

Reflections of First-Year Medical Students: Supports and Challenges in Studying

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Abstract

The first year of medical school is often perceived as stressful and demands adaptive learning strategies. This study aims to explore factors influencing learning outcomes among first-year students after completing the first module in the second semester. Using a qualitative descriptive design, we analyzed reflective essays containing ten open-ended questions written by 60 first-year medical students at Universitas Alkhairaat, selected through total sampling. Quantitative data (5-point Likert scale ratings) were analyzed descriptively. The main variables examined include students' satisfaction with learning outcomes, learning process, motivation, and stress levels, measured using a 5-point Likert scale embedded within the reflective task. The average scores were learning outcomes satisfaction (3.4), satisfaction with the learning process (4.0), motivation to continue studies (4.8), and stress level (4.1). Thematic analysis revealed key positive factors: ability to manage study time, family support, and senior assistance in learning are perceived. Conversely, excessive lecture content, less communicative lecturers, and procrastination are perceived as challenging factors. Overall, first-year students reported satisfactory learning experiences. Enhancing time management skills and providing structured support systems from family and seniors may improve student success. Faculty should consider adjusting academic workload and instructional strategies to support first-year medical students' achievement.

Keywords: *first-year medical student; student reflection; academic achievement; undergraduate; support*

INTRODUCTION

Medical students, particularly those in their first year, often perceive studying medicine as stressful, difficult to understand, and filled with vast learning material. This perception often leads to academic difficulties (Picton et al., 2022; Nebhinani et al., 2021). The first year of medical school, in particular, is a stage of adaptation and transition from a school student to a student and prospective professional full of responsibility (Picton et al., 2022). This phenomenon was also observed among first-year medical students at the *Faculty of Medicine, Universitas Alkhairaat (FMUA)*, Palu, Indonesia, which provides the specific context for this study.

Several factors can influence the academic achievement of medical students. Some of these are internal factors such as learning motivation, study time management, and procrastination, while external factors include the learning environment, availability of learning resources, and family problems (Lisiswanti et al., 2022; Cahyono & Sajuni, 2022; Hayat et al., 2020). Factors that cause medical students to experience difficulties are often overlooked by lecturers, negatively impacting student learning (Jacqueline et al., 2023). Lecturers must conduct assessments related to student academic problems, make diagnoses, and assist students who experience academic obstacles (Elisabeth et al., 2017).

Recent studies have identified various factors influencing the academic achievement of first-year medical students (Erer Kafa et al., 2023). Fokkens-Bruinsma et al. (2021) found that academic self-efficacy, self-regulated learning—including time management and autonomous motivation—and beyond-classroom engagement were significantly associated with students' grade point average during the first year. Chung et al. (2024) demonstrated that both cognitive attributes (e.g., admission test scores) and non-cognitive factors (e.g., participation in extracurricular activities) contributed to academic delays and success in national licensing examinations. In a qualitative study, Abdolalipour et al. (2024) highlighted teaching methods, learning environments, support systems, and assessment quality as facilitators and barriers to academic performance. Meanwhile, Watari et al. (2022) found that students without a healthcare background and with lower social support exhibited lower learning motivation, which could negatively affect their early academic performance in medical education. These findings underline the importance of addressing academic and psychosocial aspects to support the success of first-year medical students.

This study has two primary goals: to assess the perceptions of first-year students regarding studying medicine and to identify the factors that make studying medicine both difficult and successful for first-year medical students. By achieving these goals, this research aims to provide valuable insights to help students improve their academic achievement and assist lecturers in developing more effective teaching strategies.

MATERIALS AND METHOD

This research uses a qualitative descriptive design, utilizing secondary data from students' reflective essays. The essays were written by first-year medical students at the *Faculty of Medicine, Universitas Alkhairaat* (Class of 2022) at the beginning of their second semester, after completing the first learning block. They were initially written as part of a learning evaluation activity conducted on May 5, 2023.

Before writing their essays, students participated in a guided discussion on their learning experiences during the first semester and received a brief review on how to write meaningful reflections. They were then asked to respond to ten open-ended questions in the form of a reflective essay of at least 600 words. These essays were submitted as part of their formative assessment and were later used in this study for qualitative analysis. The set of reflection questions used in this activity is presented in Table 1.

