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Original Article

Correlation Between Sleep Quality and Academic Performance Among Nursing Students: A Quantitative Analytical Cross-Sectional Study

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ABSTRACT

Background: Sleep quality is an important determinant of cognitive functioning, concentration, memory consolidation, and academic engagement among nursing students, who often experience demanding coursework, clinical duties, stress, and irregular routines. **Objective:** This study aimed to assess the relationship between sleep quality and academic performance among undergraduate nursing students at Rehman College of Nursing, Peshawar. **Methods:** An analytical cross-sectional study was conducted among 120 undergraduate nursing students selected through convenience sampling from a total population of 173 students. Data were collected using a structured questionnaire comprising demographic characteristics, adapted short-form Pittsburgh Sleep Quality Index items, and self-reported last-semester GPA. Sleep-related variables included perceived sleep quality, sleep latency, sleep duration, daytime sleepiness, and sleep disturbance. Data were analyzed using SPSS version 27 through descriptive statistics and correlation analysis. **Results:** Most participants were male (93.3%) and younger than 25 years (74.2%). Poor sleep-related indicators were common: 66.7% reported fairly bad or very bad sleep quality, 67.5% required more than 30 minutes to fall asleep, and 72.5% slept less than 7 hours per night. Academically, 59.2% reported a GPA of 3.0 or above. Total sleep duration showed a very strong positive correlation with GPA ($r = 0.968$, $p < 0.001$). **Conclusion:** Sleep duration was strongly associated with academic performance among nursing students, indicating that healthier sleep patterns may support better academic outcomes. **Keywords:** Sleep quality, academic performance, nursing students, GPA, Pittsburgh Sleep Quality Index, cross-sectional study.

INTRODUCTION

Sleep is an essential biological process that supports physical restoration, emotional regulation, cognitive performance, memory consolidation, attention, and decision-making, all of which are directly relevant to students enrolled in demanding health-professional programs. Nursing students are particularly vulnerable to poor sleep because their academic training often combines classroom learning, examinations, assignments, clinical rotations, irregular schedules, and psychological stress. These demands may disturb sleep duration, sleep latency, sleep continuity, and daytime functioning, thereby reducing concentration, learning efficiency, and academic engagement. Previous evidence has shown that inadequate or poor-quality sleep is associated with reduced academic achievement, impaired classroom participation, and poorer mental well-being among undergraduate nursing students (1). Similar findings have been reported in nursing populations where poor sleep quality was linked with

lower academic performance and reduced motivation for learning (2). Maintaining healthy sleep habits is therefore increasingly recognized as an important academic and well-being priority for nursing students (3).

Academic performance in nursing education reflects the student's ability to acquire, retain, and apply theoretical knowledge and clinical reasoning skills. Because nursing education requires both cognitive accuracy and practical competence, factors that impair attention, memory, and judgment may have consequences beyond examination scores and may also affect clinical learning and patient-care preparedness. Prior research has identified attendance, self-discipline, time management, lifestyle behaviors, and sleep-wake regularity as important determinants of academic success among nursing students (4). Irregular sleep-wake rhythms and unhealthy lifestyle patterns have also been associated with poorer health-related quality of life and weaker academic outcomes (5). In addition, stress-related sleep disturbance may reduce concentration, motivation, and learning capacity, which can negatively influence students' academic results (6). These findings suggest that sleep quality is not an isolated lifestyle issue but a potentially modifiable factor within the broader academic-performance framework of nursing education.

The relationship between sleep and academic performance can be understood through a PICO-based framework. The population of interest is undergraduate nursing students, who face intensive academic and clinical responsibilities. The exposure is poor sleep quality, including delayed sleep onset, short sleep duration, nighttime disturbance, and daytime sleepiness. The comparison is better or adequate sleep quality, reflected by more regular sleep patterns, sufficient sleep duration, and fewer sleep-related disturbances. The outcome is academic performance, commonly measured through grade point average, examination achievement, or self-reported academic functioning. International literature consistently suggests that students with poor sleep quality tend to report lower academic achievement, weaker attention, reduced memory retention, and greater daytime dysfunction than students with better sleep quality (7). Evidence from medical and nursing student populations has further shown that poor sleep patterns are associated with reduced classroom attentiveness and lower academic outcomes (8).

