

Post-COVID analysis of Sleep Quality of Undergraduate and Postgraduate Students

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ABSTRACT

In the present study an attempt is made to compare and find out extent of sleep quality among students studying in undergraduate and post graduate courses. The sample consisted of 272 students studying in Mysore city, pursuing various courses and aged between 18-25 years. They were selected from various colleges of Mysore city, through simple random sampling. The students answered Pittsburgh Sleep Quality Index (PSQI-1989) scale which measured global sleep quality. Chi-square tests were applied to find out the differences between frequencies of levels of sleep quality and association of demographic factors with sleep quality. Results revealed that an alarming 72.1% of the selected students in the present study had poor sleep quality. Students pursuing postgraduate courses had better sleep quality than students pursuing undergraduate courses. Students hailing from semi-urban areas had better sleep quality than students hailing from rural and urban areas. Other factors such as gender, course and stay did not have a significant influence over sleep quality of the students.

Keywords: Sleep quality, Undergraduate students, post graduate students

Globally, the COVID-19 epidemic has had an impact on people's habits and way of life. Governments all across the world implemented measures to stop the coronavirus's transmission in the initial lack of a vaccine, including mask use, social isolation, shielding, self-isolation, and quarantining. Government-mandated "lockdowns," which restricted movement and social interaction, were implemented in a number of nations. Unsurprisingly, there has been an increased emphasis on how these limits, notably those relating to sleep, affect both physical and mental health (Killgore et al., 2021). According to Ingram et al. (2020), lack of sleep has been linked to lower health-related quality of life, reduced cognitive functioning, and poor mental health, including a higher incidence of anxiety and depression. Increased alcohol consumption and long-term health effects, such as the occurrence of physical health conditions like hypertension, sympathetic nervous system activation, impaired glucose control, and increased inflammation, have also been linked to changes in sleep duration (Neill et al., 2020). College life comes with many new stressful experiences, with increased freedom, self-responsibility, disorganized lifestyle, variable

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Received: September 20, 2022; Revision Received: December 27, 2022; Accepted: December 31, 2022

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schedules, repeated deadlines, dormitory living, and social and academic obligations. In order to be able to keep up with these challenges, students neglect sleep by spending the time on late night study sessions, project completion, socialising, accessing internet, and other various activities. In public health domain, quality of sleep acquires a major position. Though enough knowledge on sleep and sleep quality is wide spread, today we are finding many sleep related disorders especially in young adults and aged.

It is estimated that on an average, a young adult needs around 8 hours of sleep per day. Yet majority of the students are sleep deprived, as shown by one study in which 70.6% of the college students reported sleeping less than 8 hours with mean total sleep time being 7.02 hours (Lund, Reider, Whiting & Prichard, 2010). Lack of sleep and drowsiness are exceptionally regular among college going students. College life is also accompanied by social and aggressive college condition that can have both positive and negative effects on a student's wellbeing, stress because of academic accomplishment factors, social weights, detachment from family, and financial concerns. Lack of sleep impacts and affects learning, memory and execution and additionally mental and physiological wellbeing. Studies demonstrate that lack of sleep (under six to seven hours for each day) can prompt a genuine decrease in intellectual execution and psychomotor capacities (lessening of fixation, memory and thinking procedures), daytime dysfunction, expanded rate of driving accidents and reduced academic performances, regularly bringing about poor scores (Voelker, 2004).

