



## ACADEMIC STRESS OF FINAL-YEAR STUDENTS OF THE NURSING STUDY PROGRAM: A CROSS-SECTIONAL STUDY WITH THEIR SLEEP QUALITY

Aliana Dewi<sup>1</sup>, Puji Astuti Wiratmo<sup>2\*</sup>, Ratu Fiddini Mussyarifah<sup>3</sup>, Indra Gilang Pamungkas<sup>4</sup>

<sup>1,2,3,4</sup>Nursing Department, Faculty of Nursing and Midwifery, Binawan University, Jakarta  
Email: puji@binawan.ac.id

### ABSTRACT

**Background:** Academic stress is a condition when students react in the form of negative behavior or emotions that arise because of academic demands, or anything related to teaching and learning activities. The types of academic stress felt by students are lack of rest time, busy assignments, competition with friends, fear of change, and failure to obtain results from the academic demands that have been carried out. **Purposes:** This study aims to assess the relationship between academic stress and sleep quality in final-year students of the nursing study program. **Methods:** This research used a cross-sectional research design with a total of 93 respondents. Sampling used a total sampling technique. Data were collected using the instruments The Perception of Academic Stress Scale and the Pittsburgh Sleep Quality Index (PSQI) and analyzed using the chi-square test. **Results:** This research shows that there is a significant relationship between academic stress and sleep quality in final-year students of the nursing study program with a p-value of 0.01 (p-value < 0.05). Individuals who feel stressed will cause hormones such as epinephrine, norepinephrine, and cortisol to affect the central nervous system, causing a state of wakefulness and increasing the alertness of the central nervous system. **Conclusion:** There is a significant relationship between academic stress and sleep quality. An academic stress management approach through an intervention program can have a positive impact on the sleep quality of nursing students.

**KEYWORDS:** Academia; Nursing Students; Sleep Qualities; Stress Disorder

### ABSTRACT

*Latar Belakang: Stres akademik merupakan suatu kondisi ketika mahasiswa bereaksi dalam bentuk perilaku atau emosi negatif yang timbul karena tuntutan akademik, atau segala sesuatu yang berhubungan dengan kegiatan belajar mengajar. Jenis stres akademik yang dirasakan oleh mahasiswa adalah kurangnya waktu istirahat, padatnya tugas, persaingan dengan teman, takut akan perubahan, dan tidak memperoleh hasil dari tuntutan akademik yang telah dilaksanakan. Tujuan: Penelitian ini bertujuan untuk mengkaji hubungan antara stres akademik dengan kualitas tidur pada mahasiswa tingkat akhir program studi keperawatan. Metode: Penelitian ini menggunakan desain penelitian cross-sectional dengan jumlah responden sebanyak 93 orang. Pengambilan sampel menggunakan teknik total sampling. Data dikumpulkan dengan menggunakan instrumen The Perception of Academic Stress Scale dan Pittsburgh Sleep Quality Index (PSQI) serta dianalisis menggunakan uji chi-square. Hasil: Penelitian ini menunjukkan bahwa terdapat hubungan yang signifikan antara stres akademik dengan kualitas tidur pada mahasiswa tingkat akhir program studi keperawatan dengan p-value sebesar 0,01 (p-value < 0,05). Individu yang merasa stres akan menyebabkan hormon seperti epinefrin, norepinefrin, dan kortisol memengaruhi sistem saraf pusat, sehingga menyebabkan keadaan terjaga dan meningkatkan kewaspadaan sistem saraf pusat. Kesimpulan: Terdapat hubungan yang signifikan antara stres akademik dan kualitas tidur. Pendekatan manajemen stres akademik melalui program intervensi dapat memberikan dampak positif terhadap kualitas tidur mahasiswa keperawatan.*

**KATA KUNCI:** Keperawatan, Kualitas Tidur, Stres



## INTRODUCTION

Sleep is defined as a repetitive and reversible neuro-behavioral state accompanied by unresponsiveness to the environment (Manzoli et al., 2018). Good sleep quality is essential for health and well-being. Sleep has four characteristics such as sleep quantity, sleep quality, sleep regularity, and sleep phase scheduling (Lawson et al., 2019). Sleep disturbances can be experienced by anyone, including students. Sleep quality problems in students, especially those in their final semester, have been identified. This is supported by research conducted by Silva et al (2016) which states that university students usually have irregular sleep patterns, this can be seen from changes in start and end times, which occur later weekends than on weekdays. Additionally, sleep time on weekdays is shorter compared to weekends, as students experience less sleep during school days or clinical practice. This happens and is experienced by quite a lot of students.