Several studies have strengthened the evidence that sleep duration and sleep pattern are important predictors of academic performance among nursing students. Research among nursing students in Spain reported that short sleep duration, poor sleep habits, and younger age were independently associated with a higher risk of poor academic performance (9). Broader prevalence evidence has shown that poor sleep quality affects more than half of health-science students, with nursing students often experiencing particularly high levels of sleep disturbance because of academic workload and clinical responsibilities (10). Other research has reported a moderate to strong positive relationship between better sleep quality and higher GPA among undergraduate nursing students, supporting the view that sleep quality is meaningfully associated with academic achievement (11). Poor sleep may also impair clinical performance and psychological well-being, as students experiencing sleep disturbance and lower well-being have been shown to perform less effectively in academic and clinical assessments (12).

Lifestyle and psychosocial factors may further influence the association between sleep quality and academic performance. Poor sleep hygiene, excessive screen use before bedtime, low physical activity, caffeine use, stress, anxiety, and irregular study routines may delay sleep onset and reduce sleep efficiency. Evidence from medical and nursing students has suggested that insufficient sleep-hygiene knowledge and low physical activity contribute to poor sleep quality, which in turn may be associated with weaker academic performance (13). Insomnia symptoms, daytime sleepiness, and burnout have also been linked with perceived low academic achievement among nursing students (14). Recent evidence from university student populations has identified stress, poor sleep hygiene, and electronic-device use before bedtime as important predictors of poor sleep quality, highlighting the need to consider behavioral and psychological contributors when examining academic outcomes (15).

Despite growing international evidence, the relationship between sleep quality and academic performance remains insufficiently explored in local nursing education contexts. Cultural expectations, institutional workload, clinical duty patterns, commuting burden, hostel or home living arrangements, and local academic pressures may shape students' sleep differently across settings. Therefore, findings from other countries may not fully represent the experience of nursing students in Peshawar. The current study is justified because it focuses on undergraduate nursing students at Rehman College of Nursing, Peshawar, and examines whether sleep quality is associated with academic performance in this local academic environment. Understanding this relationship may help educators, administrators, and policymakers design sleep-hygiene awareness programs, stress-management strategies, and balanced academic schedules to support student well-being and academic success.

Therefore, this study aimed to assess the relationship between sleep quality and academic performance among undergraduate nursing students at Rehman College of Nursing, Peshawar. The research question was: Is there a significant relationship between sleep quality and academic performance among undergraduate nursing students?

MATERIALS AND METHODS

An analytical cross-sectional study design was used to assess the relationship between sleep quality and academic performance among undergraduate nursing students. This design was appropriate because the study aimed to measure sleep-related characteristics and academic performance at a single point in time and determine whether a statistical association existed between the two variables. The study was conducted in the academic setting of Rehman College of Nursing, Peshawar, among enrolled Bachelor of Science in Nursing students.

The target population consisted of 173 undergraduate nursing students enrolled at Rehman College of Nursing, Peshawar. The sample size was calculated using Raosoft sample size software at a 95% confidence level and 5% margin of error, resulting in a required sample of 120 participants. Participants were selected through a convenience sampling technique. Students were eligible for inclusion if they were currently enrolled in the BSN program, available at the time of data collection, willing to participate, and able to provide informed consent. Students who were absent during data collection or unwilling to participate were excluded from the study.

