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A Study to Assess the Sleep Quality and Fatigue During Exam Periods Among Nursing Students at Sharda University: A Descriptive Study

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Abstract:

- ***Background:***

Sleep quality and fatigue are important aspects of student well-being. Examination-related workload, extended study hours, screen use and irregular routines may affect sleep and daytime functioning. This study assessed sleep quality and fatigue among nursing students during an examination period at Sharda University.

- ***Materials and Methods:***

A quantitative approach and descriptive research design were used. The study included 200 nursing students of Sharda University, Greater Noida. Data were collected during the examination period on 15–16 May 2026 using a structured questionnaire covering demographic and lifestyle characteristics, the Pittsburgh Sleep Quality Index (PSQI), and the Fatigue Severity Scale (FSS). Frequencies, percentages, Pearson's correlation and chi-square tests were reported in the source project.

- ***Results:***

Poor sleep quality was reported by 152 participants (76.0%), while 48 (24.0%) had good sleep quality. Significant fatigue was reported by 135 participants (67.5%); 65 (32.5%) were classified as having no fatigue. The reported correlation between total PSQI and FSS scores was weak, negative and statistically significant ($r = -0.271$, $p < 0.001$). Gender was the only variable significantly associated with fatigue ($\chi^2 = 4.119$, $p = 0.042$); age, year of study, residence, study hours, screen time, caffeine/energy-drink intake and physical activity were not significantly associated.

- ***Conclusion:***

Poor sleep quality and significant fatigue were common among the participating nursing students. Student-centred sleep-hygiene education, time-management support and fatigue-awareness activities may be useful. The negative correlation should be interpreted cautiously because higher PSQI scores indicate poorer sleep while higher FSS scores indicate greater fatigue.

Keywords: *Sleep Quality; Fatigue; Nursing Students; Examination Period; Pittsburgh Sleep Quality Index; Fatigue Severity Scale.*

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I. INTRODUCTION

Sleep is essential for physical health, psychological well-being, memory consolidation, attention and learning. Young adults generally need sufficient regular sleep, but university students may experience disrupted sleep because of academic workload, irregular schedules, stress and electronic-device use. Examination periods can intensify these demands and may lead to delayed sleep, shorter sleep duration, frequent awakenings and daytime sleepiness [1–4].

Nursing students balance theoretical classes, practical training, clinical responsibilities, assignments and examinations. Adequate sleep and manageable fatigue are particularly important for concentration, learning and safe clinical performance. Fatigue may arise from insufficient sleep, prolonged study, stress and inadequate recovery. Assessing both sleep quality and fatigue can help identify student-support needs [3,5,6].

The Pittsburgh Sleep Quality Index (PSQI) is a standardized instrument that assesses subjective sleep quality and sleep disturbances across seven components [7]. The Fatigue Severity Scale (FSS) assesses the impact of fatigue on daily functioning [8]. The present study assessed sleep quality and fatigue during an examination period among nursing students at Sharda University, Greater Noida.

II. MATERIALS AND METHODS

Study design and setting: A quantitative approach with a descriptive research design was used among nursing students at Sharda University, Greater Noida, Uttar Pradesh, India.

Participants and sample: The study included 200 nursing students. The project states that eligible participants were nursing students enrolled at Sharda University who were available during data collection and willing to participate. Students who were absent or unwilling to participate were excluded. The sampling technique is not clearly specified in the source project; therefore, no specific sampling method is assigned in this manuscript.

Data collection: Data were collected by the investigators during the examination period from 15 to 16 May 2026. Participants were informed about the study, written consent was obtained, and anonymity and confidentiality were assured. The structured questionnaire included demographic and lifestyle characteristics, sleep-quality questions, and fatigue assessment.

Measures: Sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI), with the project classifying participants as having good or bad sleep quality. Fatigue was assessed using the Fatigue Severity Scale (FSS), with results classified as no fatigue or significant fatigue. Demographic and lifestyle variables included age, gender, year of study, type of residence, examination study hours, daily screen time, caffeine/energy-drink intake and physical activity.

Statistical analysis: Frequencies and percentages were used to describe participants and the main study variables. The relationship between PSQI and FSS scores was examined using Karl Pearson's correlation coefficient. Associations between selected demographic/lifestyle variables and fatigue were examined using Pearson's chi-square test. Statistical significance was set at $p < 0.05$, as described in the project.

Ethical considerations: The source project states that participants were informed about the purpose of the study, written consent was obtained, and confidentiality was assured. An ethics committee approval reference is not provided in the project text reviewed for this manuscript.

III. RESULTS

Two hundred nursing students participated. Most were aged 21–23 years (55.0%), and 83.0% were female. Second-year students formed the largest group (43.5%). Most participants reported 2–4 hours of daily screen time (51.5%), and 72.0% reported some daily caffeine/energy-drink intake. Regular physical activity was reported by 23.5%.