Table 1. List Of Reflection Questions

Reflection Questions	Information
1. On a scale of 1 to 5, how satisfied are you with your learning results (from when you entered FMUA until now)? Tell me why	Questions 1 to 4 have both quantitative and qualitative data. Quantitative data with the lowest scale of 1 and the highest scale of 5
2. On a scale of 1 to 5, how satisfied are you with learning at FMUA? Tell me why	
3. On a scale of 1 to 5, how motivated are you to continue your studies at FMUA? Tell me why	
4. On a scale of 1 to 5, what is your stress level while studying at FMUA? Tell me why	

Reflection Questions	Information
5. Tell me at least three things that will help you succeed in studying at FMUA. (These can come from Family, friends, environment, life experiences, motivation, etc.)	The data is qualitative.
6. Tell me at least three things that hinder you from being successful in studying at FMUA.	
7. Tell us the learning targets you want to achieve for this semester	
8. Tell us what you are most proud of about yourself while you were a FMUA student	
9. Tell us what your environment, lecturers, and friends at FMUA should be like	
10. Tell us about the most memorable and impactful experience in your life while studying at FMUA	

Source: Primary research data

Quantitative data from the reflection questions were analyzed descriptively, and qualitative data were analyzed using a content analysis method involving three experts in *medical education*. Ethical approval was not required for this study, as it involved the analysis of anonymized secondary data obtained from routine educational activities, without any identifiable personal information or risk to participants.

RESULTS AND DISCUSSION

RESULTS

Sixty first-year students attended to collect research data, and all of them filled out the questionnaire entirely, with a response rate of 67%. Table 2 shows that 51 (85%) respondents are women, and 9 (15%) are men. Most students (43.3%) had a good Grade Point Average (GPA), and 12 had a poor GPA (20%).

Table 2. Characteristics of Respondents Based on Gender and Achievement Index

Characteristic	N	%
Gender		
Male	9	15
Female	51	85
Grade Point		
Very good (3.51 – 4.00)	3	5
Good (2.76 – 3.50)	26	43.3
Fair (2.00 – 2.75)	19	31.7
Poor (<2.00)	12	20

Source: Secondary data analysis from reflective essays of 60 first-year FMUA students (Class of 2022)

Table 3 shows that the average score of students regarding satisfaction with learning outcomes is the lowest, namely 3.38 out of a maximum score of 5.00. Satisfaction with the learning process received an average score of 3.97, first-year students' motivation to continue studying Medicine received an average score of 4.82, and students' stress level was 4.08 out of a maximum value of 5.00.

Table 3. First-year Students' Perceptions of Learning in Medicine

Variables	Students rating					Mean
	1	2	3	4	5	
Learning results	0 (0%)	0 (0%)	39 (65%)	19 (31.7)	2 (3.3%)	3.4
Learning process	0 (0%)	0 (0%)	13 (21.7%)	36 (60%)	11 (18.3%)	4.0
Motivation to learn	0 (0%)	0 (0%)	2 (3.3%)	7 (11.7%)	51 (85%)	4.8
Stress level	0 (0%)	2 (3.3%)	13 (21.7%)	23 (38.3%)	22 (36.7%)	4.1

Source: Quantitative analysis of Likert scale (1-5) data from student reflective essays, FMUA 2023

In Table 4, the data is categorized into two categories, namely factors that encourage success and hinder students in studying Medicine. Factors that support student success consist of three themes, namely, the ability to manage study time, family support, and senior guidance. Factors that hinder students also comprised of three themes: excessive lecture material, less communicative lecturers, and procrastination / the habit of delaying study time.