There are several negative side effects of sleep deprivation, including endocrine, immunologic, metabolic and cardiovascular. The extents of these effects depend on how severe the sleep deprivation is (Teter, et al, 2006; Buboltz, Brown & Soper, 2001). Reduction in the time spent on sleeping and the quality of sleep across different people has been interlinked towards an increase in work and social status demands, lifestyle change, technology usage increase, regular smoking and drinking, intake of caffeine, change in diet and the various changes in physical activity. (Van den Bulck, 2003, 2004; Zhou et al., 2012). This is because studies point that quality of sleep is vital in the emotional and physical growth of the adolescents which have further effects in learning, attention, concentration, and the other various cognitive functions (Friedman, Corley, Hewitt, & Wright, 2009). The increase in negativity of mood and behaviour is rooted from the lack of sleep which hinders their potentials in the ability to think in clarity, concentration in various activities and their performance in school (Dewald, Meijer, Oort, Kerkhof, & Bögels, 2010). Few studies on sleep quality and other issues have revealed the following. Studies by D'Souza, Samyukta and Tejaswini (2018), found that internet addiction has significant influence over sleep quality, as the internet addiction increased, sleep quality of the female students decreased significantly. Deeksha and D'Souza (2018), in their study found that salience and neglect social life aspects of internet addiction predicted sleep quality of college students.

During COVID-19, after a year or so, most of the classrooms turned in to virtual classrooms, so that students can sit at home and attend online classes. Parents are found to force their children to use android/smartphones for attending virtual classrooms. This has lead to an increased use of androids among students, yet another cause for sleep deprivation. In this context, the present study is planned to assess the sleep quality of students pursuing undergraduate and postgraduate courses along with influence of demographic factors on sleep quality.

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Sample:

Students pursuing undergraduate and post graduate courses were selected for the purpose of the study. A total of 272 students pursuing their education in Arts, Commerce, and Science were randomly selected from few colleges of cities of Mysore.

Tool employed:

The Pittsburgh Sleep Quality Index (1989)

The Pittsburgh Sleep Quality Index (Buysse, Reynolds, Monk, and Berman PSQI-1989) was used to assess the extent of sleep quality among the sample selected. This scale contains 18-items self-reporting the respondents. The items measure seven components sleep quality, score ranging from 0 (no difficulty) to 3 (severe difficulty) for sleep duration, sleep disturbance, sleep latency, daytime disturbance, habitual sleep efficiency, sleep quality, and use of sleep medications. The total of these provide an index referred to as global sleep quality which ranges from 0 to 21. Reliability measures indicate that the PSQI generally has high internal consistency ($\alpha = .80$ to $.85$) and test-retest reliability ($r = .85$ to $.87$). It also has acceptable concurrent validity; scores on the PSQI are highly correlated with scores on other subjective measures of sleep quality ($r > .69$) too.

Procedure:

The authors personally visited few colleges in Mysuru, took the permission from the respective heads of the institution and administered the tool to 400 students. Before administrating the questionnaire, they were assured of confidentiality. They were asked to answer all the questions. The instructions were read out and each item in the questionnaire was explained in case of difficulty in understanding the item/s, in order to get good response. Once the data were collected, they were scored and fed to the computer. The data were analyzed using chi-square tests.

RESULTS

Table 1

Distribution of the respondents on sleep quality by various demographic factors and results of test statistics

Variable	Sub variables		Sleep quality		Test statistics	P value
			<5	>5		
Overall		F	76	196	$X^2 = 52.94$	P=.001
		%	27.9%	72.1%		
Group	Undergraduate	F	31	109	$X^2 = 4.82$	P=.028
		%	28.4%	71.6%		
	Postgraduate	F	45	87		
		%	34.1%	65.9%		
Gender	Male	F	40	82	$X^2 = 2.58$	P=.108
		%	32.8%	66.2%		
	Female	F	36	114		
		%	24.0%	76.0%		
Domicile	Urban	F	20	80	$X^2 = 7.44$	P=.024
		%	20.0%	80.0%		
	Rural	F	31	76		
		%	29.0%	71.0%		
	Semi-urban	F	26	40		
		%	39.4%	60.6%		

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Variable	Sub variables		Sleep quality		Test statistics	P value
			<5	>5		
Course	Arts	F	25	76	$X^2= 0.86$	P=.651
		%	24.8%	75.2%		
	Commerce	F	28	68		
		%	29.2%	70.8%		
	Science	F	23	52		
		%	30.7%	69.3%		
Stay	Home	F	40	102	$X^2= 0.13$	P=.937
		%	28.2%	71.8%		
	Hostel	F	16	45		
		%	31.2%	68.8%		
	Paying Guest/others	F	20	49		
		%	29.0%	71.0%		

Overall sleep quality: On the whole we find that a large majority of 72.1% of the selected students expressed poor sleep quality as against only 27.9% of the students expressed healthy sleep quality. Chi-square test revealed a significant difference between frequencies of poor and healthy sleep quality ($X^2= 52.94$; $p=.001$), confirming that students suffer from good sleep to a greater extent.

