square; p >0 .05 is not significant

Table 4: Assessment of Diagnosis in Relation to Severity Scores

Diagnosis	Insomnia severity index (ISI)					
	No insomnia	Mild	Moderate	Sever	Total	p-value*
Insomnia	00	03	08	03	14	0.000
Comorbid insomnia	00	05	23	02	30	
Psychiatric morbidity with insomnia	06	00	00	00	06	
Total	06	08	31	05	50	

*Anova, # Post hoc (Bonferroni) showed significance in psychiatric morbidity without insomnia as compared to other groups. p <0.05 was significant

Table 5: Evaluation of Moderate to Severe Insomnia Scores Across Diagnostic Categories Diagnosis vis-a-vis gender

Diagnosis	Male	Female	Total	p-value
Insomnia	8	3	11	0.042
Comorbid insomnia	9	16	25	
	17	19	36	

*Chi-square; p<0.05 is significant

Table 6 :Diagnosis vis-a-vis occupation

Diagnosis	Unskilled	Semiskilled	Skilled	Total	p-value
Insomnia	2	4	5	11	0.031
Comorbid insomnia	6	17	2	25	
	8	21	7	36	

*chi-square ; p<0.05 is significant

Table 7: Temporal association in age groups

	Temporal association			
Age groups years	Preceded	Incidental	Succeeded	p-value
21-40	3	2	16	
41-60	1	5	3	0.022
Total	4	7	19	

*Chi-square; p<0.05 is significant.

Table 8:Temporal association vis a vis socio economic status (SES)

	Temporal association			
SES	Preceded	Incidental	Succeeded	p-value
Upper middle	4	0	6	0.019
Lower middle	0	5	8	
Poor	0	2	5	
Total	4	7	13	

*Chi-square; p<0.05 is significant.

significant demographic differences across the groups diagnosed with non-organic insomnia, comorbid insomnia, or psychiatric morbidity without insomnia. The demographic factors showed no statistical significance in relation to the sleep-related diagnoses, suggesting that such disturbances were uniformly distributed across the various demographic sections in this sample (Table 1).

Table 2 shows that 30 psychiatric patients diagnosed with comorbid insomnia the timing of insomnia in relation to psychiatric diagnosis varied. Four cases of comorbid insomnia were reported to precede the psychiatric condition, seven were incidental (occurring simultaneously), and the majority, nineteen, developed insomnia following the onset of the psychiatric condition. Gender distribution showed more females (18) than males (12) with comorbid insomnia. However, the differences in timing of insomnia onset in relation to gender were not statistically significant (p = 0.283), indicating that the timing of comorbid insomnia does not differ significantly between males and females in this sample.

Table 3 shows, out of 50 individuals, 35 reported experiencing stress in relation to their diagnosis. Among those with insomnia, 10 out of 14 individuals reported stress, while 23 out of 30 individuals with comorbid insomnia also reported stress. Only 2 of the 6 individuals with psychiatric morbidity without insomnia reported stress. There was no statistically significant correlation between the presence of stress and the diagnostic categories, as indicated by a p>0.106.

Post hoc (Bonferroni) showed significance in psychiatric morbidity without insomnia as compared to other groups. p<0.05 was significant.

In the assessment of insomnia severity across different diagnostic groups using the Insomnia Severity Index, no individuals with non]organic insomnia lacked symptoms, with most reporting moderate to severe levels. Comorbid insomnia cases predominantly exhibited moderate severity. All individuals with psychiatric conditions but without insomnia reported no insomnia symptoms. The variation in insomnia severity scores across these groups is statistically significant, indicating a strong link between the diagnosis and the severity of insomnia experienced (Table 4).

Table 5-9 highlights the relationships between diagnostic categories of insomnia and demographic factors, Males are more likely to have insomnia, while females tend to have higher rates of comorbid insomnia. The incidence of insomnia varies with occupation; semiskilled workers report the highest levels of comorbid insomnia. Younger adults often experience insomnia following other conditions, whereas in older adults, insomnia tends to occur incidentally. Socioeconomic status affects the timing of insomnia, those in the upper]middle class often experience insomnia first, while lower socioeconomic statuses tend to have insomnia following other issues. These patterns suggest that gender, occupation, age, and socioeconomic status are all relevant factors in the occurrence and nature of insomnia and comorbid conditions.

