Prevalence of Insomnia in Patients Admitted in the Medical ward of a Tertiary Care Hospital of Kashmir Valley

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ABSTRACT

Background: Insomnia is not uncommon in hospitalized patients. Insomnia affects the elderly population significantly. Indian elderly population is growing rapidly and the epidemiology of insomnia needs to be studied further in this group.

Aim and Objective: To assess the prevalence of insomnia in patients admitted in the medical ward of a tertiary care hospital of Kashmir valley.

Material and methods: This was a cross-sectional study that was conducted in the medical ward of the tertiary care institute of Kashmir valley, among 158 admitted patients who were not-critically ill and did not require supplemental oxygen for survival. The patient who stayed for >7 days in the hospital were included in the study and data was collected by interviewing the patients using "self devised questionnaire based on Athens Insomnia Scale".

Results: Our study revealed that the prevalence of insomnia among admitted patients was 45.6%. A higher prevalence of insomnia was seen in patients belonging to the age group of 52 years and above, males, married, illiterate, unemployed, who belonged to a rural area, had a social problem in the family and who used the habit-forming substance.

Conclusion: The present study provided some ideas about the prevalence of insomnia among patients admitted to the tertiary care hospital of Kashmir. In this study, the overall prevalence of insomnia among patients who reached out to physicians for the management of their morbidities was 45.6%.

Keywords: Insomnia, Kashmir valley, Sleep, Athens insomnia scale, Depression, Psychiatric disorders

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The word "insomnia" comes from the Latin words "in" (no) and "Somnus" (sleep). Insomnia disorder is defined as a subjective perception of difficulty with sleep initiation, duration, consolidation or quality which occurs despite adequate opportunity for sleep and which results in some form of daytime impairment and is considered a major important public health problem¹⁻³. As per duration, insomnia is of three types- transient (symptoms last for less than one week), acute (inability to consistently sleep well for a period of one-four weeks/less than a month) and chronic (symptoms are present for at least 3 nights/week for at least 1 month and not be linked to other sleep, medical or mental disorders)⁴⁻⁵. Conditions that can result in insomnia include psychological stress, chronic pain, heart failure, hyperthyroidism, heartburn, restless leg syndrome, menopause, certain medications, and drugs such as caffeine, nicotine, and alcohol.⁶⁻⁷ Insomnia can be grouped into

primary and secondary insomnia¹. Primary insomnia includes the following clinical entities: (a) idiopathic insomnia, (b) psycho-physiologic insomnia, (c) paradoxical insomnia. Secondary insomnia includes the following clinical entities: (a) adjustment insomnia, (b) inadequate sleep hygiene; (c) insomnia due to a psychiatric disorder; (d) insomnia due to a medical condition; (e) insomnia due to a drug or substance^{6,7}. Worldwide epidemiological studies assessed the prevalence of insomnia without restrictive criteria as 33% in the general population;⁸ when the frequency was used to determine the presence of insomnia around countries, it was 17%-34%⁹⁻¹⁰ using severity it was 18%¹¹ and symptoms with daytime consequence was around

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16%¹⁰. Thus overall globally different studies revealed that between 10% to 30% of adults have insomnia at any given point in time and up to 50% -60% have insomnia in a given year¹²⁻¹⁴. Much of this variation in prevalence may be explained by the use of different definitions of insomnia in these studies¹⁵. Epidemiological studies on insomnia have been undertaken in different populations: primary care offices, out-patient clinics, cohorts and general populations¹⁵. Consistent risk factors for insomnia are increasing age (older than 60),^{14,16} female sex,^{13,14} medical and mental comorbidity,^{12,14} night shift work, emotional stress, unemployment and lower socioeconomic status¹⁴. The consequences of insomnia are depression, reduced work performance, work-related motor vehicle accidents and overall poor quality of life¹⁷.