Table 4. Themes and Quotes

Supporting Factors	Quotes
Themes :	
1. Ability to manage study time	"I am quite satisfied with my learning results in the first semester from when I entered FMUA until this second semester because I was quite able to adapt to the phases at the beginning of learning in semester 1 of FMUA, even though it was quite difficult, I was able to adapt to the method. studying FMUA, I have to sacrifice some free time to repeat the lecture material at home to deepen my understanding of the basic learning material at this medical faculty,..." (No. 6) "...at FMUA, we are also taught not to postpone tasks, so we are required to prioritize the most important things and manage our time as best as possible" (No. 21)
2. Family support	"... Family, especially parents, who always support and pray so that I can still survive at FMUA. Friends, at FMUA, I have made friends who have the same goal of completing this medical education." (No. 21) "...as important as friends are in college, support from our own family is also important, because they can motivate us to continue to be enthusiastic about what we are doing now and to be able to achieve what we have dreamed of..." (No. 9)
3. Senior support	"...the environment at FMUA is exciting, what makes it interesting is that you meet lots of good seniors and can ask questions about the lectures..." (No. 10) "...if I don't understand the assignment given and helped by

			my mentor. Examples include material or explanations about assignments given. My mentor's brother also kept some material in blocks that they had already passed. This helps me in studying and in installments of the material in the upcoming blocks." (No. 25)
Challenging Factors			Quotes
Themes :			
1.	Excessive material	lecture	"...tired of studying and having to master so much and abundant material that I get overwhelmed when studying, sometimes I cry because I'm too tired from studying and don't get enough sleep..." (No. 59)
			"..because the material studied is a lot and complicated, we still can't divide our time between studying and refreshing" (No. 33)
2.	Less communicative lecturers		"...the lecturer should be able to interact by opening a question session. Yep, providing material to make students understand the material given..." (No. 6)
			"... because there are some lecturers who are not punctual and do not provide this information to the community and students, this is of course very detrimental..." (No. 25)
3.	Procrastination		"..it's quite stressful because I have a lot of assignments, and I don't know how to manage my time, so everything piles up..." (No. 18)
			"...because sometimes I am careless in managing my time (time management). I procrastinate studying, so the exam results are not satisfactory" (No. 33)

Source: Qualitative thematic analysis of reflective essays

Discussion

First-year students at FMUA in semester 1 receive courses/blocks in study skills and basic medical sciences (anatomy, histology, biochemistry, and physiology). Learning methods for basic medical sciences are still dominated by traditional lectures and practicums, which emphasize the ability to memorize the body's normal structures and processes. Self-Directed Learning (SDL) approach was carried out in stages to provide sufficient time for students to adapt to the learning system in medical school.

Based on students' GPAs, more than half of students have achievement indexes that do not meet FMUA's expectations, namely, GPAs of more than 2,75. This shows that first-year students still need to adapt to the learning environment in Medical school. Cahyono and Sajuni (2022), in their research at the Faculty of Medicine, University of Surabaya, also found that the academic achievements of first-year students still needed to be improved, similar to those of second-year students. Roy et al. (2024)'s research in India found that SDL learning with formative assessment and immediate feedback significantly improved first-year students'

academic achievement in basic medical sciences.

This research also found that even though the stress level of first-year students is relatively high and their academic achievements have not met expectations, they still have high learning motivation and are pretty satisfied with the existing learning methods in Medical School. Medical students are reported to have high levels of stress, especially women (Nowreen & Ahad, 2019; Isnayanti & Harahap, 2019; Salgar, 2014). The most common sources of stress in first-year medical students are those related to academic activities such as exams, long lectures, and low academic achievements (Panja et al., 2023; Heinen et al., 2017; Ebrahim et al., 2024). Medical schools must pay attention to curriculum, learning strategies, and learning support for first-year students, especially study load, level of exam difficulty, and individual support for those experiencing academic stress (Heinen et al., 2017).

From the survey data, students with high academic achievements report that they can manage study hours and appropriately prioritize various activities. Research on medical students in India, which measured students' time management skills and their relationship to academic achievement, shows a significant positive relationship between time management scores and student academic achievement (Karakose, 2015; Kulkarni, 2020). Other research by Naik et al. (2019) shows that students' time management skills at the undergraduate stage are poor to average, so students need to be equipped with time management skills from the first year.

Most students with high academic achievements report receiving learning support from their families, while students with low achievements report the opposite. Family problems are a source of stress for first-year students and a factor that significantly influences decreasing student academic performance (Lisiswanti et al., 2022; Salgar, 2014).