DISCUSSIONS

The intricate relationship between demographic factors and sleep disturbances has been a subject of research for many years. In the presented study, the distribution of insomnia and comorbid conditions across demographic lines yields insights into the pervasiveness and nature of sleep disorders in a psychiatric population. These insights are particularly relevant when juxtaposed with existing literature.

The finding that the majority of psychiatric patients were in the 21]40 age range aligns with previous studies indicating that the burdens of career, family responsibilitiesNovember 10, 2023 and social adjustments significantly contribute to stress and psychiatric issues in this age group[7]. The slight male predominance in the current study contrasts with the conventional wisdom that suggests women are more prone to insomnia[8]. However, when considering comorbid insomnia, the trend shifts, showing a higher

prevalence in women. This is consistent with findings that women have a greater propensity for internalizing disorders, which often coexist with sleep disturbances [9].

The predominance of married individuals in the study might suggest that marital status is not a protective factor against psychiatric conditions and insomnia, which corroborates earlier research[10], highlighting that marital discord can be associated with a range of mental health issues, including sleep disorders. Regarding education the significant portion with college education among the participants suggests that educational levels do not safeguard against psychiatric conditions and related sleep disturbances. This may reflect the earlier findings [11], who found that higher education levels are often associated with greater stress and anxiety levels, potentially contributing to sleep problems.

The nearly even split between urban and rural residences in the occurrence of sleep disorders might indicate that environmental factors associated with these living areas do not significantly influence the prevalence of psychiatric conditions and insomnia in this sample, which may contrast with other literature that suggests urban living is associated with higher stress levels[12]. The study' indication that socio]economic status did not show significant differences across the diagnosed groups aligns with research suggesting that while socio]economic disparities relate to general health outcomes, the association with sleep may not be as pronounced or may manifest differently[13]. The variation in the timing of insomnia concerning psychiatric diagnoses adds an important dimension to understanding the interplay between sleep and psychiatric conditions. In this study the majority developed insomnia following the onset of a psychiatric condition, suggesting that for many patients, sleep disturbances may be a consequence of psychiatric morbidity. This is in line with the "yperarousal"theory, which postulates that psychiatric conditions contribute to a heightened arousal state that disrupts sleep[14].

The lack of statistical significance in the timing of insomnia onset between genders, as found in this study, suggests that the intersection between gender and the development of comorbid insomnia may be more complex than previously understood and warrants further investigation. While stress is a well]documented contributor to both psychiatric conditions and sleep disturbances the study' finding of no significant correlation between the presence of stress and the diagnostic categories may suggest that while stress is prevalent among those with psychiatric conditions, it does not differentiate between those with and without sleep disturbances. This is an area where the current findings challenge some existing literature, which often shows a strong correlation between stress and insomnia[15].

The significant variation in insomnia severity across different diagnostic groups supports the hypothesis that insomnia is not a monolithic condition but varies widely in its expression, depending on the underlying psychiatric pathology. This complements the growing body of research that advocates for a more nuanced understanding of insomnia, taking into account its multifaceted nature[16].

The study' finding that semiskilled workers report the highest levels of comorbid insomnia could reflect the unique stressors faced by this demographic, as supported by research suggesting that job strain and associated psychosocial stressors are linked to sleep disturbances[17]. Additionally, the observation that younger adults often experience insomnia following other conditions while older adults tend to have incidental insomnia could reflect developmental and life stage factors affecting sleep[18]. The pattern where those in the upper]middle class often experience insomnia first, while those from lower socioeconomic statuses tend to develop insomnia following other issues, may indicate that socioeconomic factors influence not only the presence of insomnia but also its timing in relation to psychiatric disorders[19].

CONCLUSION

The present observational study contributes valuable information to the body of research on insomnia and psychiatric conditions, indicating that demographic factors such as gender, occupation, age, and socioeconomic status play a nuanced role in the manifestation of these conditions. The findings underscore the need for a multifaceted approach to understanding and treating sleep disorders within psychiatric populations.

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