Data were collected using a structured questionnaire administered to eligible participants after obtaining informed consent. The questionnaire consisted of three parts: demographic information, sleep quality assessment, and academic performance assessment. The demographic section collected information on age, gender, and academic year. Sleep quality was assessed using adapted short-form Pittsburgh Sleep Quality Index items, including perceived overall sleep quality, time taken to fall asleep, average sleep duration, trouble staying awake during routine activities, and sleep disturbance due to bad dreams, noise, or other factors. Each sleep-quality item was scored on a four-point scale from 0 to 3, with higher scores indicating poorer sleep quality. The total sleep-quality score was calculated by summing the item scores, producing a possible range from 0 to 15. Based on the total score, sleep quality was categorized as good sleep quality for scores of 0–4, moderate sleep quality for scores of 5–10, and poor sleep quality for scores above 10. The questionnaire was adapted from a previously used tool assessing sleep quality and academic performance among university students (16).

Academic performance was assessed using participants' most recent semester GPA or percentage and their perceived effect of poor sleep on academic performance. GPA was categorized as poor for scores below 2.0, fair for scores between 2.0 and 2.9, good for scores between 3.0 and 3.4, and excellent for scores of 3.5 or above. Perceived academic impact of poor sleep was measured using a five-point response scale ranging from never to always. The primary exposure variable was sleep quality, including sleep duration, sleep latency, daytime sleepiness, sleep disturbance, and total sleep-quality score. The primary outcome variable was academic performance measured through last-semester GPA category. Demographic

variables, including age, gender, and academic year, were collected to describe the study population and assess potential differences across participant groups.

To reduce information bias, data were collected using the same structured questionnaire for all participants, and participants were given uniform instructions before completing the form. Confidentiality and anonymity were maintained to encourage honest reporting of sleep patterns and academic performance. Responses were coded rather than identified by name, and completed questionnaires were kept securely. To support data integrity, responses were checked for completeness before entry, and coded data were entered into SPSS using predefined variable categories. Missing or incomplete responses were handled by excluding the affected item from the relevant analysis while retaining complete available responses for descriptive summaries.

Data were analyzed using SPSS version 27. Descriptive statistics were used to summarize demographic characteristics, sleep-quality variables, and academic performance. Frequencies and percentages were calculated for categorical variables, including gender, age category, academic year, sleep-quality responses, sleep-duration categories, daytime sleepiness, sleep disturbances, and GPA categories. Inferential analysis was performed to assess the relationship between sleep quality and academic performance. Correlation testing was used to examine the association between sleep-related variables and GPA. Statistical significance was assessed using a two-tailed p-value, with $p < 0.05$ considered statistically significant. Where applicable, stronger significance was interpreted at the $p < 0.01$ level.

Ethical approval was obtained from the institutional ethical committee before data collection. Participation was voluntary, and informed consent was obtained from each participant before questionnaire completion. Participants were informed about the purpose of the study, their right to withdraw at any stage, and the confidentiality of their responses. No identifying information was used in the analysis. Data were handled confidentially, stored securely, and used only for research purposes.

RESULTS

A total of 120 undergraduate nursing students participated in the study. The majority of participants were male, with 112 students representing 93.3% of the sample, while only 8 students were female, representing 6.7%. Most respondents were younger than 25 years, as 89 participants were below 25 years of age and 31 were above 25 years, accounting for 74.2% and 25.8%, respectively. Regarding academic year, first- and second-year students formed the largest groups, with 40 participants each, representing 33.3% per group. Third-year students accounted for 25 participants, or 20.8%, while fourth-year students represented the smallest proportion, with 15 participants, or 12.5%. These findings indicate that the sample was predominantly male and largely composed of students in the early years of nursing education.

Table 1. Sociodemographic Characteristics of Participants

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	112	93.3
	Female	8	6.7
	Total	120	100.0
Age	Less than 25 years	89	74.2
	More than 25 years	31	25.8
	Total	120	100.0
Academic year	First year	40	33.3
	Second year	40	33.3
	Third year	25	20.8
	Fourth year	15	12.5
	Total	120	100.0

Sleep-related findings showed that poor perceived sleep quality was common among participants. Only 9 students, or 7.5%, rated their sleep quality as very good, while 31 students, or 25.8%, rated it as fairly good. In contrast, 37 participants, or 30.8%, reported fairly bad sleep quality, and 43 participants, or 35.8%, reported very bad sleep quality.

