

Assessment of Sleep Quality among College Students: Influence of Select Demographic Factors

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ABSTRACT

Present study attempted to find out the extent of sleep quality among students studying in Mysuru and Bengaluru cities. The sample consisted of 290 students pursuing various courses and aged between 18-22 years. They were selected from Mysuru and Bengaluru cities of Karnataka city through simple random sampling. The students answered Pittsburg Sleep Quality Index (PSQI-1989) scale which measured global sleep quality. Results revealed that an alarming 74.8% of the selected students in the present study had poor sleep quality. Domicile of the college students had significant influence over sleep quality, students from urban area had poor sleep quality followed by students from rural and semi urban areas. Other factors-gender, age, and course pursued did not have significant influence over sleep quality of the college students.

Keywords: *Sleep quality, college students*

College life is accompanied by many new stressful challenges, with increased freedom, self-responsibility, disorganized lifestyle, variable schedules, repeated deadlines, dormitory living, and social and academic obligations. In order to be able to cope with these challenges, students voluntarily alter their sleeping habits, due to which many valuable hours which are supposed to be spent in sleeping are lost in socializing, 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. Having low sleep quality is becoming global public health problem (Araújo et al, 2013).

As of now, the sleep duration was found to diminish with age and the most noteworthy prevalence of poor sleep quality was found to occur among older adolescents. The pervasiveness of poor sleep quality among adolescents and youths is high and fluctuates from

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10% to 40% around the world. In China a research by Xu et al. revealed most astounding predominance of poor sleep quality was found between age gathering of 16 to 20 years old which was 18.6%, trailed by 21 to 25 years old was 17.1% and among 10 to 15 years old was 15.2%. In Shanghai, an investigation among kids and teenagers announced that the mean period of inadequate sleep starts at 11.5 years, females dozed less and gets into bed late. A meta-analysis study among adolescents expressed that sleep time was found to decay with age at an estimation of 14 minutes for every day with every time of age on school days and 7 minutes for each night with every time of age on non-schooling days. Studies have likewise demonstrated that teenagers sleep roughly 1.5 hours longer on ends of the week when contrasted with weekdays. Hence, this investigation focuses around adolescents who are attending college. Vital hazard factors related with poor sleep quality among adolescents in colleges incorporate financial status of family, instructive foundation of guardians, and family structure. Aside from that, lacking measure of sleep among young people attending college has been related with daytime sleepiness, poor academic performance. Psychological correlates, for example, stress, anxiety and depression are the basic indicates that need be mulled over as they give genuine commitment to poor sleep quality among adolescents in optional schools.

Lack of sleep and drowsiness are exceptionally regular among college going students. College life brings new difficulties, for example, another 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 R. 2004).

Sleep deprivation can have serious side effects on different processes in our body, including endocrine, immunologic, metabolic and cardiovascular. The extents of these effects depend on how severe the sleep deprivation is (Teter, McCabe, LaGrange, Cranford & Boyd, 2006; Buboltz, 2002). 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. (Al-Hazzaa et al., 2012; Calamaro, Mason, & Ratcliffe, 2009; Chokroverty, 2009; McKnight-Eily et al., 2011; 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; Snell, Adam, & Duncan, 2007). 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). There is also an increased risk of accidents and injuries, abuse of drugs and alcohol; slow body metabolism and obesity; which is caused due to lack of good sleep (Passarella & Duong, 2008). Few studies on sleep quality and other issues have revealed the following. In a recent 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.

In India, there is influx of multiple mobile applications and availability for free or minimal cost, there is abundant usage of mobile/computer applications by young adults. This is also one of the major reasons for poor sleep quality. Since, not many studies have done in this regard; present study is an attempt to find out the extent of sleep quality among college students and influence of select demographic factors on it. It is hypothesized that college students do suffer from healthy sleep quality and demographic variables have influence on it.

METHODOLOGY

Sample

Students pursuing undergraduate courses were selected for the purpose of the study. A total of 290 (90 male and 200 female) students pursuing their education in Arts, Commerce, and Science were randomly selected from few colleges of cities of Mysuru and Bengaluru.

