

Assessment on Quality of Sleep and Academic Performance among Undergraduate Students in Selected Arts and Science College

Reena N

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ABSTRACT

Background: A person's health and wellness are impacted by getting good sleep. The next day's freshness, energy, enthusiasm, and sanity depend on it. It promotes comfortable sleep and empowers us when we wake up. The objectives of the study are to assess the quality of sleep and offer academic performance among undergraduates in selected colleges.

Materials and methods: A quantitative descriptive research design was used. About 28 subjects were selected by using convenience sampling technique who fulfilled the inclusion criteria, and they availed themselves during the data collection at selected colleges in Uttar Pradesh. Data were collected by using sleep quality scale (SQS) and academic performance [grade point average (GPA)]. Informed consent was obtained from all participants.

Results: Overall quality of sleep revealed its level, 24 (85.7%) had a fairly good sleep, 3 (10.7%) had fairly bad sleep, and 1 (3.6%) had very good sleep. Academic performance of the undergraduate students was 13 (46.4%) excellent, 9 (32.1%) outstanding, 4 (14.3%) very good performance, and 2 (7.1%) good. So, the study concluded that good quality of sleep improved the academic performance of undergraduate students.

Conclusion: Quality of sleep improves the academic performance of undergraduate students. So, better and good sleep improves not only memory but also excellent academic performance.

Keywords: Academic performance, Sleep quality, Undergraduate students.

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INTRODUCTION

The human body needs sleep as a physiological process to function normally. Physical, mental, and environmental factors like age, gender, occupation, style of life, emotional stress, and noise can also affect sleeping habits and problems.¹

It has an impact on one's capacity for learning, academic performance, and neural-behavioral processes.²

Getting good sleep involves the following: falling asleep in 30 minutes or less and spending at least 85% of the time in bed, waking up no more than once a night, and staying awake for no more than 20 minutes after awakening.³

Up to 60% of all college students experience poor sleep, and 7.7% of them fully match the criteria for an insomnia problem.⁴

The spike in screen time and the modifications to sleep cycles brought on by COVID-19's self-isolation rules have disrupted sleep patterns all across the world.⁵

Due to prolonged mobile use for both personal and academic purposes, sleep is affected in this pandemic condition.

The researcher is interested in conducting a study among students on sleep and academic performance because she struggles with sleep disorders as a result of her heavy course load. The students who want to discover how their sleep quality affects their academic performance might benefit from this study. In order to give students academic and career counseling, school administrators, curriculum writers, and counselors will all benefit from the current study.

Department of Medical Surgical Nursing, College of Nursing (Govt. Medical College), Azamgarh, Uttar Pradesh, India

Corresponding Author: Reena N, Department of Medical Surgical Nursing, College of Nursing (Govt. Medical College), Azamgarh, Uttar Pradesh, India, Phone: +91 9952815627, e-mail: rithikprakash26@gmail.com

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STATEMENT OF THE PROBLEM

"A descriptive study to assess the quality of sleep and academic performance among undergraduate students in selected Arts and Science College at Uttar Pradesh".

OBJECTIVES

- To assess the quality of sleep and academic performance among undergraduate students.
- To correlate the quality of sleep and academic performance among undergraduate students.
- To associate the quality of sleep among undergraduate students with selected demographic variables.

- To associate the academic performance among undergraduate students with selected demographic variables.

MATERIALS AND METHODS

The research approach and design selected for this study were quantitative approaches and nonexperimental, correlational research design, respectively. About 28 subjects were recruited by using convenience sampling technique who fulfilled the inclusion criteria, and they availed themselves during the data collection at selected Arts and Science Colleges in Uttar Pradesh. Informed consent was obtained from all participants. Ethical clearance was obtained from Institutional Human Ethical Committee. The participants were fully informed about the study objectives and were informed of written consent that too was obtained. The researcher was assured that their data would be treated anonymously and that confidentiality would be guaranteed. The researcher collected the information from undergraduate students by survey method (self-administered questionnaire was followed). Data were collected by using demographic details obtained through structured profile followed by quality of sleep-by-sleep quality scale (SQS) by Chol Shin. The academic performance was assessed by collecting two internal assessment marks for grade point average (GPA). Each participant took 20 minutes to complete the questionnaire. Frequency and percentage distribution were used to describe demographic data, quality of sleep, and academic performance. Chi-square was used to find an association between quality of sleep and demographic variables and academic performance and demographic variables. The coefficient of correlation was used to correlate the quality of sleep and academic performance.

RESULTS

Table 1A shows frequency and percentage-wise distribution of demographic variables of undergraduate students. Out of 28 undergraduate students, majority 20 (71.4%) students were in the age-group of 19 years. Most of them, 25 (89.3%), followed Hindu religion. Of all of them, 28 (100%) were single. Majority of students, 19 (67.9%), were nuclear family. Majority of students, 26 (92.9%), were day-scholar.