Overall, 80 out of 120 students, representing 66.7%, reported fairly bad or very bad sleep quality. Sleep latency was also prolonged among many respondents: 42 students, or 35.0%, took 31–60 minutes to fall asleep, while 39 students, or 32.5%, took more than 60 minutes. Therefore, 81 participants, or 67.5%, required more than 30 minutes to fall asleep. For sleep duration, the largest group slept 6–7 hours per night, reported by 45 students, or 37.5%, followed by 34 students, or 28.3%, who slept 5–6 hours. Only 33 participants, or 27.5%, reported sleeping 7–8 hours, while 8 participants, or 6.7%, slept less than 5 hours. Daytime sleepiness was frequent, with 41 students, or 34.2%, reporting trouble staying awake twice weekly, and 35 students, or 29.2%, reporting this more than twice weekly. Sleep disturbance due to bad dreams, noise, or other factors was also common, affecting 41 students, or 34.2%, twice weekly and 36 students, or 30.0%, more than twice weekly.

Table 2. Sleep Quality and Sleep-Related Characteristics of Participants

Variable	Category	Frequency (n)	Percentage (%)
Overall sleep quality	Very good	9	7.5
	Fairly good	31	25.8
	Fairly bad	37	30.8
	Very bad	43	35.8
	Total	120	100.0
Time taken to fall asleep	Less than 15 minutes	9	7.5
	16–30 minutes	30	25.0
	31–60 minutes	42	35.0
	More than 60 minutes	39	32.5
	Total	120	100.0
Average sleep duration	Less than 5 hours	8	6.7
	5–6 hours	34	28.3
	6–7 hours	45	37.5
	7–8 hours	33	27.5
	Total	120	100.0
Trouble staying awake during activities	Never	9	7.5
	Once a week	35	29.2
	Twice a week	41	34.2
	More than twice a week	35	29.2
	Total	120	100.0
Trouble sleeping due to bad dreams, noise, or disturbance	Never	10	8.3
	Once a week	33	27.5
	Twice a week	41	34.2
	More than twice a week	36	30.0
	Total	120	100.0

Academic performance was assessed using participants' most recent semester GPA or percentage. The largest proportion of students, 37 participants or 30.8%, reported a GPA between 3.0 and 3.4. A further 34 students, or 28.3%, reported a GPA of more than 3.5. Together, 71 participants, representing 59.2% of the sample, achieved a GPA of 3.0 or above. Meanwhile, 33 students, or 27.5%, reported a GPA between 2.0 and 2.9, and 16 students, or 13.3%, reported a GPA below 2.0. These results show that most participants had satisfactory to strong academic performance, although a meaningful subgroup reported lower academic achievement.

Table 3. Last Semester Academic Performance of Participants

GPA / Percentage Category	Frequency (n)	Percentage (%)	Cumulative Percentage (%)
Less than 2.0	16	13.3	13.3
2.0–2.9	33	27.5	40.8
3.0–3.4	37	30.8	71.7
More than 3.5	34	28.3	100.0
Total	120	100.0	

Correlation analysis demonstrated a very strong positive association between total sleep duration and academic performance. The Pearson correlation coefficient was $r = 0.968$, with $p < 0.001$, indicating a statistically significant relationship at the 0.01 level. The 95% confidence interval for the correlation coefficient was approximately 0.955 to 0.977, showing a highly precise and strong positive association. This finding indicates that students reporting longer sleep duration also tended to report higher GPA categories. The coefficient of determination was $R^2 = 0.937$, suggesting that approximately 93.7% of the

variation in GPA category was statistically associated with variation in total sleep duration in this bivariate analysis.