Research conducted by Alzahrani et al (2021) stated that 37.7% of students admitted to having sleep disorders. This shows that almost half of students have sleep disorders. This is also supported by research conducted by Herrmann et al (2018) which stated that as many as 27.86% of students had less than 7 hours of sleep at night. Students need to be more aware of how sleep affects their lives.

Sleep is essential for learning and memory formation. Irregular sleep cycles and lack of sleep in students have been shown to reduce memory and concentration, leading to reduced motivation to learn during class. Lack of sleep is also linked to lower academic achievement due to decreased concentration (Lisiswanti et al., 2019; Praveena Devi et al., 2018; Rianti et al., 2024; Toscano-Hermoso et al., 2020).

Factors influencing sleep quality have been studied. A study conducted by Wang et al (2023) on factors influencing sleep quality among students identified several related factors that contribute to sleep disorders, such as irregular sleep patterns, self-perceived health status, dormitory environment, and academic stress.

Stress is a significant social problem in modern times. This is supported by Ahmed et al (2018) that stress is a critical problem

because it has the potential to hinder concentration, memory, and problem-solving abilities, which in turn harms academic performance and learning. Apart from sleep quality, academic stress is also felt by many students.

Academic stress felt by students has a high incidence. Kusuma Dewi et al (2022) stated that 2% of students fall into the category of feeling very high academic stress, as many as 28% fall into the category of feeling high academic stress, 49% fall into the category of feeling quite a lot of academic stress, 16% of students fall into the category of not feeling too much academic stress, and 4% of students felt no or almost no academic stress. The types of academic stress felt by students are lack of rest time, busy assignments, competition with friends, fear of change, and failure to obtain results from the academic demands that have been carried out.

Although the incidence of academic stress and sleep quality in students has been identified, this remains a question and needs to be related to the relationship between academic stress and sleep quality in final-year students. This study aims to analyze the relationship between academic stress and sleep quality in final-year students of the nursing study program.

## MATERIAL AND METHODS

This study used a cross-sectional research design on nursing study program students who were in their final semester. The number of samples studied in this research was 93 final year students in the 2023/2024 academic year. Samples were taken using the total sampling technique. All active students of the nursing study program who were in their final semester were included in this research. This research uses the perception of academic stress scale to assess the academic stress felt by respondents.

This instrument consists of 18 questions with a Likert model. Respondents with a high total score tend to have high levels of academic stress. Respondents who get a score of 1 - 14 are in the mild stress category, 15 - 26 are in the moderate stress category, and >26 are in the severe stress category. The Perception of Academic Stress Scale questionnaire has been tested for validity with a result of  $r = 0.355$ . meanwhile, the reliability value was 0.860,

meaning that the closer to 1 the Cronbach Alpha value is, the better the measurement instrument is, so it can be said to be reliable. Another instrument used is the Pittsburgh Sleep Quality Index (PSQI). The PSQI questionnaire measures sleep quality at 1-month intervals and consists of 19 items that measure 7 assessment components, namely subjective sleep quality, sleep latency, sleep duration, effective sleep duration in bed (habitual sleep efficiency), sleep disturbance, use of sleeping medication (sleep medication), and impaired concentration during the day (daytime dysfunction). All 19 items in each statement weight 0-3, with a total score > 5 indicating sleep disturbance. A higher score indicates poor sleep quality. The results of the validity and reliability test of the Pittsburgh Sleep Quality Index (PSQI) questionnaire refer to the sleep quality of hemodialysis patients carried out by (Inayah, 2022). The PSQI questionnaire has been tested for validity with a result of  $r = 0.4$  so the PSQI questionnaire is said to be valid. Meanwhile, the reliability value was 0.753, meaning that the closer the Cronbach Alpha value is to 1, the better the measurement instrument is, so the PSQI questionnaire is said to be reliable. The data that has been collected is then subjected to bivariate analysis using the chi-square test.