Tools 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 author personally visited few colleges in Mysuru and Bengaluru, took the permission from the respective heads of the institution and administered the tool to 290 students. Before administering 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. Table 1 presents distribution of the respondents on sleep quality by various demographic factors and results of test statistics

Table 1 Distribution of the respondents on sleep quality by various demographic factors and results of test statistics

Variable			Sleep quality		Total	Test statistics	P value
			<5	>5			
Overall		Frequency	73	217	290	$X^2=71.503$	P=.001
		Percent	25.2%	74.8%	100.0%		
Gender	Male	Frequency	24	66	90	$X^2=0.155$	P=.694
		Percent	26.7%	73.3%	100.0%		
	Female	Frequency	49	151	200		
		Percent	24.5%	75.5%	100.0%		
Age groups (in years)	<18	Frequency	21	51	72	$X^2=1.149$	P=.563
		Percent	29.2%	70.8%	100.0%		
	19-20	Frequency	43	131	174		
		Percent	24.7%	75.3%	100.0%		
	20+	Frequency	9	35	44		
		Percent	20.5%	79.5%	100.0%		
Domicile	Urban	Frequency	34	147	181	$X^2=10.48$	P=.005
		Percent	18.8%	81.2%	100.0%		
	Rural	Frequency	28	49	77		
		Percent	36.4%	63.6%	100.0%		
	Semi-urban	Frequency	11	21	32		
		Percent	34.4%	65.6%	100.0%		
Course	Arts	Frequency	35	100	135	$X^2=0.875$	P=.646
		Percent	25.9%	74.1%	100.0%		
	Commerce	Frequency	24	83	107		
		Percent	22.4%	77.6%	100.0%		
	Science	Frequency	14	34	48		
		Percent	29.2%	70.8%	100.0%		

RESULTS

Overall sleep quality: On the whole we find that a large majority of 74.8% of the college students expressed poor sleep quality as against only 25.2% of the college students expressed healthy sleep quality. Chi-square test revealed a significant difference between frequencies of poor and healthy sleep quality ($X^2=71.503$; $p=.001$), confirming that college students suffer from good sleep to a greater extent.

Gender and sleep quality: A non-significant association was observed between gender and sleep quality ($X^2=0.155$; $p=.694$), revealing that pattern of sleep quality was same among male and female students. In other words, both male and female students had poor sleep quality to an extent of approximately 75%.

Age and sleep quality: When the sleep quality levels were verified against age, a non-significant association was observed between age groups and sleep quality ($X^2=1.149$; $p=.563$), revealing that pattern of sleep quality was same among students belong to age groups of <18, 19-20 and above 20 years. In other words age of the students did not have significant influence over their sleep quality.

Domicile and sleep quality: Domicile of the students had significant influence over their sleep quality. Chi-square value of 10.48 was found to be significant at .001 level. From the table it is clear that students hailing from urban area had more poor sleep quality, followed by students from rural area and lastly students from semi-urban areas.

Course and sleep quality: A non-significant association was observed between course pursued and sleep quality ($X^2 = 0.875$; $p = .646$), revealing that pattern of sleep quality was same among students pursuing different courses, which included Arts, Commerce and science.

DISCUSSION

Major findings of the study

1. An alarming 74.8% of the selected students in the present study had poor sleep quality.
2. Domicile of the college students had significant influence over sleep quality, students from urban area had poor sleep quality followed by students from rural and semiurban areas.
3. Other factors-gender, age, and course pursued did not have significant influence over sleep quality of the college students.

It is quite surprising that about three fourth of the sample studied had poor sleep quality. Results of the present study are in agreement with the studies done elsewhere. In a study on medical students almost three-quarters of the study group had poor sleep quality (Siddiqui et al, 2016). Further analysis revealed that sleep duration and going to sleep after midnight is predictors of poor sleep quality. Koet *al.* (2005) reported that approximately 20% of youth are internet addicts, parental observation on elementary and junior high students revealed that about 45% of them have some kind of sleep problems (Gau, 2006). Fineberg et al (2013), opined that “Addiction-related sleep problems and addiction are prevalent, and contribute to a notable fraction of the disease burden in mental and neurological disorders in established market economies”. Hence, verifying the long term associations between sleep problems and internet addiction may lead to form prevention and treatment strategies for improving sleep quality and reduction of internet addiction.

Results of the present study clearly revealed that the majority of the selected sample of college going students did not have good sleep quality which calls for further research into the issue. If sleep quality is not good it may have influence on mental health conditions which might affect their academic performance. They may feel sleepy during college hours which again have negative impact both psychologically and academically. Siddiqui et al (2016) opined that Sleep deprivation effects individual’s mood, alertness, cognitive functions, and motor activity. They attributed it to use of the internet and social media along with use of central nervous system stimulants. Since good sleep quality is better indicator of health, may be psychologists, neurologists, educationists and policy makers have to make concrete strategies to improve the sleep quality of students in particular and others in general to

alleviate the side of poor sleep quality. In a way they have to plan for sleep hygiene education (Siddiqui et al, 2016) so that their sleeping practice will be improved for better physical and mental health.

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Conflict of Interest

The authors colorfully declare this paper to bear not conflict of interests

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