Table 4. Association Between Total Sleep Duration and Academic Performance

Variables Compared	Statistical Test	n	Correlation Coefficient (r)	95% CI for r	R^2	p-value
Total sleep duration and last semester GPA / percentage	Pearson correlation	120	0.968	0.955–0.977	0.937	<0.001

Taken together, the results show that poor sleep quality and delayed sleep onset were common among nursing students, while most students still maintained a GPA of 3.0 or above. The strongest quantitative finding was the highly significant positive relationship between total sleep duration and GPA, indicating that students with longer sleep duration tended to demonstrate better academic performance.

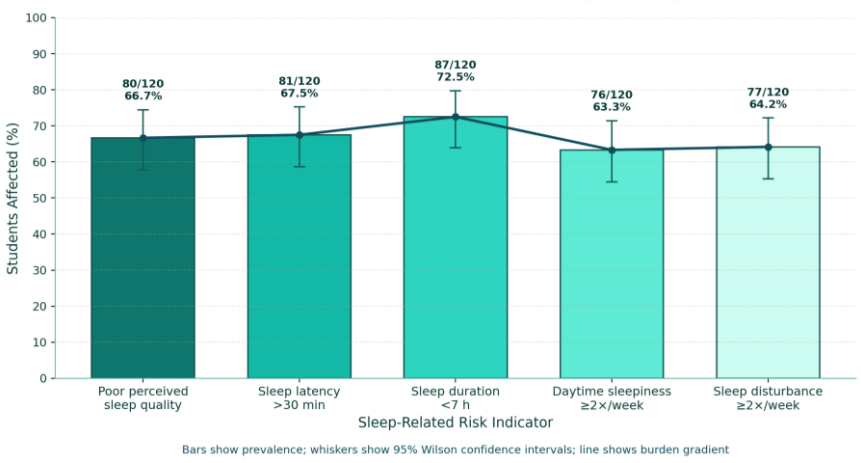

Figure 1. Sleep-Related Academic Risk Burden Among Nursing Students

The figure shows a consistently high burden of sleep-related academic risk indicators among the 120 nursing students. Suboptimal sleep duration below 7 hours was the most frequent concern, affecting 87 students (72.5%), followed by sleep latency longer than 30 minutes in 81 students (67.5%) and poor perceived sleep quality in 80 students (66.7%). Frequent sleep disturbance was reported by 77 students (64.2%), while daytime sleepiness occurring at least twice weekly affected 76 students (63.3%). The narrow 95% confidence intervals across indicators suggest that sleep-related difficulties were not isolated complaints but a broadly distributed pattern across the sample.

DISCUSSION

The present analytical cross-sectional study assessed the relationship between sleep quality and academic performance among undergraduate nursing students at Rehman College of Nursing, Peshawar. The findings showed that sleep-related problems were highly prevalent in this population, with 66.7% of students reporting fairly bad or very bad overall sleep quality, 67.5% taking more than 30 minutes to fall asleep, and 72.5% sleeping less than 7 hours per night. These findings indicate that poor sleep was not limited to a small subgroup but represented a widespread concern among the students. In nursing education, this pattern is particularly important because students are required to maintain sustained attention, memory, emotional stability, and clinical judgment during both academic and practical learning activities. The high frequency of delayed sleep onset, short sleep duration, daytime sleepiness, and sleep disturbance suggests that many students may be functioning under conditions that can compromise learning efficiency and academic engagement.

The study demonstrated a very strong positive association between total sleep duration and academic performance, with students who reported longer sleep duration tending to achieve higher GPA categories. This finding supports the broader evidence that adequate sleep contributes to better concentration, memory consolidation, cognitive processing, and academic functioning among nursing

students. Similar findings have been reported in studies where students with poor sleep quality had lower academic outcomes and reduced classroom attentiveness, while those with more regular and sufficient sleep demonstrated stronger academic performance (17). The present findings are also consistent with research showing that short sleep duration, irregular sleep-wake patterns, and poor sleep habits are associated with weaker academic results among nursing students (18). This agreement suggests that sleep duration and sleep quality are important academic-health indicators in nursing education rather than merely lifestyle-related variables.