### RESULTS

Table 1 shows that most respondents were female with a total of 83 people (89.2%). Of the 93 respondents, 67 people (72%) had severe academic stress and 72 people (77.4%) had poor sleep quality.

Table 1. Characteristics of Respondents

No	Variable	Frequency (n = 93)	Percentage
1	<b>Gender</b>		
	Male	10	10,8
	Female	83	89,2
2	<b>Academic Stress</b>		
	Moderate Stress	26	28
	Severe Stress	67	72
3	<b>Sleep Quality</b>		
	Good Sleep Quality	21	22,6
	Poor Sleep Quality	72	77,4

Source: Primary Data, 2024

Table 2 shows that most respondents who had severe stress also had poor sleep quality with

the number was 67 people (72,04%). Table 2 also shows that there was a significant relationship between academic stress and sleep quality with a *p-value* of 0,01.

Table 2. Relationship between Academic Stress and Sleep Quality

Variables	Sleep Quality				Total	<i>p-value</i>
	Good Sleep Quality		Poor Sleep Quality			
	n	%	n	%		
Academic Stress						
Moderate Stress	21	22,58	5	5,38	27,96	0,01*
Severe Stress	0	0	67	72,04	72,04	

Notes: \*Significant at *p-value* < 0,05

Source: Primary Data, 2024

### DISCUSSION

Academic stress in students is a condition that is felt by experiencing pressure due to the perception that students have of educational activities related to science and education, which is caused by academic stressors. The stress response shown by everyone is different, this is determined by the ability to adapt to changes that occur. Environmental conditions, changes in habits, and the lack of individual ability to adapt can cause stress in individuals. (Handono et al., 2013; Sari et al., 2017). Stressful conditions are caused by pressure to demonstrate achievement and excellence in conditions of increasing academic competition so various pressures and demands increasingly burden them. These pressures and demands result in disruption of dysfunction because they can be in the form of factual events that occur or things that are about to happen but are perceived as actual (Mulyati et al., 2023).

This study found that most respondents who experienced severe stress were because of quite tight competition with friends regarding course grades. Academic stress arises because individuals experience pressure to be able to demonstrate achievement and excellence in conditions of increasingly increasing academic competition (Sandra & Ifdil, 2015; Shofia et al., 2023). Another factor that causes academic stress is having to work on and submit assignments at the same time. This is supported by Kusnayati et al (2020) who stated that the burden of assignments and assignment submissions with limited time makes students trapped in the busyness that drains their energy and mind while the results obtained are not necessarily by what is desired (Shofia et al., 2023).



This research shows significant results between academic stress and sleep quality of final-year students of the nursing study program. The results of this study are in line with previous research which also stated that there is a significant relationship between academic stress and students' sleep quality (Emi Mulyati et al., 2023). When individuals feel stressed, hormones such as epinephrine, norepinephrine, and cortisol will affect the central nervous system, causing a state of wakefulness and increasing the alertness of the central nervous system (Ratnaningtyas et al., 2019). Uncontrolled thoughts about stressful experiences stimulate emotional arousal before sleep, leading to cognitive bias of the experience, resulting in impaired cognitive appraisal of stressful experiences and decreased subjective sleep quality. Individuals who face stress tend to have perception biases and stimulate various negative emotions, thereby significantly reducing sleep quality (Harvey, 2002; Hasim et al., 2023). Najem et al (2020) revealed that stress is negatively related to sleep quality, where higher stress causes a decrease in sleep quality. Students may face uncontrollable concerns about stressful experiences, such as overwhelming assignments, meeting deadlines to submit assignments, etc. Such encounters may trigger students' emotional arousal and lead them to make distorted cognitive appraisals regarding their stressful experiences, resulting in poor sleep quality.

Research has shown an important negative correlation between sleep quality and stress levels (Alotaibi et al., 2020), where reducing stress can improve sleep quality while increasing stress can severely reduce sleep quality (Van Laethem et al., 2017). This research provides important information for educational institutions and professionals in creating strategies to reduce academic stress so that it can promote good quality sleep in students. An academic stress management approach through an intervention program can have a positive impact on the sleep quality of nursing students. Fulfilled emotional support and appropriate mentoring for students can solve problems so that students gain a sense of security and prosperity for the remainder of their education

## CONCLUSIONS

This study shows that there is a significant relationship between academic stress and sleep quality of final year students. Students who have severe academic stress also have worse sleep quality compared to students who have moderate academic stress. Every element in a university or education must support and facilitate each other to create a comfortable academic environment.