MATERIAL AND METHODS

This was a cross-sectional study conducted for a period of one month at the tertiary care institute of Kashmir valley among 158 patients who stayed in the hospital for more than 7 days. A self-devised questionnaire based on the Athens Insomnia Scale (AIS) was used for interviewing the patients to assess their quality of sleep at home. The patients' attribution for disease and Hospital/Ward related insomnia was also assessed. The AIS is a self-assessment psychometric instrument designed for quantifying sleep difficulty based on the ICD-10 criteria. It is measured by assessing 8 factors (provided that it occurred at least three times per week during the last month) amongst which the first 5 are related to nocturnal sleep and the last 3 to the daytime dysfunction. These are rated from 0-3 scale and sleep is finally evaluated from the cumulative score of the factors. A cut-off score of more than or equal to 6 on the AIS is used to establish the diagnosis of insomnia.

Ethical consideration:

- Consent was taken from the Head of the Department.
- Proper verbal and written consent was taken from patients.
- Confidentiality was maintained at all times during the course of the study.

Statistical Analysis: The standard statistical test like chi-square (χ^2) was applied where ever required. All the results obtained have been discussed on a 5% level of significance i.e. a p-value of < 0.05 has been considered significant. The

analysis of the data was done using SPSS version 20.00, Chicago, the USA for windows.

RESULTS

Table 1: depicts the majority (63.3%) patients belonged to the age group of 52 years and above. 53.2% were males, the majority (84.2%) were married while 15.8 % were unmarried. 53.1% were illiterate and the majority (69.6%) belonged to rural areas. 38.6% of the patients were unemployed. Socioeconomic status was assessed using the modified BG Prasad's classification. For analysis the Class I & II were grouped together as Upper Class, Class III was considered as Middle Class and Classes IV & V were grouped together as Lower Class. It was observed that the majority of the study subjects belonged to the Lower Class (52.5%) followed by Upper Class (29.1%) and Middle Class (18.4%). 28.5% had a history of habit-forming substance use.

Table 1: Socio-demographic characteristics of the study population		
Socio-Demographic Characteristics	Frequency (N)	Percentage (%)
Age		
20-35	39	24.7
36-51	19	12.0
52-67	63	39.9
>68	37	23.4
Gender		
Male	84	53.2
Female	74	46.8
Marital status		
Married	133	84.2
Unmarried	25	15.8
Place of living		
Rural	110	69.6
Urban	48	30.4
Education		
Illiterate	81	51.3
Literate	77	48.7
Occupation		
Unemployed	61	38.6
Working	43	27.2
Student	13	8.2
Homemaker	41	26.0
Socioeconomic Status		
Upper	46	29.1
Middle	29	18.4
Lower	83	52.5
Habit Forming Substance Use		
None	113	71.5
Tobacco (Smoking/Chewing)	45	28.5
Total	158	100.0

Table2: Prevalence of Insomnia in Patients (N=158)

Insomnia	Frequency (n)	Percentage (%)
Present	72	45.6
Absent	86	54.4
Total	158	100.0

45.6% of patients in our study suffered from insomnia as per the Athens Insomnia Scale (Table 2).

Table 3: Relationship between demographic characteristics and insomnia (N=72)

Socio demographic variables	Presence of Insomnia as per Athens score	
	Frequency	Percentage (%)
Age group (in years)		
20-35	13	18.1
36-51	6	8.3
52-67	32	44.4
>68	21	29.2
Gender		
Male	43	59.7
Female	29	40.3
Marital status		
Married	61	84.7
Unmarried	11	15.3
Place of living		
Rural	47	65.3
Urban	25	34.7
Education		
Illiterate	38	52.8
Literate	34	47.2
Occupation		
Unemployed	40	55.6
Working	10	13.8
Student	2	2.8
Homemaker	20	27.8
Socioeconomic Status		
Upper Class	17	23.6
Middle Class	14	19.4
Lower Class	41	57.0
Habit Forming Substance Use		
None	27	37.5
Tobacco (Smoking/Chewing)	45	62.5
Total	72	100.0

Table 3: Shows the relationship between the demographic characteristics of patients and insomnia. As per this 53 (73.6%) patients who suffered from insomnia belonged to the age group 52years and above. In our study insomnia was predominant in males (59.7%), married (84.7%), residents of rural areas (65.3%) and in illiterate patients (52.8%). The

patients who were unemployed suffered more insomnia (55.6%). 56.9% of patients who belonged to Lower Class suffered more insomnia and 62.5% of patients who use habit-forming substance (smoke/chew tobacco) had more insomnia.

