

Unravelling the Impact: Academic Stress and Its Role in Shaping Learning Approaches Among Paramedical Students – A Cross-Sectional Study

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the function heredity plays in mood regulation. Longitudinal studies, customized therapies, and incorporating mental health assistance into standard medical care should be the main topics of future research. Healthcare professionals can create more effective plans to assist menopausal women and lessen the stigma associated with this transition by filling in these gaps.

Keywords: Student stress, academic stress, Para medicals Mental health, Hormonal fluctuations, Mood disorders, Anxiety, Depression.

1. INTRODUCTION

Stress is an unavoidable aspect of life and is increasingly common in today's fast-paced world. It is a major concern for students in higher education, especially in challenging fields like pharmacy. The demanding academic curriculum, intensive practical training, and emotional pressures in pharmacy education often expose students to high levels of stress. These stressors can greatly affect their physical, mental, and emotional well-being, as well as their academic success and professional competency in clinical settings.

In the bustling corridors of academia, lies a global challenge: Stress among Pharmacy students. These scholarly alchemists, striving to concoct the perfect blend of knowledge and compassion, find themselves caught in a whirlwind of pressures. Their textbooks, reveal secrets of molecules and dosages. But as the clock ticks, stress creeps in during their course of study. Stress among Pharmacy students is a significant concern globally, affecting their academic performance, mental well-being, and future professional efficacy. Demanding clinical and academic environments have been potential sources of stress among Pharmacy students. The levels of stress and anxiety may vary during students' educational training, depending on their ability to adopt behavioural strategies for coping with stress and other factors.

Stress can significantly affect cognitive functions such as concentration, memory, and decision-making, leading to a decline in academic performance among pharmacy students. Given the rigorous curriculum, frequent assessments, and hands-on practical training, high stress levels can hinder students' ability to grasp and retain complex pharmaceutical concepts. Additionally, excessive stress may impair their confidence and problem-solving skills, which are crucial for effective clinical practice and patient care. For pharmacy students undergoing clinical and laboratory-based training, stress can also impact their ability to accurately dispense medications, interpret prescriptions, and ensure patient safety. Persistent stress may lead to burnout, decreased motivation, and emotional exhaustion, ultimately affecting their professional growth and readiness for the healthcare industry.

Understanding the prevalence and key contributors to stress among pharmacy students in South India is essential for designing targeted interventions that promote mental well-being and academic success. This study aims to assess stress levels among pharmacy students and explore potential factors that contribute to their stress, helping educators and institutions

implement effective support systems.

Aims & Objectives:

Aim: To evaluate the level of stress experienced by D. Pharmacy students and ascertain potential contributing factors.

Objectives:

- **Assessing Pharmacy Student Stress:**
- To gauge the magnitude of stress among Pharmacy students and explore potential factors that contribute to it.

Investigate whether any specific elements directly cause this stress.

Methodology:

A cross-sectional study was conducted in Vinayaka Missions Annapoorana College of Nursing, and Vinayaka Mission's College of Pharmacy, Salem. A total of 200 pharmacy Students aged 18-25 were randomly selected for the study. COLLEGE STUDENTS' STRESS QUESTIONNAIRE was used to find out the prevalence among Pharmacy students. This study was performed between March 2023- August 2023.

Eligibility Criteria:**Inclusion criteria:**

- Pharmacy Students aged above 18-25 years.
- Those who are willing to participate in the study

Exclusion criteria:

- Students who are already diagnosed with Psychiatric disorders and chronic medical conditions.
- Students less than 18 years of age.
- Students who are already on medication for any Psychiatric or medical condition.
- **Sample size calculation:** $N = Z^2 \times PQ/D^2$ $Z = 1.96$, Prevalence = 45%, Precision=16% according to Pilot study, Margin of error = 5%., Non response rate 10% . $N = Z^2 \times PQ/D^2$. $Z=1.96$, $P=16\%$, margin of error = 5%. $N= (1.96)^2 \times 45 \times 55/ (7.2)^2$. $N= 9504/ 51.84$. $183.3 + 10\%$. $183.3+18.3$. $N= 202$. The calculated Sample size is 202

Data Collection

Prior to data collection, the study was explained in detail to all participants, and written informed consent was obtained. Demographic data, including age, gender, socioeconomic status, marital status, and academic background, were recorded. The level of stress among participants was assessed using two standardized tools: the Perceived Stress Scale (PSS) and the College Students' Stress Questionnaire. The Perceived Stress Scale (PSS) consists of 20 items designed to evaluate the degree of perceived stress. Each response was scored as follows: for most questions, a "Yes" response was assigned 1 point, while a "No" was assigned 0 points. However, for questions 13 and 14, the scoring was reversed, with "Yes" assigned 0 points and "No" assigned 1 point. The total PSS score ranges from 0 to 20, with stress levels categorized as Mild (0–6), Moderate (7–13), and Severe (14–20). The College Students' Stress Questionnaire comprises 50 items across five subscales: academic, physiological, social, psychological, and environmental stressors. Each subscale consists of 10 items, rated on a four-point Likert scale ranging from 1 (Never) to 4 (Always). Higher scores indicate greater levels of stress.

