

Pattern of Sleep and Evaluation of Sleep Quality and Sleep-Disturbing Factors Among Adults in Saudi Arabia

Viqar Bashrat, MD* Sarah Ibrahim Summan** Hadeel O Mushait** Sharefah Ahmed Y Alabdullah** Bara'ah Mohammed Alyami** Noor Mohammed Alshareef** Muhanned M AlObaid** Lubna Mohammed Hafiz** Noura Abdulrahman Alamri** Malak Mohammed Alhajeri** Huda Mohammed Jawah** Oroub mohammed Amir Atif** Sara Khalid Habtar** Bushra Ali Alghorier** Ashwaq Abdu Majrashi **

ABSTRACT

Study Design: Cross sectional

Back ground: Sleep is an essential physiological human need that has healing, protecting, and energy-efficient actions to maintain good physical and mental health throughout one's life. Chronic insomnia and disturbance of the natural sleep-wake cycle from the typical 24-hour environmental cycle can lead to a number of long-term health problems. Sleep difficulties are regarded as one of the most distressing aspects of an intensive care stay. Sleep deprivation, insomnia, obstructive or central sleep apnea, parasomnias, restless leg syndrome, and circadian rhythm disturbances are the most prevalent sleep disorders encountered in critically ill patients.

Methods: In this cross - sectional study data was collected by the purposely constructed questionnaire. Questionnaire composed of the demographic items and items related to the sleep disorders and quality of sleep. Cronbach alpha of the questionnaire was calculated. Study was conducted in different regions of Saudi Arabia.

Results: Total 6100 respondents cronbach alpha was 0.84, 35% opted yes in response of the question, have you ever been labelled as Irritable Bowel Syndrome.

Conclusion: These comparisons show that Saudi residents in different subspecialties and levels have an overall shorter average sleep duration compared with residents in other countries.

Keywords: Sleep disorder, Evaluation, Sleep quality, Absenteeism

INTRODUCTION

Sleep is an essential physiological human need that has healing, protecting, and energy-efficient actions to maintain good physical and mental health throughout one's life. Chronic insomnia and disturbance of the natural sleep-wake cycle from the typical 24-hour environmental cycle can lead to a number of long-term health problems. Sleep difficulties are regarded as one of the most distressing aspects of an intensive care stay. Sleep deprivation, insomnia, obstructive or central sleep apnea, parasomnias, restless leg syndrome, and circadian rhythm disturbances are the most prevalent sleep disorders encountered in critically ill patients¹⁻⁴.

Sleep is a necessary component of human physiology. As a basic requirement for human well-being, adequate sleep is linked to good health and life quality in individuals. Poor sleep quality has been associated in studies to detrimental effects on psycho physiological health such as depression, physical weariness, poor professional performance, and excessive daytime sleepiness in college students⁵.

The PSQI was used in a cross-sectional study of 334 junior physicians in Pakistan to assess their sleep quality. 36.8% of the participants were classed as "poor sleepers." Poor sleep was linked with female gender

($P = 0.01$), decreased total sleep time ($P 0.001$), excessive daytime drowsiness ($P 0.01$), greater sleep start latency ($P 0.001$), and an increase in the frequency of sleep disruption ($P 0.001$)^{6,7}.

Another study conducted in Madrid, Spain, involved 240 physicians, 18.8% of whom satisfied the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition criteria for diagnosing insomnia. The study also suggests that there is a link between burnout and sleep disruption⁸⁻¹⁰.

Although sleep is one of human beings' basic needs and is important to their health, its problem has a variety of causes, including medical and psychological conditions. Some sleep disorders are caused by upper airway obstruction, while others are caused by genetic abnormalities¹¹.

As a result, adequate sleep is required to overcome physiological and psychological disorders. In general, decreased sleep time due to sickness, stress, or a change in sleep environment such as hospitalization can directly influence the sleep-wake cycle and produce daytime somnolence¹².

Many factors contribute to sleep pattern disruptions and poor sleep quality, including patient factors (pain, anxiety/fear, medication), staff

* Assistant Professor of Gastroenterology
Department of Medicine
College of Medicine
King Khalid University
Saudi Arabia.
E-mail: Viqar_bashrat@hotmail.com

** Medical Student / Intern
College of Medicine
King Khalid University
Saudi Arabia.

factors (nursing procedures, beepers, phone, staff conversation), and environmental factors (light, noise, alarms, procedures)^{12,13}.