## REFERENCES

- Ahmed, A., Ali, M., & Hosni El-Sherbini, H. (2018). Academic Stress and Its Contributing Factors among Faculty Nursing Students in Alexandria. In *Academic Stress among Nursing Students ASNJ* (Vol. 20, Issue 1).
- Alotaibi, A., Alosaimi, F., Alajlan, A., & Bin Abdulrahman, K. (2020). The relationship between sleep quality, stress, and academic performance among medical students. *Journal of Family and Community Medicine*, 27(1), 23–28. [https://doi.org/10.4103/jfcm.JFCM\\_132\\_19](https://doi.org/10.4103/jfcm.JFCM_132_19)
- Alzahrani, M. K., Meraj Ahmed, S., Sami, W., Al-Jubairi, N. N., Almutairi, A. A., & Alqhatani, A. M. (2021). Prevalence of Sleep Pattern and its Effect on Health among Medical Students in Majmaah, Saudi Arabia. In *Ann Med Health Sci Res* (Vol. 11).
- Emi Mulyati, D. C., Ridfah, A., & Akmal, N. (2023). Hubungan Antara Stres Akademik Dengan Kualitas Tidur Pada Mahasiswa Yang Menyusun Skripsi. *Jurnal Online Keperawatan Indonesia*, 6(1), 12–20. <https://doi.org/10.51544/keperawatan.v6i1.3629>
- Handono, O. T., Fakultas, K. B., Universitas, P., & Dahlan Yogyakarta, A. (2013). Hubungan Antara Penyesuaian Diri Dan Dukungan Sosial Terhadap Stres Lingkungan Pada Santri Baru. In *Jurnal Fakultas Psikologi* (Vol. 1, Issue 2).
- Harvey, A. G. (2002). A cognitive model of insomnia. In *Behaviour Research and Therapy* (Vol. 40). [www.elsevier.com/locate/brat](http://www.elsevier.com/locate/brat)