The student organization at FMUA has a work program for mentoring and coaching new students. Senior students will teach their juniors some lecture topics considered difficult for first-year students and teach various basic clinical skills. Learning involving peers positively impacts student competence development, and students who have mentors from their seniors get significantly better test scores than students who study alone (Pintér et al., 2021).

In their first year of study, medical students must study complex basic medical knowledge and introductory compulsory courses for higher education. Tater et al. (2024) found that 70% of students felt they had too much material to study and exams during the first year, and 76% of medical students wanted their lecture material reduced.

This research revealed that first-year medical students were more familiar with and enjoyed large-class lecture learning activities, but some complained that lectures were conducted with one-way communication. Most lecturers worldwide agree that interactive learning methods help students develop self-directed learning and provide better knowledge retention of lecture topics (Verma et al., 2021).

The habit of delaying work on assignments or procrastination is reported to be frequently carried out by students who have low academic achievements. They feel they need more time management skills amidst the busy academic activities of first-year medical students. Students with high levels of procrastination will experience permanent learning disorders and reduce their academic performance (Hayat et al., 2020).

This study highlights several key factors influencing the academic achievement of first-

year medical students. While students demonstrated high learning motivation and general satisfaction with existing learning methods, many still struggled to meet the expected academic standards. Time management, family support, and peer mentoring emerged as prominent positive influences on student success. On the other hand, heavy academic workloads, passive lecture formats, and procrastination were commonly identified as barriers to effective learning. Although stress levels were relatively high among students, especially related to academic demands, these did not appear to diminish their motivation to continue their studies.

CONCLUSION

First-year medical students reported experiencing high levels of stress regarding medical studies and low satisfaction with their learning outcomes. However, they remain motivated to continue their studies and are satisfied with the learning process. Time management skills, family support, and guidance from senior students are factors that can support first-year students' learning success. Excessive lecture material, non-interactive learning, and procrastination are factors that inhibit the learning success of first-year students.

The ability to manage time is an important skill that needs to be taught to first-year students so they can adapt well to learning at *FMUA*. First-year students require interactive and supportive learning strategies, including self-directed learning, to achieve good academic performance. Medical education institutions should also involve parents, peers, or senior students as part of the support system for first-year medical students.

REFERENCES

- Abdolalipour, S., Namdar-Areshtanab, H., Ghaffarifar, S., Ghaffari, R., & Mirghafourvand, M. (2024). Exploring the experiences of medical students regarding the factors affecting academic achievement: A qualitative study. *BMC Medical Education*, 24(1), 1292.
- Cahyono, A., & Sajuni, S. (2022). Medical student's academic achievement between first and second year: A single-institution case report. *Jurnal Pendidikan Kedokteran Indonesia: The Indonesian Journal of Medical Education*, 11(1), 74.
- Chung, E. K., Yun, H., Yang, J. H., Shin, M. H., & Han, E. R. (2024). Factors associated with academic performance among medical students at a medical school in South Korea: A retrospective cohort study. *PLoS One*, 19(2). <https://doi.org/10.1371/journal.pone.0299269> (DOI ditambahkan jika tersedia; periksa kembali untuk kepastian)
- Ebrahim, O. S., Sayed, H. A., Rabei, S., & Hegazy, N. (2024). Perceived stress and anxiety among medical students at Helwan University: A cross-sectional study. *Journal of Public Health Research*, 13(1).
- Elisabeth Boileau, C. S. O., & Audétat, M. C. (2017). Is there a way for clinical teachers to assist struggling learners? A synthetic review of the literature. *Advances in Medical Education and Practice*, 8, 89–97. <https://www.tandfonline.com/doi/abs/10.2147/AMEP.S123410>
- Erer Kafa, S., Ladik, M., Arı, F. Ş., Demirtaş, Ş. B., Özkaya, G., & Türkkkan, A. (2023). Factors affecting academic achievement of third-year students of Bursa Uludağ University Faculty of Medicine. *HEALTH SCIENCES QUARTERLY*, 3(3), 177–186. <https://doi.org/10.26900/hsq.2007>
- Fokkens-Bruinsma, M., Vermue, C., Deinum, J. F., & van Rooij, E. (2021). First-year academic achievement: The role of academic self-efficacy, self-regulated learning and