The high prevalence of poor perceived sleep quality observed in this study is comparable with international evidence showing that poor sleep is common among nursing and health-science students. Nursing students often experience academic pressure, clinical workload, examination stress, and irregular routines, all of which may contribute to inadequate or disrupted sleep. Studies conducted in different educational contexts have reported that nursing students commonly experience poor sleep quality, prolonged sleep latency, and daytime dysfunction, with these sleep-related difficulties linked to reduced academic achievement and learning capacity (19). The present study adds local evidence from Peshawar and indicates that similar sleep-related challenges exist in this setting. This is important because institutional schedules, cultural expectations, commuting patterns, and clinical training demands may influence sleep behavior differently across regions.

The finding that 67.5% of participants required more than 30 minutes to fall asleep indicates a substantial burden of delayed sleep onset. Prolonged sleep latency may reflect academic stress, excessive cognitive arousal before bedtime, irregular study routines, anxiety about examinations or clinical performance, caffeine intake, or late-night screen exposure. Previous studies have shown that stress and anxiety can worsen sleep quality and indirectly affect academic outcomes by impairing attention, motivation, and daytime functioning (20). In the context of nursing education, delayed sleep onset may be especially harmful because students must often balance theoretical learning with clinical responsibilities that require alertness and accurate decision-making. Therefore, prolonged sleep latency should be interpreted not only as a sleep complaint but also as a potential marker of academic and psychological strain.

Sleep duration was one of the most important findings in this study, as 72.5% of students reported sleeping less than 7 hours per night. Although some students maintained satisfactory GPA levels despite short sleep, the correlation analysis showed that longer sleep duration was strongly associated with better academic performance. This pattern aligns with previous evidence suggesting that insufficient sleep can impair memory consolidation, attention span, problem-solving ability, and classroom performance (21). For nursing students, inadequate sleep may also affect clinical learning by reducing vigilance, confidence, and practical skill performance. Studies in clinical education settings have shown that poor sleep and daytime sleepiness may increase the likelihood of reduced focus during clinical activities and poorer performance in practical assessments (22). These findings support the importance of viewing sleep as part of academic preparedness and professional development.

Daytime sleepiness was also common, with 63.3% of students reporting trouble staying awake during activities at least twice per week. This finding is clinically and educationally relevant because daytime sleepiness can interfere with lecture participation, reading comprehension, examination performance, and clinical attentiveness. Even when students attend classes or clinical rotations, excessive sleepiness may reduce their ability to process information effectively. Prior research has shown that daytime dysfunction and poor sleep efficiency are associated with weaker learning outcomes among nursing students (23). The present finding suggests that sleep problems may extend beyond nighttime rest and may influence students' functional performance during the academic day.

Sleep disturbance due to bad dreams, noise, or other factors was reported at least twice weekly by 64.2% of participants. Disturbed sleep continuity can reduce restorative sleep, even when total time in bed appears adequate. This may explain why sleep quality and sleep duration should be considered together

rather than separately. Students who experience fragmented sleep may wake feeling unrefreshed and may still experience daytime fatigue, poor concentration, and reduced motivation. Previous evidence has indicated that nighttime disturbances and poor sleep hygiene are associated with lower academic performance and increased psychological distress among university and nursing students (24). In this study, the combination of poor perceived sleep quality, delayed sleep onset, short sleep duration, daytime sleepiness, and frequent disturbances presents a consistent pattern of sleep-related academic risk.

The academic performance findings showed that 59.2% of students achieved a GPA of 3.0 or above, while 40.8% reported a GPA below 3.0. This indicates that although many students maintained satisfactory academic performance, a considerable proportion experienced lower academic achievement. The coexistence of relatively good GPA among some students with high sleep-related burden may reflect compensatory behaviors such as extended study time, strong motivation, peer support, or variation in academic workload. However, the strong association between sleep duration and GPA suggests that adequate sleep may still be an important factor supporting academic success. Previous studies have similarly suggested that sleep quality interacts with stress, study habits, emotional well-being, and lifestyle behaviors in shaping academic outcomes (25).

