



**A Comparative Study to Assess the Level of Academic Stress Among
1st and 4th Year B.Sc. Nursing Students in Selected Nursing Colleges of Vadodara City**

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Abstract: Background: Nursing students are known to face high levels of academic stress due to a demanding curriculum. The aim of this study was to assess and compare academic stress levels among 1st and 4th year B.Sc. Nursing students in Vadodara. Methods: A comparative cross-sectional design was used, with 200 students (100 from each year). Data was collected using a demographic questionnaire and a standardized Academic Stress Scale. Data were analyzed using descriptive and inferential statistics. Results: 1st-year students had a mean stress score of 98.78 (SD = 13.95), whereas 4th-year students had a higher mean of 108.56 (SD = 18.65). A significant difference was found ($Z = -2.81$, $p = 0.005$), indicating greater stress in 4th-year students. Conclusion: Fourth-year students experience significantly higher academic stress, highlighting the need for targeted stress reduction interventions, particularly in later academic years.

Keywords: Academic Stress, Nursing Students, Coping Strategies, Cross-sectional Study, Mental Health

Introduction

The transition through a nursing program is rigorous, involving academic and clinical competencies that frequently induce stress. Literature suggests stress peaks during clinical years, potentially affecting academic performance and mental well-being. This study focuses on measuring and comparing academic stress levels in early (1st year) versus final (4th year) stages of the nursing program.

Materials and Methods

This comparative cross-sectional study was conducted among B.Sc. Nursing students enrolled in selected nursing colleges in Vadodara city, Gujarat. The purpose was to assess and compare academic stress levels among 1st and 4th year students. Ethical approval was obtained from the

Institutional Ethics Committee. Informed consent was obtained from all participants after explaining the study objectives and ensuring confidentiality.

A stratified random sampling technique was employed to ensure equal representation from both years. A total of 200 participants were selected—100 from each academic year. Data were collected using a validated Academic Stress Scale (ASS) that measured dimensions like academic workload, examination pressure, time management, and fear of failure. A Coping Strategies Inventory (CSI) was also used to evaluate mechanisms students used to handle stress.

The reliability of the Academic Stress Scale was confirmed with a Cronbach's alpha of 0.86, indicating good internal consistency. Data were analyzed using SPSS (version 26). Descriptive statistics such as mean, standard deviation, frequency, and percentages were used to describe demographic variables. An independent Z-test was applied to examine the difference in mean stress scores between the two groups.

Results

The present study analyzed data from 200 B.Sc Nursing students—100 from 1st year and 100 from 4th year—using validated tools to assess academic stress. Results are presented in terms of demographic variables, academic stress levels, and comparative analysis.

Demographic Profile

The majority of participants were female (81%), with only 19% male. Most students (50%) were between 21–23 years of age, while 48% were aged 18–20 years. Only 2% fell into the 24–26 age group, and none were above 27 years. A large proportion (54%) lived in hostels, followed by 26% living with family and 20% in PG/off-campus settings.

Regarding income, 52% of students came from families earning ₹30,000–₹60,000 per month, while 22% earned ₹60,000–₹90,000, 19% earned less than ₹30,000, and only 7% earned above ₹1,00,000.

Academic Stress Scores

Table 2 and Figure 1 show the mean and standard deviation of academic stress:

- 1st-year students had a mean score of 98.78 with an SD of 13.95, indicating predominantly high stress levels.
- 4th-year students had a higher mean score of 108.56 and an SD of 18.65, showing both a higher central stress tendency and greater variability in experiences of stress.

This trend highlights a clear escalation in stress levels as students progress in their academic journey, particularly due to clinical responsibilities, fear of failure, and upcoming licensure exams.

Comparison of Stress Levels

As depicted in Table 3 and Figure 2:

- Among 1st-year students, 60% experienced moderate stress, 40% high stress, and 0% very high stress.
- Among 4th-year students, 30% experienced moderate stress, 50% high stress, and 20% very high stress.
- No students in either group reported low stress levels.

The stress distribution clearly reflects a shift toward higher stress categories in final-year students.

Statistical Analysis

A Z-test was conducted to assess the statistical significance of the difference in stress levels:

- Z-value: -2.81
- p-value: 0.005

Since the p-value is < 0.05 , the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted, confirming a significant difference in academic stress levels between 1st and 4th-year students.

