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Academic Stress among Future Nurses: A Bangladeshi Perspective on First Year BSc and Diploma Students

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ABSTRACT

Background: *Academic stress can hinder learning, retention, and program success in prelicensure nursing education, particularly where rapid program expansion limits faculty and student support. In Bangladesh, BSc and Diploma nursing tracks are expanding, yet comparative data on stress among first-year students remain scarce.* ***Objective:*** *This study aimed to assess the level of academic stress among first-year BSc and Diploma nursing students and to examine its association with selected socio-demographic variables.* ***Methods:*** *A descriptive cross-sectional study was conducted among 120 randomly selected first-year nursing students (BSc=60, Diploma=60) at a college in Savar, Dhaka. A supervised web-based questionnaire collected socio-demographic information and Academic Stress Scale scores (0–120), categorized as low (0–24), mild (25–49), moderate (50–74), high (75–99), and extreme (100–120). Statistical analyses included chi-square, t-tests, and ANOVA (α=.05).* ***Results****: Stress levels were low (12.5%), mild (30.8%), moderate (39.2%), and high (17.5%), with no extreme stress reported. Mean stress was higher in BSc students (59.73±21.01) compared to Diploma students (45.80±22.25) (p=.001). Stress was significantly associated with age (p = .004), course (p = .010), and family type (nuclear > joint; p = .048).* ***Conclusion****: Mild-to-moderate stress predominated, with higher burdens among BSc students and those from nuclear families. Early stress screening, structured mentoring, and counselling referral pathways are recommended to reduce attrition and enhance performance. Multi-site longitudinal studies are needed to validate and extend these findings.*

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A. Introduction

Academic stress is one of the most persistent threats to learning, well-being, and early program success in prelicensure nursing education. Intensive curricula compress foundational sciences, clinical skill acquisition, professional behaviors, and high-stakes assessment into short timeframes. When perceived demands exceed students' coping resources, stress can erode concentration, motivation, and academic achievement (Garrigues et al., 2022; Akter et al., 2025). First-year learners are especially vulnerable as they transition to tertiary expectations, new peer networks, and an emerging professional identity. Understanding how stress presents at program entry—and whether patterns differ across educational pathways—is therefore essential for learner support, retention, and workforce development in nursing-short countries such as Bangladesh (Khatun et al., 2020; Mahmoud Ibrahim, 2025).

Academic performance in nursing extends beyond examination scores. Contemporary programs apply multimodal assessment portfolios, written tests, skills checklists, simulation ratings, OSCE stations, problem-based learning artifacts, and reflective assignments to judge whether students are developing the knowledge, psychomotor proficiency, communication, and professional attitudes required for safe, patient-centered care (Garrigues et al., 2022; Rekisso et al., 2022; Marquez et al., 2023). Stress that disrupts study routines, practice opportunities, sleep, or self-efficacy can compromise these outcomes and delay readiness for clinical responsibility (Ahmed et al., 2024; Akter et al., 2025). In resource-constrained settings, limited remediation capacity means early setbacks may cascade into repeated failure or withdrawal, further straining fragile health workforce pipelines (Bibi et al., 2022; Mahmoud Ibrahim, 2025).

Recent investigations confirm that stress is widespread in nursing programs. In Spain, nearly half of nursing students reported at least moderate stress, with higher levels in senior cohorts as clinical exposure intensified (Onieva Zafra et al., 2020). Longitudinal data from Hong Kong revealed rising stress trajectories across the early years of training, highlighting how stressors shift as academic and clinical complexity expand (Cheng et al., 2023). A meta-analysis of 27 studies involving more than 7,000 nursing students estimated pooled prevalence rates of low-, moderate-, and high-level stress at approximately one-quarter, one-third, and one-tenth of students, respectively. This review also emphasized geographic and measurement variability that complicate cross-country comparisons (Zheng et al., 2022). The COVID-19 pandemic further intensified disruption: rapid transitions to online and blended instruction and heightened psychosocial burdens continue to reverberate in student stress profiles (Islam et al., 2020; Ramos Morcillo et al., 2020; Savitsky et al., 2020).