- beyond classroom engagement. *Assessment & Evaluation in Higher Education*, 46(7), 1115–1126.
- Hayat, A. A., Jahanian, M., Bazrafcan, L., & Shokrpour, N. (2020). Prevalence of academic procrastination among medical students and its relationship with their academic achievement. *Shiraz E Medical Journal*, 21(7), 1–7.
- Heinen, I., Bullinger, M., & Kocalevent, R. D. (2017). Perceived stress in first year medical students – associations with personal resources and emotional distress. *BMC Medical Education*, 17(1), 1–14.
- Isnayanti, D., & Harahap, N. (2019). Stress levels and stressors of first year students in Faculty of Medicine, University of Muhammadiyah Sumatera Utara. In *PROCEEDINGS—International Conference Internationalization of Islamic Higher Education Institutions Toward Global Competitiveness* (Medan).
- Jacqueline Kloos, Simon, E., & Bazella, C. (2023). Neglect as an undefined and overlooked aspect of medical student mistreatment: A systematic review of the literature. *Medical Teacher*, 45(12), 1395–1403. <https://doi.org/10.1080/0142159X.2023.2218982>
- Karakose, T. (2015). The relationship between medical students' time management skills and academic achievement. *Studies on Ethno-Medicine*, 9(1), 19–24.
- Kulkarni, M. (2020). Time management skills among medical students. *Indian Journal of Public Health Research & Development*, 11.
- Lisiswanti, R., Indah Sari, M., & Swastyardi, D. (2022). Factors affecting low academic achievement of undergraduate medical students: Student experience. *Jurnal Pendidikan Kedokteran Indonesia: The Indonesian Journal of Medical Education*, 11(1), 108.
- Naik, B., Rangasamy, S., & Vrushabhendra, H. (2019). Time management among undergraduate medical students: A study from a tertiary health-care teaching institution in Puducherry. *Journal of Integrated Health Sciences*, 7(2), 39.
- Nebhinani, N., Kuppili, P. P., & Mamta. (2021). Stress, burnout, and coping among first-year medical undergraduates. *Journal of Neurosciences in Rural Practice*, 12(3), 483–489.
- Nowreen, N., & Ahad, F. (2019). Sources of stress among first-year medical students. *International Journal of Medical Science and Public Health*, (0), 1.
- Panja, S., Dhali, A., Avinash, B., Chattopadhyay, M., Bhowmick, K., & Biswas, J. (2023). Psychological stress experienced by first-year medical undergraduates: A cross-sectional study from Eastern India. *Cureus*.
- Picton, A., Greenfield, S., & Parry, J. (2022). Why do students struggle in their first year of medical school? A qualitative study of student voices. *BMC Medical Education*, 22(1).
- Pintér, Z., Kardos, D., Varga, P., Kopjár, E., Kovács, A., Than, P., et al. (2021). Effectivity of near-peer teaching in training of basic surgical skills—a randomized controlled trial. *BMC Medical Education*, 21(1).
- Roy, T., Basu, R., Chaudhary, R., Khatoon, T., Paul, S., & Ghosh, D. (2024). Academic achievement of first-year medical students using self-directed learning with formative assessment vs conventional teaching method: A longitudinal study. *Journal of Clinical and Diagnostic Research*.
- Salgar, S. (2014). Stress in first year medical students. *International Journal of Biomedical and Advance Research*, 5(1), 5.
- Tater, J., Zaharic, T., & Cornwall, J. (2024). How much is too much? Medical students' perceptions of evaluation and research requests, and suggestions for practice. *Assessment & Evaluation in Higher Education*, 49(1), 117–128. <https://doi.org/10.1080/02602938.2023.2187330>
- Verma, A., Patyal, A., Meena, J. K., Mathur, M., & Mathur, N. (2021). Interactive teaching in medical education: Experiences and barriers. *Adesh University Journal of Medical Sciences & Research*, 3, 69–73.

Watari, T., Nagai, N., Kono, K., & Onigata, K. (2022). Background factors associated with academic motivation for attending medical school immediately after admission in Japan: A single-center study. *Journal of General and Family Medicine*, 23(3), 164–171.



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