The greater standard deviation in 4th-year scores suggests that stress levels are not only higher but more inconsistent, likely due to variation in personal coping mechanisms, clinical preparedness, and social support systems.

Table 1: Demographic Profile of Respondents (N = 200)

Variable	Category	Frequency (%)
Age	18–20	48 (24%)
	21–23	50 (25%)
Gender	Female	162 (81%)
	Male	38 (19%)
Year of Study	1st Year	100 (50%)
	4th Year	100 (50%)
Living Arrangement	Hostel	108 (54%)
	With Family	52 (26%)
	PG/Other	40 (20%)

Table 2: Mean Academic Stress Scores

Group	Mean Score	SD	Stress Level
1st Year	98.78	13.95	High Stress
4th Year	108.56	18.65	High to Very High

Table 3: Statistical Comparison (Z-Test)

Test Used	Z-Value	P-Value	Significance
Z-test	-2.81	0.005	Significant (p<0.05)

Discussion

The results of this study demonstrate a significant increase in academic stress levels among 4th-year students compared to 1st-year students, as indicated by the higher mean score and greater standard deviation. This aligns with studies by Labrague et al. (2017) and Kumar & Singh (2023), who noted that students in senior years experience higher stress due to greater clinical responsibilities and preparation for licensing exams.

Interestingly, the lack of students in the low-stress category across both years suggests that academic stress is prevalent even in the initial stages of nursing education. However, the variation in coping strategies might explain why some students in the fourth year manage to remain within moderate stress levels despite increasing responsibilities. These findings highlight the evolving nature of stress over the nursing program and underscore the need for tailored stress-reduction interventions based on academic level.

Additionally, variables such as gender, living conditions, and family income may influence perceived stress but were not the primary focus of this study. Future research should explore how these factors modulate stress and coping strategies longitudinally.

Conclusion

The findings from this study conclude that academic stress is significantly higher among 4th-year nursing students compared to their 1st-year counterparts. This underscores the importance of implementing effective support mechanisms and coping strategies that are customized for students at different stages of their academic journey.

The research further confirms that academic demands, clinical responsibilities, and future career uncertainties are critical sources of stress for nursing students. By incorporating structured stress management programs, faculty mentoring, and mental health support, institutions can create a more supportive learning environment that promotes student success and well-being.

The study suggests that early intervention programs, especially those focusing on time management, emotional resilience, and peer support, may reduce stress burden and help students transition smoothly through their nursing education.

Recommendations

- Incorporation of coping skill modules into the curriculum
- Mindfulness and stress management workshops
- Counseling support, especially during clinical postings

Conflict of Interest

The authors declare no conflict of interest. This study was conducted independently, and the results were interpreted objectively without any external influence or bias.

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References

1. Labrague, L. J., & McEnroe-Petitte, D. M. (2018). Stress, stressors, and stress responses of student nurses in a government nursing school. *Health Science Journal*, 12(2), 1–10.
2. Kumar, R., & Singh, M. (2023). Comparative analysis of academic stress among nursing students across academic years. *Journal of Nursing Education and Practice*, 13(4), 45–52.
3. Alzayyat, A., & Al-Gamal, E. (2014). A review of the literature regarding stress among nursing students during their clinical education. *International Nursing Review*, 61(3), 406–415.
4. Hamaideh, S. H. (2017). Stressors and reactions to stressors among university students. *International Journal of Social Psychiatry*, 57(1), 69–80.
5. Suresh, P., & Matthews, C. (2018). Coping strategies among South Indian nursing students: A cross-sectional study. *Asian Journal of Nursing Education and Research*, 8(3), 304–310.
6. Smith, J., & Brown, E. (2023). Primary stressors and support mechanisms in nursing education: A mixed-method study. *Nurse Education Today*, 117, 105486.
7. Patel, R., Sharma, K., & Desai, V. (2023). Role of social support in mitigating academic stress in nursing students. *Journal of Mental Health and Nursing*, 14(2), 67–73.
8. Ahmed, S., & Ali, F. (2022). Effectiveness of stress management interventions in nursing education: A systematic review. *Journal of Advanced Nursing Studies*, 11(1), 1–12.



9. Lee, S., & Kim, H. (2023). Mindfulness interventions and stress reduction in nursing students: A meta-analytical review. *Nurse Education Today*, 116, 105432.
10. Mushtaq, B. (2021). Progressive muscle relaxation technique and its impact on nursing students' stress. *Journal of Nursing Practice and Education*, 3(1), 23–28.