Across settings, recent literature groups stressors into four overlapping domains: academic, clinical, interpersonal, and institutional. Academic stressors include examination frequency, heavy coursework, language of instruction, and perceived misalignment between teaching methods and assessments (Bibi et al., 2022; Zheng et al., 2022; Ahmed et al., 2024). Clinical stressors emerge from fear of error, limited skill mastery, and managing patient acuity during early placements (Onieva Zafra et al., 2020; Cheng et al., 2023). Interpersonal stressors involve the quality of student–faculty interaction, the tone of feedback, and peer comparison. Self-concept and professional identity development may mediate how such stressors are internalized (Rekisso et al., 2022; Dennis et al., 2024). Contextual factors including class size, faculty shortages, access to simulation and skills labs, internet connectivity, hostel conditions, and financial strain, shape the broader learning environment and, in many low- and middle-income countries, result in uneven burdens across institutions (El Awady et al., 2022; Bibi et al., 2022; Mahmoud Ibrahim, 2025).

Bangladesh has experienced rapid growth in nursing education programs. However, expansion has outpaced investments in qualified faculty, clinical preceptorship, simulation laboratories, and digital infrastructure (Khatun et al., 2020). Pandemic disruptions exposed these systemic fragilities: abrupt transitions to remote learning, inconsistent internet access, and unequal home study environments compounded existing instructional gaps (Islam et al., 2020). Emerging evidence suggests that Bangladeshi nursing students bear a significant mental health burden, with elevated stress, anxiety, and depressive symptoms. Yet, national data remain sparse and fragmented (Parvin et al., 2021; Kusum et al., 2023; Akter et al., 2025). Local educators express concern that unresolved academic stress in the earliest semesters contributes to weak foundational knowledge, compromised skill acquisition, and student attrition. These factors have downstream effects on the quality of care in an already understaffed health service system (Khatun et al., 2020; Ahmed et al., 2024).

Bangladesh operates parallel nursing education tracks: a Bachelor of Science (BSc) program and a Diploma pathway. These tracks differ in admission standards, program length, curricular depth, language medium (English vs. mixed Bangla/English in some settings), and access to learning resources. Such differences likely shape both stress exposure and coping mechanisms (Khatun et al., 2020; Ahmed et al., 2024). However, published Bangladeshi studies rarely disaggregate findings by program type, and none have systematically compared first-year cohorts across the two tracks. International research indicates that stress trajectories begin early and can set the tone for later academic and clinical performance (Onieva Zafra et al., 2020; Cheng et al., 2023). Clarifying how first-semester experiences diverge between BSc and Diploma students could reveal modifiable leverage points for targeted intervention (Akter et al., 2025; Mahmoud Ibrahim, 2025).

A review of recent (2020–2025) scholarship reveals four critical gaps. First, Bangladeshi research on nursing student stress is limited to small, single-site surveys using heterogeneous instruments, which constrains national inference (Parvin et al., 2021; Kusum et al., 2023; Akter et al., 2025). Second, most studies do not focus exclusively on first-year learners, despite strong evidence that transitional stress predicts long-term academic risk (Onieva Zafra et al., 2020; Cheng et al., 2023). Third, no study in Bangladesh has concurrently profiled the full spectrum of stress domains—academic, clinical, interpersonal, and contextual—and linked these with early academic indicators such as course grades, attendance, and formative skill assessments (Khatun et al., 2020; Ahmed et al., 2024). Fourth, the comparative stress burden between BSc and Diploma pathways—and the role of institutional supports such as faculty development, counseling, and skills lab access—remains unexplored, despite strong policy interest in strengthening the nursing workforce (El Awady et al., 2022; Bibi et al., 2022; Mahmoud Ibrahim, 2025).

Responding to these gaps, the present study will explore academic stress among first-year BSc and Diploma nursing students in Bangladesh. The objectives are to: (1) Identify the level of academic stress among nursing students; (2) Find out the association between the level of academic stress and their socio-demographic variables among nursing students.

By focusing on the earliest stage of training and contrasting the two major educational pathways, this study aims to generate actionable insights for educators, policymakers, and regulators striving to improve student success, reduce attrition, and ensure a competent nursing workforce to meet Bangladesh's growing health needs (Khatun et al., 2020; Ahmed et al., 2024; Akter et al., 2025; Mahmoud Ibrahim, 2025).

B. Methods

This study employed a quantitative approach with a descriptive cross-sectional design to assess the level of academic stress among first-year nursing students. The study was conducted at a selected nursing college in Savar, Dhaka.