Table 4: Quality of sleep at home (N=158)

	Yes n (%)	No n (%)
Are you satisfied with your sleep?	111(70.3)	47(29.7)
Does sleep or fatigue interfere with your daily activities?	56(35.4)	102(64.6)
Does your bed partner or any other person notice your unusual behavior (snoring, interrupted breathing, leg movements) in you during sleep?	48(30.4)	110(69.6)

Table 4: Self-devised questionnaire was used to show the Quality of sleep at home in which 70.3% of participants were satisfied with their sleep at home. In 35.4% of patients, sleep/fatigue interfered with the daily activities and in only 30.4% of patients their bed partner or other person noticed unusual behavior (snoring, interrupted breathing, leg movements) during sleep.

Table 5: Patients attribution for disease-related insomnia (N=72)

	Number (n)	Percentage (%)
Disease-related apprehension/anxiety	23	31.9
Pain/Discomfort	39	54.2
Fever	5	6.9
Fatigue	3	4.2
Catheter/Tubes in place	2	2.8
Total	72	100.0

Table 5: depicts 39 patients who had insomnia due to pain/discomfort followed by 23 due to disease-related anxiety, 5 due to fever and only 3 patients had insomnia due to fatigue.

Figure 1: depicts 45 (62.5%) patients who suffered insomnia due to noise followed by 21(29.1%) by light and 3(4.2%) by lack of cleanliness of the ward.

DISCUSSION

Our study findings confirmed that insomnia was present in 45.6% of patients, it was in accordance with the studies by Karnik et al¹⁸ across 25 centers in India among hypertensive patients by means of Athens Insomnia Scale (AIS) which revealed the prevalence of insomnia 47.2% and Zailinawation et al¹⁹ in Malaysian patients attending primary care clinics using the Epworth Sleepiness Scale (ESS) (38.9%). However it was quite higher than the study by Roy et al²⁰ at West Bengal, India conducted in urban population utilizing Insomnia Symptoms Questionnaire (IQS) (15.4%); moderately higher than the study by Bhaskar et al¹⁷ at Bengaluru in family medicine outpatient clinic utilizing AIS (33%). On the contrary, a multinational study was done by Blümel et al²¹ in Latin American countries using Athens Insomnia Scale (AIS) among middle-aged showed 56.6% of surveyed participants suffered from either insomnia, poor sleep quality, or both. These variations in the prevalence of insomnia might be due to the use of different definitions of insomnia in different studies; use of different insomnia scales (ISQ, AIS, ESS) and/or different study populations. 54.2% of patients in our study had insomnia due to pain and this was in accordance with the study of Taylor et al¹² in which 50.4% of patients had insomnia due to pain. In our study patients suffered insomnia due to ward related conditions also, 45(62.5%) by noise followed by 21 (29.1%) by light and 3 (4.2%) by the cleanliness of the ward. None of the studies mentioned below showed insomnia due to the ward or hospital-related condition. This was contrary to various studies where medical comorbidities and insomnia was found to co-exist often.

Limitations: Like other studies, our study also had some limitations. These are:

- Patients might have given false information.
- Institution-based cross-sectional study.
- Data from only one ward was taken.
- Insomnia can be due to many medical conditions that are not mentioned in our study.

CONCLUSION

The present study provided some ideas about the prevalence of insomnia among patients admitted to the tertiary care

hospital of Kashmir. In this study, the overall prevalence of insomnia among patients who reached out to physicians for the management of their morbidities was 45.6%. It may be mentioned that every patient should be assessed for sleep pattern, screened for insomnia and should be given adequate counseling for the same.

Declarations:

Conflict of interest: None

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Written informed consent: Taken

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