

SLEEP PATTERN AMONG THE COLLEGE STUDENTS

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Abstract: College is a matter of dreams and the academic and career aspirations born of those dreams. Sleep problems can turn those dreams into nightmares, causing physical and emotional problems that hope of graduating in the trash bin. The present study was pursued with the objectives as to analyze the sleep pattern of the selected college students and usage of electronic devices before their sleep. Among the selected 120 college students 82% were females and 18% were males. Nearly 47% of the selected subjects had eight hours of sleep, 31% slept for seven hours, 17% six hours, 3% five hours and only two percent slept for less than hours. Most of the selected subjects around 50% took naps once a day whereas 12% and six percent took naps twice and thrice a day respectively. Nearly 32% of the subjects reported that they never took a nap in between. It was pleased that 95% of the responds have reported that they were not using sleeping pills or caffeine products at night time. There was also a significant and positive correlation between average bedtime and average wake-up time ($r = 0.70$, $p < 0.0001$), such that students who went to bed earlier tended to also wake up earlier. Around 12% of the selected college students used electronic devices like laptop, mobile phones for half an hour before sleep, 14% one hour, 21% two hours and 53% for about two hours were evident. Awareness was created to all the selected college students about the importance of sleep and how sleeplessness affects the health through leaflets. We determine that promotion of education institution policies encouraging healthy and adequate sleep could have a significant impact on the sleep, learning, and health of college students. Future research to investigate effective and feasible interventions, which disseminate both sleep knowledge and encouragement of healthy sleep habits to college students in a time and cost effective manner, is a priority.

Key words: College students, Electronic devices, Naps, Sleep pattern, Sleeping pills

I. INTRODUCTION

Sleep is the physiological process essential to humans and their normal functioning. Sleep problems and habits of a person are also influenced by physical, mental and environmental factors such as age, gender, lifestyle, stress and noise. Adults require on average between seven and nine hours of sleep each night. Both quality and quantity of sleep plays an important role in an individual's psychological and physical well-being. It also allows the brain to better process new experiences and knowledge which increases understanding and retention (Colten, 2006).

Links between sleep and psychopathology are complex and likely bidirectional. Sleep problems and alteration of normal sleep patterns have been identified in major forms of child psychopathology including anxiety, depression and attention disorders as well as symptoms of difficulties in the full range (Gegory and Sadeh, 2012).

Sleep occurs in repeating periods in which the body alternates between two modes. The two modes are REM sleep and non- REM sleep. REM stands for "Rapid eye movement". This mode of sleep has many other aspects including virtual paralysis of the body. During sleep the body's systems are in an anabolic state, helping to restore the immune, nervous, skeletal and muscular system, these vital processes that maintain mood, memory, and cognitive function and plays a major role in the function of endocrine and immune systems. The diverse purpose and mechanisms of sleep are subject of substantial ongoing research. Sleep is highly conserved behavior across animal evolution (Krueger et al., 2016). Hence the present study was pursued with the objectives as to analyze the sleep pattern of the selected college students and usage of electronic devices before their sleep.

II. METHODOLOGY

The study took place at Coimbatore during the period of November 2021 to February 2022 and the study participants were college students between the age group of 17 to 25 years of age. The data regarding the sleep pattern among the college students regarding the sleeping hours, wake up time, bed time, sleep time during exam hours, drugs for sleeping, disturbance of sleep and naps per day were collected using a questionnaire. The investigators collected the information necessary for the study among 120 college students who underwent their studies in colleges in and around Coimbatore.

The received responses were analyzed using Microsoft Excel sheets and the results were expressed in percentage. Awareness was created to all the selected college students about the importance of sleep and how sleeplessness affects the health through leaflets. Grander (2017) reported that intervention studies are needed that identify real-world approaches to increasing sleep time among chronically sleep-deprived individuals. Unlike traditional intervention study designs, where changing sleep is the intervention and some health marker is the outcome which would address the question of whether changing sleep impacts health, study designs are needed whereby changing sleep itself is the outcome.

III. RESULT AND DISCUSSION

1. Gender and age group of the selected subjects

Among the selected 120 college students 82% were females and 18% were males. The age group of the selected college students were categorized in to 17-19 years, 20-22 years, 23-25 years of age and displayed in the below table

Table 1
Gender and age group of the selected subjects

S No	Age Criteria (Years)	Number of sample (n=120)	
		No	%
1	17 -19	8	7
2	20 -22	100	83
3	23-25	12	10
	Total	120	100

From the above table it was clear that nearly seven percent of the selected subjects belong to the age group of 17 to 19 years, 83% comes under 20to 22years, and 10% were between 23 to 25 years of age.

2. Sleep Pattern of the selected subjects

The information regarding the sleep pattern followed by the selected subjects like time to bed, hours of sleep, disturbed sleep, naps per day, sleep duration during exam, and intake of sleeping pills were portrayed in table-2 and discussed below

i. Time to bed

Young adults need average sleep of seven to nine hours per day. About 75% of the teens don't get enough sleep. Early school start times, late night school activities, usage of electronic devices and sleep cycle shifts all play a role. Among the selected subjects 12% of the people went to bed at 9:00 pm, 39% by 10:00 pm, 34% by 11:00 pm, and 15% above 11:00 pm.

ii. Hours of sleep at night

Full 8 hours of sleep can reduce the risk of serious health problems, stay in good health, and reduce stress. Majority of the selected subjects (47%) had eight hours of sleep, 31% slept for seven hours, 17% six hours, 3% five hours and only two percent slept for less than hours.

iii. Wake up time

After 8 hours of good sleep a person should wake up early in the morning and should spend some time on exercise which makes the body healthy, improves immune system and improves concentration. Nearly 49% of the selected subjects woke by 6.00am, 22% by 7.00am, and only 10% by 5.00am. Around 19% of the selected subjects woke after 7.00am.