A study in Saudi Arabia that used the PSQI questionnaire to evaluate the prevalence of and risk factors for poor sleep quality among residents discovered a high prevalence (86.3%) of poor sleep quality among residents. Poor sleep was most common among anesthesia residents (96%), whereas pathology residents had the lowest prevalence (68.7%). Increased sleep latency (68.4%) was the most common factor to poor sleep at least once a week^{13,14}.

The aim of this study is to find out the Pattern of sleep and Evaluation of Sleep quality and sleep-disturbing factors among Adults in Saudi Arabia.

METHODS

In this cross-sectional study data was collected by the purposely constructed questionnaire. Questionnaire composed of the demographic items and items related to the sleep disorders and quality of sleep. Cronbach alpha of the questionnaire was calculated. Study was conducted in different regions of Saudi Arabia. The questionnaire consists of three sections consisting of demographic information, Study duration was Jan-2022 to – March 2023, and approved from research ethical committee of the college of Medicine, King Khalid University. After collection of data, data was coded and entered in the SPSS ver.20 software for analyses descriptive statistics (mean standard deviation, frequencies and percentages were computed), to measure the significance differences chi-square test was used at 5% level of significance, regression analysis was also carried out to determine the significant risk factors.

RESULTS

We have total 6100 respondents, cronbach alpha of the questionnaire was 0.84.

Table 1: Demographics

		Frequency	%
Gender	Male	3600	59.02%
	Female	2500	40.98%
Working hours / day	5 hours or less	700	11.48%
	6 hours	900	14.75%
	8 hours	4000	65.57%
	12 hours or more	500	8.20%
Profession	Medical Sector	900	14.75%
	Military	600	9.84%
	Education	1700	27.87%
	Student	1100	18.03%
	Civil sector	360	5.90%
	House wife	654	10.72%
	Unemployed	358	5.87%
Resident	City	4220	69.18%
	Village	1880	30.82%
	Marital Status	Married	2800
Unmarried		3300	54.10%
Monthly income	Less than 5000	1500	24.59%
	5000-15000	3220	52.79%
	Above 15000	1380	22.62%
Smoking Status	Ex- smoker	921	15.10%
	Current smoker	1900	31.15%
	No smoker	3279	53.75%

Chronic Diseases	None	3200	52.46%
	DM	1200	19.67%
	HTN	900	14.75%
	Asthma	800	13.11%

Table 1, depicted that 59.02% were males while 40.98% were females, 65.57% working 8 hours per day, 27.87% were belongs to the education profession while 18.03 were students, 69.18% were living in cities rest in villages. 45.9% were married, 54.10% single, 52.79% had monthly income in between 5000 to 15000 SAR, 31.5% were current smoker DM (19.67%) and HTN (14.75%) were the major chronic diseases.

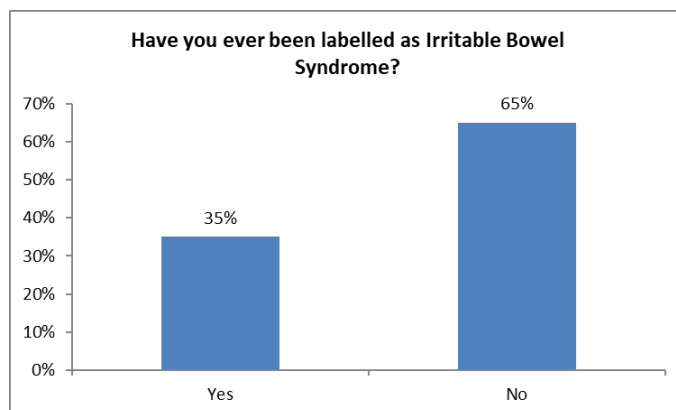


Figure 1: Prevalence of IBS

As per figure 1, 35% opted yes in response of the question, have you ever been labelled as Irritable Bowel Syndrome.

Table 2: Clinical variables

	%
Blood in stool	
Yes	32%
No	68%
Weight loss	
Yes	36%
No	64%
Change in appetite	
No	65%
Increase	12%
Decrease	23%

As per table 2, 68% had no blood in stool, 35% found changed in their appetite (12% increase, 23% decrease).