Table 1 Selected Demographic and Lifestyle Characteristics (N = 200)

Variable	Category	n	%
Age	18–20 years	82	41.0
	21–23 years	110	55.0
	Above 23 years	8	4.0
Gender	Male	34	17.0
	Female	166	83.0
Year of study	1st year	42	21.0
	2nd year	87	43.5
	3rd year	64	32.0
	4th year	7	3.5
Study hours during exams	Less than 2 hours	54	27.0
	2–4 hours	85	42.5
	More than 4 hours	61	30.5
Daily screen time	Less than 2 hours	39	19.5
	2–4 hours	103	51.5

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	More than 4 hours	58	29.0
Caffeine/energy drinks	1–2 cups/day	69	34.5
	3–4 cups/day	53	26.5
	More than 4 cups/day	22	11.0
	None	56	28.0
Physical activity	Regular	47	23.5
	Irregular	101	50.5
	None	52	26.0

Table 2 Sleep Quality and Fatigue (N = 200)

Measure	Category	n	%
Sleep quality (PSQI)	Bad sleep	152	76.0
	Good sleep	48	24.0
Fatigue (FSS)	Significant fatigue	135	67.5
	No fatigue	65	32.5

Table 3 Correlation Between PSQI and FSS Scores

Variables	r-value	p-value	Interpretatio n reported in source
PSQI total and FSS total	0.271	<0.001	Weak negative correlation; statistically significant

Table 4 Association Between Selected Variables and Fatigue

Variable	²	df	p-value	Result
Age	0.691	2	0.708	Not significant
Gender	4.119	1	0.042	Significant
Year of study	6.956	3	0.073	Not significant
Type of residence	1.561	2	0.458	Not significant
Variable	**²**	**df**	**p-value**	**Result**
Study hours during exams	0.367	2	0.832	Not significant
Daily screen time	0.213	2	0.899	Not significant
Caffeine/energy-drink intake	1.160	3	0.763	Not significant
Physical activity/exercise	5.185	2	0.075	Not significant

IV. DISCUSSION

The principal finding was that poor sleep quality was common: 76.0% of participants were classified as having bad sleep quality. This is consistent with literature describing sleep disturbance among university and healthcare students, where academic demands, irregular schedules and lifestyle behaviours can affect sleep [3,4,9,10]. The result supports the value of sleep-hygiene education and practical support for managing examination workloads.

Significant fatigue was reported by 67.5% of participants. Fatigue can affect motivation, concentration and day-to-day functioning, and it may be influenced by sleep, stress and other lifestyle factors [5,8]. In this study, gender was the only variable reported to have a statistically significant association with fatigue (² = 4.119, df = 1, p = 0.042). Significant fatigue was reported by 82.4% of male participants and 64.5% of female participants; the source project notes that the male subgroup was relatively small, so this result should be interpreted cautiously. No statistically significant associations were reported for age, year of study, residence, study hours, screen time, caffeine/energy-drink intake or physical activity.

The reported correlation between total PSQI and FSS scores was r = 0.271 (p < 0.001), indicating a weak negative correlation in the dataset. This direction warrants careful interpretation: higher PSQI scores represent poorer sleep, whereas higher FSS scores represent greater fatigue. Therefore, the reported negative correlation does not show the expected pattern of poorer sleep accompanying greater fatigue. The original data and scoring should be checked before drawing a directional conclusion or using this result for further inference.

Taken together, the results indicate that poor sleep quality and fatigue were prevalent in this sample, while most measured demographic and lifestyle variables were not significantly associated with fatigue. As this was a descriptive study at one institution and at one point during examinations, the findings should not be generalized beyond the study group without caution.

V. CONCLUSION

Among the 200 nursing students included in this study, 76.0% had bad sleep quality and 67.5% had significant fatigue during the examination period. Gender was the only selected variable significantly associated with fatigue in the reported analysis. The observed negative correlation between PSQI and FSS scores requires verification and cautious interpretation because of the scoring direction of the instruments. Studentsupport initiatives may include sleep-hygiene awareness, realistic study planning, breaks, stress-management support and access to counselling.

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VI. LIMITATIONS AND RECOMMENDATIONS

The study was conducted at a single university, included 200 participants and collected self-reported information during a limited examination-period window. The source project does not clearly specify the sampling technique. These factors may limit generalizability and introduce response bias. The reported correlation direction should be verified against the original dataset and scoring procedure.

Future studies may include larger samples from multiple institutions, use clearly documented sampling methods, and compare sleep quality and fatigue before, during and after examinations. Further research can also examine academic stress, clinical schedules, screen exposure, caffeine use and academic or clinical performance.

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- *Conflict of Interest*

The authors should confirm and declare any actual conflict of interest before journal submission. No conflict-of-interest statement was specified in the source project.

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