A Pearson's product-moment correlation between average bedtime and overall score revealed a significant and negative correlation ($r = -0.47$, $p < 0.0001$), such that earlier average bedtime was associated with a higher overall score. There was a significant and negative correlation between average wake-up time and overall score ($r = -0.38$, $p < 0.001$), such that earlier average wake-up time was associated with a higher overall score. There was also a significant and positive correlation between average bedtime and average wake-up time ($r = 0.70$, $p < 0.0001$), such that students who went to bed earlier tended to also wake up earlier.

Table 2
Sleep Pattern of the selected subjects

S.No	Sleep Pattern	Criteria	No of subjects (n=120)	
			No	%
i	Time to bed	9:00 PM	14	12
		10:00 PM	47	39
		11:00PM	41	34
		Above 11:00PM	18	15
ii	Hours of sleep at night	8 hours	57	47
		7 hours	37	31
		6 hours	20	17
		5 hours	4	3
		Less than 5 hours	2	2
iii	Wake up time	5.00am	11	10
		6.00am	59	49
		7.00am	27	22
		after 7.00am	23	19
iv	Disturbed Sleep	Yes	85	71
		No	35	29
v	Naps per day	No naps	38	32
		Once	60	50
		Twice	15	12
		Thrice	7	6
vi	Sleep during exam time	5 hours	91	76
		4 hours	22	18
		3 hours	4	3
		Less than 3 hours	3	3
vii	Intake of sleeping pills or caffeine products	Yes	6	5
		No	114	95

iv. Disturbed sleep

Disturbed sleep can have many adverse health consequences including fatigue, decreased cognitive focus and altered mood can be the potential warning sign for medical issues. Most of the selected subjects (79%) had peaceful sleep and they reported that they did not have any type of disturbance during their sleep. But about 29% of selected subjects reported that they had sleep disturbances as they woken during sleep which resulted in disturbed sleep cycle.

v. Naps a day

Naps are short periods of sleep which are for relaxation, reduce fatigue, increased alertness, also improve performance including quicker reaction time and have better memory. Most of the selected subjects (50%) took naps once a day whereas 12% and six percent took naps twice and thrice a day respectively. Nearly 32% of the subjects reported that they never took a nap.

vi. Sleep during exam time

Better sleep during examination results in better recall and better health. Sleep is necessary for an efficient learning and memory performance (Curcio et al., 2006). Among 120 respondents 76% slept five to six hours during their exam, 18% slept for four hours, three percent for three hours and only three percent slept less than three hours during their examinations. According to the body clock, having a hard time falling asleep until very late at night or very early in the morning usually feel tired and crave for sleep during the day. People who have this problem may be called "night owls." This is a common problem, and it usually starts in the early teens or young adults. People who have a parent with this problem are more likely to have it themselves.

vii. Usage of sleeping pills and caffeine products

Among 120 subjects 95% of the responds have reported that they were not using sleeping pills or caffeine products at night time. One study examined the effects of caffeine intake zero, three, and six hours before bedtime, and found that even caffeine consumed could reduce sleep time by one hour. In addition, study participants reported sleeping problems when consuming caffeine 0-3 hours before bed, but they did not realize their sleep was also disrupted when consuming caffeine six hours before bed. Even though caffeine can marginally boost performance, it is no substitute for a restful, restorative night of sleep.

3. Use of electronic gadgets before sleep

Using electronic devices before bedtime impacts sleep quality and has become a major public health issue. The survey by Fuller et al., (2017) highlights some associations between increased technology use and difficulty with sleep quantity in children and adolescents. The data suggest that increased technology use at bedtime, namely, television, cell phones, video games, and computers, is associated with a decrease in the amount of sleep children are getting.

Table 3
Use of electronic gadgets before sleep

S No	Using electronic gadgets before sleep	Number of sample n=120	
		No	%
1.	Half an hour	14	12
2.	1 hour	17	14
3.	2 hours	25	21
4.	More than 2 hours	64	53
	Total	120	100

From the above table it was evident that around 12% of the selected college students used electronic gadgets like laptop, mobile phones for half an hour before sleep, 14% one hour, 21% two hours and 53% for about two hours.

IV. CONCLUSION

Although most people know that an adequate amount of and good quality sleep are related to some benefits in maintaining health, students appear not to pay much attention to their sleep hygiene, and exhibit a lack of motivation towards establishing good sleep habits. According to the latest guidelines from the National Sleep Foundation, an optimal amount of sleep is 7–9 hours for young adults; however, only 47% of selected college students slept around eight hours per day. Sleep is a biological need for human survival. Adequate sleep is crucial for a healthy and productive life. Sleep quality during the night influences our energy every day. Evidence shows that adequate sleep can maintain physical and mental health. Good quality sleep at the right time improves learning and memory. Good sleep quality plays an important role in students' health and well-being. Raising awareness about the importance of adequate sleep for health, how electronic devices could impact their sleep, and the imperative need to adjust their electronic device use near bedtime is necessary to improve their sleep quality.

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