Table 1B shows frequency and percentage-wise distribution of demographic variables of undergraduate students, most of them, 15 (53.6%), had one sibling. Of the majority of them, 15 (53.6%) were residents in rural. Most of the students, 21 (75%), come under nonvegetarian. Most of the students, 15 (53.6%), were doing physical activity. Majority of students, 27 (96.4%), not going for a part-time job.

Assessment of Quality of Sleep among Undergraduate Students

Table 2 shows frequency and percentage-wise distribution of the level of quality of sleep among undergraduate students. Of the majority of the students, 24 (85.7%) had fairly good sleep, 3 (10.7%) had fairly bad sleep, 1 (3.6%) had very good sleep, and none of them had very bad sleep, respectively (Fig. 1).

Assessment of Academic Performance among Undergraduate Students

Table 3 shows that frequency and percentage-wise distribution of the level of academic performance. Out of majority of the students, 13 (46.4%) excellent, 9 (32.1%) outstanding, 4 (14.3%) very good performance, 2 (7.1%) good and above average, average, and fail 0 (0%), respectively (Fig. 2).

Table 1A: Frequency and percentage-wise distribution of demographic variables like age, religion, marital status, type of family, and place of staying among undergraduate students (N = 28)

Sl. no.	Demographic data	Frequency (n)	Percentage (%)
1.	Age (in years)		
	18 years	6	21.4
	19 years	20	71.4
	20 years	2	7.1
2.	Religion		
	Hindu	25	89.3
	Muslim	0	0
	Christian	3	10.7
	Others	0	0
3.	Marital status		
Single	28	100	
4.	Type of family		
	Joint family	3	10.7
	Nuclear family	19	67.9
	Extended family	0	0
	Single parents	6	21.4
5.	Place of staying		
	Day-scholar	26	92.9
	Hostellers	2	7.1

Table 1B: Frequency and percentage-wise distribution of demographic variables like no. of siblings in the family, residence, dietary pattern, physical activity, and part-time job among undergraduate students

6.	Number of siblings in the family		
	One	15	53.6
	Two	9	32.1
	Three and above	0	0
7.	Residence		
	Urban	11	39.3
	Rural	15	53.6
	Semiurban	2	7.1
8.	Dietary pattern		
	Vegetarian	7	25
	Nonvegetarian	21	75
9.	Physical activity		
	Yes	13	46.4
	No	15	53.6
10.	Part-time job		
	Yes	1	3.6
	No	27	96.4

Correlate the Quality of Sleep and Academic Performance among Undergraduate Students

Table 4 shows correlation between level of quality of sleep and academic performance among students in the study group. In mean and standard deviation, the level of quality of sleep and academic performance is 33.2143 ± 10.40426 and 84.5714 ± 7.97881 ,

Table 2: Frequency and percentage-wise distribution of the level of quality of sleep (*N* = 28)

Level of quality of sleep	Frequency (<i>n</i>)	Percentage (%)
Very good sleep	1	3.6
Fairly good sleep	24	85.7
Fairly bad sleep	3	10.7
Very bad sleep	0	0
Total	28	100

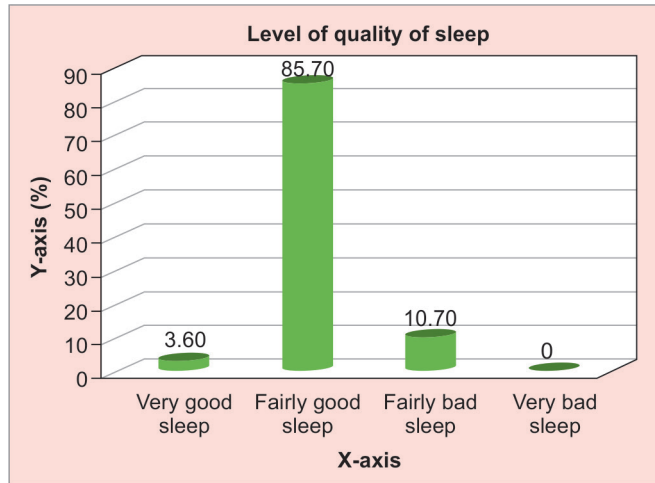


Fig. 1: Percentage-wise distribution of the level of quality of sleep among undergraduate students

Table 3: Frequency and percentage-wise distribution of the level of academic performance among undergraduate students (*N* = 28)

Level	Frequency (<i>n</i>)	Percentage (%)
Outstanding	9	32.1
Excellent	13	46.4
Very good	4	14.3
Good	2	7.1
Above average	0	0
Average	0	0
Fail	0	0
Total	28	100

respectively. Correlation between the level of quality of sleep and academic performance indicates a positive correlation and shows the results: Pearson correlation *r*-value 0.004 and *p*-value 0.985 are statistically not significant, respectively (Fig. 3).