Group and sleep quality: Chi-square test revealed a significant association between groups and sleep quality ($X^2= 4.82$; $p=.028$), revealing that undergraduate students had significantly lesser sleep quality as compared to post graduate students.

Gender and sleep quality: A non-significant association was observed between gender and sleep quality ($X^2= 2.58$; $p=.108$), revealing that pattern of sleep quality was same among male and female students.

Domicile and sleep quality: Domicile of the students had significant influence over their sleep quality. Chi-square value of 7.44 was found to be significant at .024 level. The sleep quality was better for semi-urban students, followed by students from rural areas and students hailing from urban areas had poor sleep quality.

Course and sleep quality: A non-significant association was observed between course pursued and sleep quality ($X^2= 0.86$; $p=.652$), indicated that students pursuing Arts, commerce and science disciplines did not differ in their sleep quality.

Stay and sleep quality: A non-significant association was observed between stay and sleep quality ($X^2= 0.13$; $p=.937$), revealing that pattern of sleep quality was same among students staying in home, hostel or paying guest facilities.

DISCUSSION

Major findings of the study

- An alarming 72.1% of the selected students in the present study had poor sleep quality.
- Students pursuing postgraduate courses had better sleep quality than students pursuing undergraduate courses.
- Students hailing from semi-urban areas had better sleep quality than students hailing

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from rural and urban areas

- Other demographic factors such as gender, course and stay did not have a significant influence over sleep quality of the students.

On the whole 72.1% of the people who answered the questionnaire have poor sleep quality. The reasons include reduced or eliminated parental influence and the freedom to self-select bedtime, increased academic demands, economic stresses, and the increased number of hours spent working and/or indulged in extracurricular activities (Millman, 2005). From a recent study conducted by Samyukta and D'Souza (2018), it was found that the 74.8% of the selected students were suffering from lack of decent sleep, and the respondents from the urban area had comparatively higher percentage of poor sleep than the respondents from rural and semi-urban areas. The study also revealed that the respondents who stayed awake till midnight was more affected with poor sleep quality than the respondents who slept earlier. Such respondents furthermore suffer from varied negative side-effects such as their mood, alertness, cognitive functions and their motor activity. Even among students pursuing dental education, it was found that 43.3% of the students had poor sleep quality (D'Souza & Meenakshi, 2018). In Brazil, a study found that 95.3% of the college students sample studied had poor sleep quality (Araújo, et al, 2013). In a recent study on the comparison between pre university and undergraduate students by D'Souza, Manish & Deeksha (2018), revealed that students pursuing pre university courses had better sleep quality than students pursuing undergraduate courses. Students pursuing commerce and arts courses had better sleep quality compared to students pursuing Arts courses. Other factors-gender, domicile and stay did not have significant influence over sleep quality of the students.

Research has already revealed that sleep disorders may result in fatigue, tiredness, depression and problems in daytime functioning. Other factors such as gender, domicile and place of residence did not have a significant influence over sleep quality of the students. Definitely, the findings of the present study are quite alarming and educationists, psychologists and policy makers should look into these serious aspects and come out with concrete strategies to improve the sleep quality of the students. Though effects of COVID-19 are diminishing over the years, yet it has influence on various psychological factors, causing significant distress among the people.

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Acknowledgement

The author appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author declared no conflict of interest.

How to cite this article: Dr. Ranganatha, P.R & Dr Mahadevaswamy P (2022). Post-COVID analysis of Sleep Quality of Undergraduate and Postgraduate Students. *International Journal of Indian Psychology*, 10(4), 2274-2279. DIP:18.01.218.20221004, DOI:10.25215/1004.218