Data Analysis:

The data was entered in MS EXCEL 2019 and analyzed using SPSS Statistics 16.0. Quantitative variables were expressed in mean standard deviation and qualitative variables were expressed in proportions. To find the significance of the study, appropriate statistical tests were used.

2. RESULTS**Sociodemographic Characteristics of the Study Population**

A total of 202 D. Pharmacy students participated in the study. The demographic distribution revealed that the majority of participants were aged between 18 and 25 years. The gender distribution and other sociodemographic variables were analyzed for their association with perceived stress levels.

Table 1: Distribution of study subjects based on their sociodemographic profile (N=202)

Variables	Frequency	Percentage
Age Group		
18 years	116	57.4%
19 years	49	24.2%

≥ 20 years	37	18.3%
Gender		
Male	44	40.5%
Female	158	78.2%
Academic Year		
1st Year	82	40.5%
2nd Year	64	31.6%
3rd Year	56	27.7%
Sought Psychiatric Help		
Yes	5	2.47%
No	197	97.5%

Perceived Stress Levels Among Participants

The study assessed the levels of stress experienced by students using the Perceived Stress Scale and the College Students' Stress Questionnaire. The findings indicated that:

- **51.4%** of students experienced **mild stress** (majority).
- **41.5%** reported **moderate stress** levels.
- **6.9%** of students experienced **severe stress** levels.

These results align with previous studies, such as Pham et al., which reported moderate stress in **54.7%** of students, mild stress in **41.3%**, and severe stress in **4.0%** of students.

Table 2: Level of Perceived Stress of the study subjects (N=202)

Level of Stress	Frequency	Percentage
Mild Stress	104	51.4%
Moderate Stress	84	41.5%
Severe Stress	14	6.9%

Academic Stress Among Participants

The study further explored the academic stress levels among students and their impact on learning approaches. The data revealed a significant proportion of students experiencing stress due to academic pressure, examinations, and workload.

Figure 1: Level of academic stress of the study subjects



Association Between Stress and Sociodemographic & Academic Performance Variables

A statistical analysis was conducted to examine the relationship between perceived stress and various sociodemographic factors:

- A **significant association** was observed between stress levels and **age, gender, and academic performance**.
- Higher levels of stress were reported among students with lower academic performance.

These findings underscore the influence of academic pressure on students' mental well-being and highlight the need for targeted stress management interventions.

3. DISCUSSION

The evolving landscape of pharmaceutical education, coupled with the increasing academic demands and clinical responsibilities, necessitates that pharmacy students maintain high academic performance. However, these rigorous requirements place students at an elevated risk of experiencing significant stress, which can impact their mental and physical well-being. Prolonged exposure to academic stress has been linked to burnout, anxiety, depression, and even maladaptive coping mechanisms such as substance use. The way students handle stress varies—while some may use it as a motivator, others may struggle with its adverse effects, leading to decreased academic performance, emotional exhaustion, and overall diminished well-being. If not managed effectively, chronic stress can contribute to long-term psychological distress, ultimately affecting their academic success and future professional competence. This study aimed to assess the level of stress among pharmacy students and determine potential contributing factors.

Table 3: Association between level of stress and sociodemographic profile & Academic performance of the study subjects(N=202)

Variables	Characteristics	Level of Stress			p-Value
		Mild	Moderate	Severe	
Age Group	18 Years	51	57	9	0.017
	19 Years	35	11	2	
	≥20 Years	18	16	3	
Gender	Male	23	15	6	0.049
	Female	81	69	8	
Academic Year	I st Year	34	40	7	0.271
	II nd Year	38	22	4	
	III rd Year	32	22	3	
Academic Performance	Good	59	36	2	0.005
	Poor	45	48	12	

In the present study, most participants were 18 years old (57.8%), followed by 19 years old (23.9%), with a majority being male (78.3%). A study conducted by Nair RK et al. reported that 49.5% of their participants were within the 18–20-year age range, with a higher proportion of females (70.5%). Similarly, Adikari B et al. (2019) found that 97.1% of their participants were ≤19 years old, with a mean age of 18.17 years.