Association between the Levels of Quality of Sleep among Undergraduate Students with their Selected Demographic Variables

Table 5 depicts that the demographic variables had shown a statistically significant association with the level of quality of sleep and residence at *p*-value of 0.006 and part-time job and quality of sleep at *p*-value of 0.012.

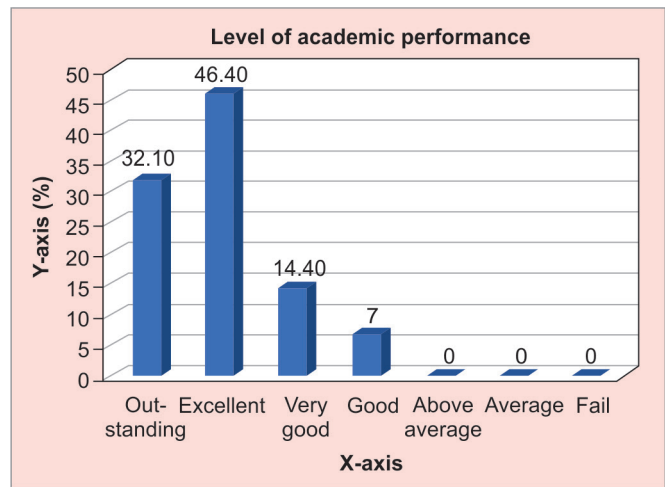


Fig. 2: Percentage-wise distribution of the level of academic performance among undergraduate students

Table 4: Correlation between the level of quality of sleep and academic performance among undergraduate students (*N* = 28)

Correlation	Mean	Standard deviation	<i>r</i> -value Pearson correlation	<i>p</i> -value
Level of quality of sleep	33.2143	10.40426	0.004	0.985 NS
Academic performance	84.5714	7.97881	Positive correlation	

NS, not significant

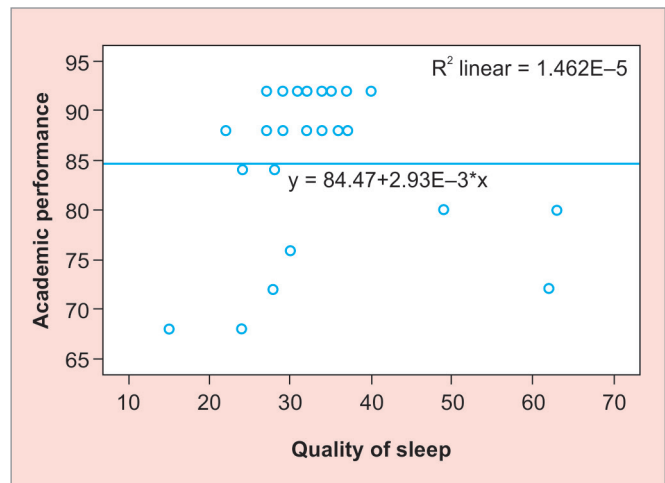


Fig. 3: Correlation between quality of sleep and academic performance

Association between the Levels Academic Performance among Undergraduate Students with their Selected Demographic Variables

Table 6 depicts that the demographic variables had shown statistically not significant association with the level of academic

Table 5: Association between the levels of quality of sleep among undergraduate students with their selected demographic variables (N = 28)

Sl. no.	Demographic variable	Level of quality of sleep						Chi-square	Df	p-value
		Very good		Fairly good		Fairly bad				
		n	%	n	%	n	%			
1.	Age (in years)									
	18	0	0	6	25	0	0	1.867	4	0.760 NS
	19	1	100	16	66.7	3	100			
	20	0	0	2	8.3	0	0			
2.	Religion									
	Hindu	0	0	22	91.7	3	89.3	8.836	2	0.012 S*
	Muslim	0	0	0	0	0	0			
	Christian	1	100	2	8.3	0	0			
	Others	0	0	0	0	0	0			
3.	Marital status									
	Married	0	0	0	0	0	0	-	-	Constant
	Single	1	100	24	100	3	100			
4.	Type of family									
	Nuclear family	0	0	3	12.5	0	0	1.075	4	0.898 NS
	Joint family	1	100	16	66.7	2	66.7			
	Extended family	0	0	0	0	0	0			
	Single parents	0	1	5	20.8	1	33.3			
5.	Place of staying									
	Day-scholar	1	100	22	91.7	3	100	0.359	2	0.836 NS
	Hostellers	0	0	2	8.3	0	0			
6.	Number of sibling in the family									
	One	1	100	12	50	2	53.6	3.014	4	0.556 NS
	Two	0	0	9	37.5	0	0			
	Three and above	0	0	0	0	0	0			
	Nil	0	0	3	12.5	1	33.3			
7.	Residence									
	Urban	0	0	9	37.5	2	66.7	14.435	4	0.006 S*
	Rural	0	0	14	58.3	1	33.3			
	Semiurban	1	100	1	4.2	0	0			
8.	Dietary pattern									
	Vegetarian	0	0	7	29.2	0	0	1.556	2	0.459 NS
	Nonvegetarian	1	100	24	70.8	3	100			
9.	Physical activity									
	Yes	0	0	13	54.2	0	0	4.044	2	0.132 NS
	No	1	100	11	45.8	3	100			
10.	Part-time job									
	Yes	0	0	0	0	1	33.3	8.642	2	0.013 S*
	No	1	100	24	100	2	66.7			