The very strong correlation observed in this study should be interpreted within the context of the cross-sectional design. The result indicates a strong statistical association between sleep duration and GPA, but it does not establish a cause-and-effect relationship. It is possible that students with better sleep perform better academically because of improved cognitive functioning, but it is also possible that students with stronger academic organization experience less stress and therefore sleep better. Other factors, including study habits, academic workload, psychological stress, screen use, caffeine intake, clinical duty schedules, and socioeconomic circumstances, may also influence both sleep and academic performance. Therefore, the association should be understood as evidence of a meaningful relationship rather than proof that sleep duration alone determines GPA.

The male-dominant sample is another important contextual feature of this study, as 93.3% of participants were male. This distribution may reflect the enrollment pattern of the study setting, but it also means that the findings mainly represent the sleep and academic experiences of male nursing students in this context. Previous studies have suggested that gender may influence sleep quality, stress perception, coping patterns, and academic performance among nursing students (26). Therefore, future interpretation of these findings should consider the demographic structure of the sample. The age distribution also showed that most participants were below 25 years, which is consistent with the typical age range of undergraduate nursing education and may reflect a group exposed to academic transition, social adjustment, and developing study routines.

The findings have practical implications for nursing education. Since sleep-related difficulties were common and strongly associated with academic performance, nursing institutions should consider sleep health as part of student academic support. Sleep-hygiene education, stress-management sessions, counseling access, balanced scheduling, and awareness about screen use, caffeine intake, and regular sleep routines may help students improve sleep behaviors. Evidence from intervention studies has suggested that sleep-hygiene education and mindfulness-based stress reduction can improve sleep quality and academic functioning among nursing students (27). In the local context, such interventions may be particularly valuable if integrated into student wellness programs, academic advising, and clinical training preparation.

This study contributes local evidence on the association between sleep quality and academic performance among undergraduate nursing students in Peshawar. Its strengths include the focus on a relevant and modifiable academic-health factor, inclusion of multiple sleep-related indicators, and assessment of academic performance using GPA categories. However, the findings should be interpreted considering several limitations. The cross-sectional design prevents causal inference, convenience sampling may limit generalizability, and self-reported sleep and GPA data may introduce recall or

reporting bias. The study was conducted at a single institution, and potential confounders such as stress level, screen time, caffeine use, physical activity, clinical shift patterns, and socioeconomic status were not included in adjusted analysis. Despite these limitations, the findings highlight a clear and important pattern: poor sleep-related characteristics are common among nursing students and are strongly associated with academic performance.

Overall, the study supports the view that sleep quality and sleep duration are important factors related to academic success among nursing students. The high burden of poor sleep, delayed sleep onset, short sleep duration, daytime sleepiness, and sleep disturbance suggests a need for institutional attention to sleep health. The strong positive association between sleep duration and GPA further emphasizes that adequate sleep may play a meaningful role in supporting concentration, learning efficiency, and academic achievement. Addressing sleep-related problems through structured educational and wellness interventions may help improve both student well-being and academic outcomes in nursing education.

CONCLUSION

The study concluded that sleep quality was strongly associated with academic performance among undergraduate nursing students at Rehman College of Nursing, Peshawar. A high proportion of students reported sleep-related difficulties, including poor perceived sleep quality, prolonged sleep latency, short sleep duration, frequent daytime sleepiness, and sleep disturbances, indicating that inadequate sleep was a common concern in this population. The correlation analysis showed a very strong positive relationship between total sleep duration and GPA, suggesting that students who reported longer sleep duration tended to achieve better academic performance. However, because the study used a cross-sectional design, the findings indicate association rather than causation. These results highlight the academic importance of healthy sleep patterns and support the need for institutional strategies such as sleep-hygiene education, stress-management support, balanced academic scheduling, and student counseling services to promote both well-being and academic success among nursing students.

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