Regarding stress levels, the findings of this study revealed that 51.4% of pharmacy students experienced mild stress, 41.8% reported moderate stress, and 6.8% had severe stress, based on the Perceived Stress Scale (PSS). These results align with the study by Adikari B et al. (2019), which reported that 54.7% of students had moderate stress, 41.3% had mild stress, and 4.0% experienced severe stress. Similarly, Nair RK et al. observed that out of 101 students experiencing stress, 19.5% had moderate stress, 12.0% had severe stress, and 1.0% were classified as extremely stressed. Additional studies have reported a significant prevalence of psychological distress among students, including findings by Tapariya et al., who observed that 23.3% had mild depression, 24.2% had moderate depression, and 9.2% had severe depression, while Das BM et al. noted that 26.8% of students exhibited mild to moderate depressive symptoms.

In the present study, stress levels varied significantly based on age, gender, and academic performance. Among 18-year-old participants, 79 students experienced moderate stress, 71 reported mild stress, and 12 exhibited severe stress. Statistical analysis demonstrated a significant association ($p < 0.05$) between age, gender, academic performance, and stress levels. Younger students, particularly those transitioning into the pharmacy curriculum, were more likely to experience heightened stress due to the academic workload, new learning environments, and the pressure to perform well. First-year students exhibited higher stress levels as they navigated the challenges of adapting to rigorous coursework, examinations, and clinical exposure. Furthermore, poor academic performance was strongly correlated with increased stress, with students who struggled academically being more likely to report moderate to severe stress levels.

These findings highlight the pressing need for stress management interventions tailored specifically for pharmacy students. Academic institutions should prioritize mental health programs, including counseling services, mindfulness training, peer support initiatives, and curriculum adjustments, to foster resilience and enhance students' ability to manage academic pressures effectively. Addressing these challenges proactively can significantly improve students' academic outcomes, professional readiness, and overall well-being.

4. CONCLUSION

Paramedical educators and clinical mentors should actively create programs aimed at equipping Paramedical students with the necessary skills to effectively manage the challenges they will encounter during their clinical placements.

Implementing effective stress management interventions, including mindfulness practices, counselling services, and curriculum adjustments, is essential for minimizing the negative impact of stress on student well-being and academic performance.

Conflict of interest:

none

REFERENCES

- [1] Pham DM, Yang JX, Lee KC. Changes in Perceived Stress of Pharmacy Students Pre- and Mid-COVID-19 Pandemic. *Pharmacy (Basel)*. 2022 Sep 16;10(5):114. doi: 10.3390/pharmacy10050114. PMID: 36136847; PMCID: PMC9498766.
- [2] Yikealo D, Tareke W, Karvinen I. The Level of Stress among College Students: A Case in the College of Education. *Eritrea Institute of Technology*. 2018;3(4): 321-26.
- [3] Votta R.J., Benau E.M. Predictors of stress in doctor of pharmacy students: Results from a nationwide survey. *Curr. Pharm. Teach. Learn.* 2013;5:365–372. doi: 10.1016/j.cptl.2013.06.014.
- [4] Chisholm-Burns M.A., Spivey C.A., Jaeger M.C., Williams J. Associations Between Pharmacy Students' Attitudes Toward Debt, Stress, and Student Loans. *Am. J. Pharm. Educ.* 2017;81:5918. doi: 10.5688/ajpe8175918.
- [5] Ahmed WAM, Mohammed BMA. Pharmacy students' stress and coping strategies during clinical training in KSA. *J Taibah Univ Med Sci.* 2019;14(2):116-122.
- [6] Costa B., Pinto I.C. Stress, burnout and coping in health professionals: A literature review. *J. Psychol. Brain. Stud.* 2017;1:4.
- [7] Nair RK, Ahmed M. Stress, Anxiety, and Depression among Nursing Students at a Tertiary Teaching Hospital in Karnataka, India: A Cross-sectional Study. *Journal of Clinical and Diagnostic Research.* 2023;17(10): 23-27.
- [8] Adhikari B, Ojha J. Perceived Stress and Its Associated Factors Among Nursing Students Regarding Clinical Learning Environment. *JHAS.* 2019; 9(2): 19-23.
- [9] Tapariya JH. Level of stress, anxiety and depression among nursing students. *Int J Indian Psychology.* 2020;8(2):01-06.
- [10] Das BN, Mohandas A, Syed S. Study of stress, anxiety, depression and coping strategies among nursing students