NS, non-significant; S*, significant

performance among undergraduate students at $p < 0.001$ level and $p < 0.05$, respectively.

DISCUSSION

The results of the present study showed that the level of quality of sleep 24 (85.7%) had fairly good sleep, 3 (10.7%) had fairly bad

sleep, and very good sleep 1 (3.6%). Academic performance of the undergraduate students 13 (46.4%) excellent, 9 (32.1%) outstanding, 4 (14.3%) very good performance, and 2 (7.1%) good. So, the study concluded that good quality of sleep improved the academic performance of the undergraduate students.

The present study supported by Hermoso et al. conducted a study on "The Impact of Sleeping Patterns on Academic



Table 6: Association between the levels of academic performance among undergraduate students with their selected demographic variables (N=28)

Sl. no.	Demographic variable	Level of academic performance								Chi-square	Df	p-value
		Outstanding		Excellent		Very good		Good				
		n	%	n	%	n	%	n	%			
1.	Age (in years)											
	18	0	0	4	30.8	2	50	0	0	9.178	6	0.164 NS
	19	7	77.8	9	69.2	2	50	2	100			
	20	2	22.2	0	0	0	0	0	0			
2.	Religion											
	Hindu	9	100	12	92.3	3	75	1	50	5.284	3	0.152 NS
	Christian	0	0	1	7.7	1	25	1	50			
	Muslim	0	0	0	0	0	0	0	0			
	Others	0	0	0	0	0	0	0	0			
3.	Marital status											
	Married	0	0	0	0	0	0	0	0	-	-	Constant
	Single	9	100	13	100	4	100	2	100			
4.	Type of family											
	Joint family	1	11.1	1	7.7	0	0	1	50	5.182	6	0.521 NS
	Nuclear family	7	77.8	8	61.5	3	75	1	50			
	Extended family	0	0	0	0	0	0	0	0			
	Single parents	1	11.1	4	30.8	1	25	0	0			
5.	Place of staying											
	Day-scholar	9	100	12	92.3	3	75	2	100	2.775	3	0.428 NS
	Hostellers	0	0	1	7.7	1	25	0	0			
6.	Number of sibling in the family											
	One	7	77.8	7	53.8	0	0	1	50	7.544	6	0.273 NS
	Two	1	11.1	4	30.8	3	75	1	50			
	Three and above	0	0	0	0	0	0	0	0			
	Nil	1	11.1	2	15.4	1	25	0	0			
7.	Residence											
	Urban	3	33.3	6	46.2	1	25	1	50	8.480	6	0.205 NS
	Rural	5	55.6	7	53.8	3	75	0	0			
	Semiurban	1	11.1	0	0	0	0	1	50			
8.	Dietary pattern											
	Vegetarian	2	22.2	3	23.1	2	50	0	0	2.063	3	0.560 NS
	Nonvegetarian	7	77.8	10	76.9	2	50	2	100			
9.	Physical activity											
	Yes	5	55.6	6	46.2	1	25	1	50	1.051	3	0.789 NS
	No	4	44.4	7	53.0	3	75	1	50			
10.	Part-time job											
	Yes	0	0	0	0	1	25	0	0	6.222	3	0.101 NS
	No	9	100	13	100	3	75	2	100			

NS, nonsignificant

Performance and Health Among University Students. A sample of 855 students who participated in the study used an ex post facto design. The Pittsburgh Sleep Quality Index tool was utilized. The results indicate that women are more likely than males to

experience poor sleep quality. Students with poor sleep-quality score were lower on academic performance than those with good sleep quality, according to research on the connection between sleep quality and academic performance.⁶

CONCLUSION

The study findings concluded that good quality of sleep improves the academic performance of undergraduates of arts and science students. If the quality of sleep was good, their academic performance also would be good. Create more awareness for the students to maintain good quality of sleep to achieve excellent academic performance.

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