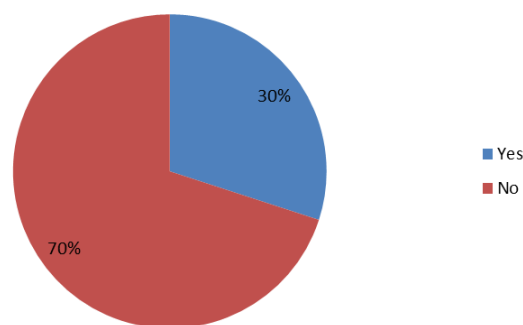


Figure 2: Sleep disorder problem

As per figure 2, 30% was suffering from sleep disorder problem.

Table 3: Comparison between sleep disorder and IBS

Comparison between sleep disorder and IBS:	IBS problem		p- value
	Yes	No	
Sleep Disorder	1200	935	N.S (Not significant)
	630	3335	

We did not observe any significant difference while comparing sleep disorder with IBS problem.

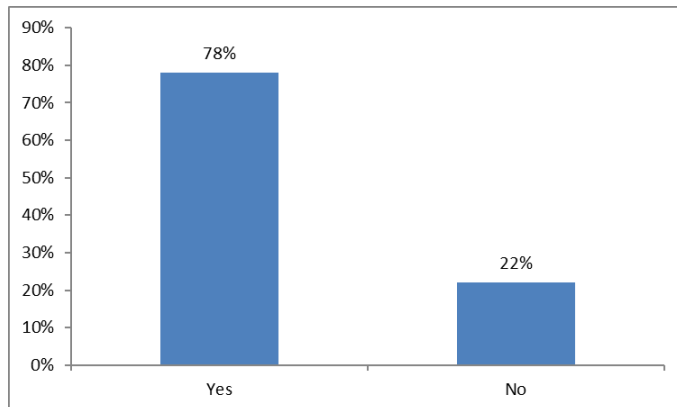


Figure 3: Do symptoms / sleep disturbance cause absenteeism from work place?

As per figure 3, 78% were agreed that sleep disorder caused absenteeism.

Table 4: Reasons for sleep disorder

	%
can't get to sleep within 30 minutes	70%
Wake up in the middle of the night or early morning	30%
Have to get up to use the bathroom	45%
can't breath comfortably	65%
feel too cold	45%
feel too hot	39%
have bad dreams	45%
have pain	66%
taken medicine help you to sleep	29%
staying awake while driving, eating meals, or engaging in social activity	29%
other reason	29%
	36%

70% respondent stated that one of the major reasons for sleep disorder was can't get to sleep within 30 minutes, 66% had pain, 65% cannot breathe properly others reason were less than 50%.

DISCUSSION

This study included a large sample of residents (n = 6100) from various medical specialties working in multiple healthcare centres across KSA. The prevalence of poor sleep quality (30%) was comparable and inline that reported in other studies conducted in residents in India (39.3%)¹³⁻¹⁵. Further research should explore whether cultural factors might play a role in the high prevalence of poor sleep quality in the Saudi population.

one study reported that healthcare workers who perform shift work and on-call schedules had poorer sleep quality compared with those who did not¹⁶⁻¹⁸. This is consistent with the findings in the present study. Performing on-call schedules or shift work was significantly associated with grade 2 poor sleep quality.

Sleep issues may have a detrimental impact on safety, overall health, and the ability to balance work and life. Our goal was to determine whether sleep disturbances are related to absenteeism and tardiness (being late or tardy) among working adults. In contrast of other studies, we did not observe any sort of significance differences between sleep disorders and absenteeism^{19,20}.

In the subjects of our study, we did not discover any correlation between sex and quality of sleep. Our findings were at odds with those of earlier research carried out in Pakistan and Hong Kong, which discovered that female students experienced a higher rate of poor sleep quality than male students the higher prevalence of sleep disorders and disturbances among females in the general population may help to partially explain the relationship between female gender and poor sleep quality. The higher percentages of female participation in domestic chores as well as sociocultural norms of societies may contribute to these gender inequalities^{21,22}.

Because of the cross-sectional nature of our study's design, inverse causality must be considered when examining the relationship between characteristics like sadness and excessive smartphone use and poor sleep quality.

These studies showed that Saudi residents in different subspecialties and levels have an overall shorter average sleep duration compared with residents in other countries.

CONCLUSION

Based on the results of the current study, it can be said that sleep disturbances are a significant health issue, and we should hold awareness campaigns and lectures to address it. Additionally, because sleep disorders cause absenteeism, policymakers should take this into account when developing policies.

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Competing Interest: None

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