- Hasim, N., Yusof, J., Ibrahim, F. A., Bungsu, M. S., Yakub, N. A. Y., & Shari, N. I. (2023). Stress and Sleep Quality among Engineering Students. *Sains Humanika*, *15*(3), 29–40. <https://doi.org/10.11113/sh.v15n3.2033>
- Herrmann, M. L., Palmer, A. K., Sechrist, M. F., & Abraham, S. (2018). College Students' Sleep Habits and Their Perceptions Regarding Its Effects on Quality of Life. *International Journal of Studies in Nursing*, *3*(2), 7. <https://doi.org/10.20849/ijsn.v3i2.297>
- Inayah, D. (2022). *Hubungan Tingkat Kecemasan Dengan Kualitas Tidur Pasien Gagal Ginjal Kronik Yang Menjalani Hemodialisis Di Klinik Diatrans Jatiwaringin* [Thesis]. Binawan University.
- Kusnayati, A., Muiz, M. Hifzul, Nani Sumarni, Mansyur, A. Salim, & Zaqiah, Q. Yulianti. (2020). Pengaruh Teknologi Pembelajaran Kuliah Online Di Era Covid-19 Dan Dampaknya Terhadap Mental Mahasiswa. *EduTeach: Jurnal Edukasi Dan Teknologi Pembelajaran*, *1*(2), 153–165. <https://doi.org/10.37859/eduteach.v1i2.1987>
- Kusuma Dewi, D., Ina Savira, S., Wuri Satwik, Y., & Noviana Khoirunnisa, R. (2022). Profil Perceived Academic Stress pada Mahasiswa Profile of Perceived Academic Stress in Students. *Jurnal Psikologi Teori Dan Terapan*, *2022*(3), 395–402.
- Lawson, H. J., Wellens-Mensah, J. T., & Attah Nantogma, S. (2019). Evaluation of Sleep Patterns and Self-Reported Academic Performance among Medical Students at the University of Ghana School of Medicine and Dentistry. *Sleep Disorders*, *2019*, 1–8. <https://doi.org/10.1155/2019/1278579>
- Lisiswanti, R., Saputra, O., Indah Sari, M., & Hana Zafirah, N. (2019). Hubungan Antara Kualitas Tidur terhadap Hasil Belajar Mahasiswa Program Studi Pendidikan Dokter Fakultas Kedokteran Universitas Lampung. In *J Agromedicine /Volume* (Vol. 6).
- Manzoli, J. P. B., Correia, M. D. L., & Duran, E. C. M. (2018). Conceptual and operational definitions of the defining characteristics of the nursing diagnosis disturbed sleep pattern. *Revista Latino-Americana de Enfermagem*, *26*. <https://doi.org/10.1590/1518-8345.2582.3105>
- Najem, J., Saber, M., Aoun, C., El Osta, N., Papazian, T., & Rabbaa Khabbaz, L. (2020). Prevalence of food addiction and association with stress, sleep quality and chronotype: A cross-sectional survey among university students. *Clinical Nutrition*, *39*(2), 533–539. <https://doi.org/10.1016/j.clnu.2019.02.038>
- Praveena Devi, C. B., Samreen, S., Kusuma Kumari, N., B Praveena Devi, C. C., & Sharma, J. (2018). A review on insomnia: The sleep disorder. ~ 227 ~ *The Pharma Innovation Journal*, *7*(12), 227–230. [www.thepharmajournal.com](http://www.thepharmajournal.com)
- Ratnaningtyas, T. O., Fitriani, D., Tinggi, S., Kesehatan, I., Persada, K., & Selatan, T. (2019). Ratnaningtyas dan Fitriani\_Hubungan Stres dengan Kualitas Tidur .... Hubungan Stres Dengan Kualitas Tidur Pada Mahasiswa Tingkat Akhir. In *EDU MASDA JOURNAL* (Vol. 3, Issue 2).
- Rianti, N., Kholidin, F. I., & Yandri, H. (2024). Investigating the Interplay of Academic Stress, Anxiety, and Sleep Disturbances in College Students. *Buletin Konseling Inovatif*, *4*(1), 1–9. <https://doi.org/10.17977/um059v4i12024p1-9>
- Sandra, R., & Ifdil, &. (2015). Konsep Stres Kerja Guru Bimbingan Dan Konseling. *Journal EDUCATIO*, *1*(1), 80–85. <http://jurnal.iicet.org>
- Sari, P., Zahra Bulantika, S., Dewantari, T., & Rimonda, R. (2017). *Effects of stress coping and emotion regulation on student academic stress*. <https://ejournal.radenintan.ac.id/index.php/konseli>
- Shofia, S., Trihandayani, D., & Psikologi Universitas Muhammadiyah HAMKA



- Jakarta, F. (2023). Pengaruh Stres Akademik Terhadap Kualitas Tidur Pada Mahasiswa Di Jabodetabek. In *Jurnal Ilmiah Penelitian Psikologi: Kajian Empiris & Non-Empiris* (Vol. 9, Issue 1).
- Silva, M., Chaves, C., Duarte, J., Amaral, O., & Ferreira, M. (2016). Sleep Quality Determinants among Nursing Students. *Procedia - Social and Behavioral Sciences*, 217, 999–1007. <https://doi.org/10.1016/j.sbspro.2016.02.090>
- Toscano-Hermoso, M. D., Arbinaga, F., Fernández-Ozcorta, E. J., Gómez-Salgado, J., & Ruiz-Frutos, C. (2020). Influence of sleeping patterns in health and academic performance among university students. *International Journal of Environmental Research and Public Health*, 17(8). <https://doi.org/10.3390/ijerph17082760>
- Van Laethem, M., Beckers, D. G. J., Dijksterhuis, A., & Geurts, S. A. E. (2017). Stress, fatigue, and sleep quality leading up to and following a stressful life event. *Stress and Health*, 33(4), 459–469. <https://doi.org/10.1002/smi.2730>
- Wang, Y., Dai, X., Zhu, J., Xu, Z., Lou, J., & Chen, K. (2023). What complex factors influence sleep quality in college students? PLS-SEM vs. fsQCA. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1185896>