The study population consisted of first-year students enrolled in the Bachelor of Science (BSc) in Nursing and Diploma in Nursing Science and Midwifery programs. A total of 120 participants were included, comprising 60 students from each program. A simple random sampling technique was used to minimize selection bias and ensure equal representation of eligible participants. Inclusion criteria included students enrolled in the first year, present during the data collection period, able to read and write in English, and willing to provide informed consent. Students who were absent during data collection or declined participation were excluded.

Data were collected using a self-administered, web-based questionnaire distributed via Google Forms. The instrument consisted of two sections. The first section collected socio-demographic information, including age, sex, religion, and other relevant characteristics. The second section utilized the standardized Academic Stress Scale developed by Kumar et al., which consists of 30 items rated on a 5-point Likert scale ranging from 0 (no stress) to 4 (extreme stress). The total score ranges from 0 to 120, with higher scores indicating greater levels of academic stress. Stress levels were categorized as low (0–24), mild (25–49), moderate (50–74), high (75–99), and extreme (100–120).

Participants received a study information sheet and provided informed consent prior to completing the questionnaire. The survey was completed within approximately 45 minutes under supervision, ensuring that participants responded independently without external assistance. Data quality was maintained by screening for duplicate or incomplete responses.

Data analysis was performed using statistical software. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize socio-demographic characteristics and stress levels. Inferential analyses were conducted to examine associations and differences. The Chi-square test was used to assess relationships between categorical variables, independent t-tests were used to compare mean stress scores between two groups, and one-way ANOVA was applied for comparisons across multiple groups. A significance level of α = 0.05 was used.

Ethical approval was obtained from the relevant institutional ethics committee (Approval No: EMC/IERB/2024/10-13, dated October 24, 2024). Permission was also obtained from the study site. Participation was voluntary, confidentiality was maintained, and all procedures adhered to the principles of the Declaration of Helsinki.

C. Results

A total of 120 first-year nursing students participated in this study, comprising equal proportions of BSc and Diploma students.

Table 1: Percentage distribution of nursing students by demographic characteristics

Variable	Category	(n)	(%)
Age	17–18 years	1	0.83
	19–20 years	48	40.00
	21–22 years	68	56.67
	23 years and above	3	2.50
Gender	Male	22	18.33
	Female	98	81.67
Course of Study	B.Sc. in Nursing	60	50.00
	Diploma in Nursing	60	50.00
Religion	Islam	103	85.83
	Hinduism	11	9.17
	Christianity	6	5.00
Type of Family	Nuclear	100	83.33
	Joint	20	16.67
Father's Education	Illiterate	5	4.17
	Primary	21	17.50
	Secondary	39	32.50
	Higher Secondary	40	33.33
	Graduate and above	15	12.50
Residential Area	Home	42	35.00
	College Hostel	44	36.67
	Rented Home	34	28.33

Variable	Category	(n)	(%)
Mother's Education	Illiterate	6	5.00
	Primary	25	20.83
	Secondary	52	43.33
	Higher Secondary	29	24.17
	Graduate and above	8	6.67
Father's Occupation	Farmer	22	18.33
	Daily Wager	5	4.17
	Govt. Service	15	12.50
	Business	59	49.17
	Others	19	15.83
Mother's Occupation	Housewife	110	91.67
	Govt. Service	2	1.67
	Business	3	2.50
	Others	5	4.17
Monthly Family Income (BDT)	5,000–10,000	16	13.33
	10,001–15,000	12	10.00
	15,001–20,000	20	16.67
	Above 20,000	72	60.00

Table 1 revealed that the majority of nursing students were aged between 21–22 years (56.67%), with most participants being female (81.67%). The sample was equally divided between B.Sc. in Nursing and Diploma in Nursing students, each comprising 50% of the total. A significant proportion of students identified as Muslim (85.83%) and came from nuclear families (83.33%). Regarding parental education, most fathers had completed higher secondary education (33.33%), while mothers were mostly educated at the secondary level (43.33%). In terms of occupation, nearly half of the fathers were involved in business (49.17%), and a vast majority of mothers were housewives (91.67%). Most students reported a monthly family income above 20,000 BDT (60%). Regarding residential status, 36.67% lived in college hostels, followed closely by those living at home (35%) and in rented homes (28.33%).

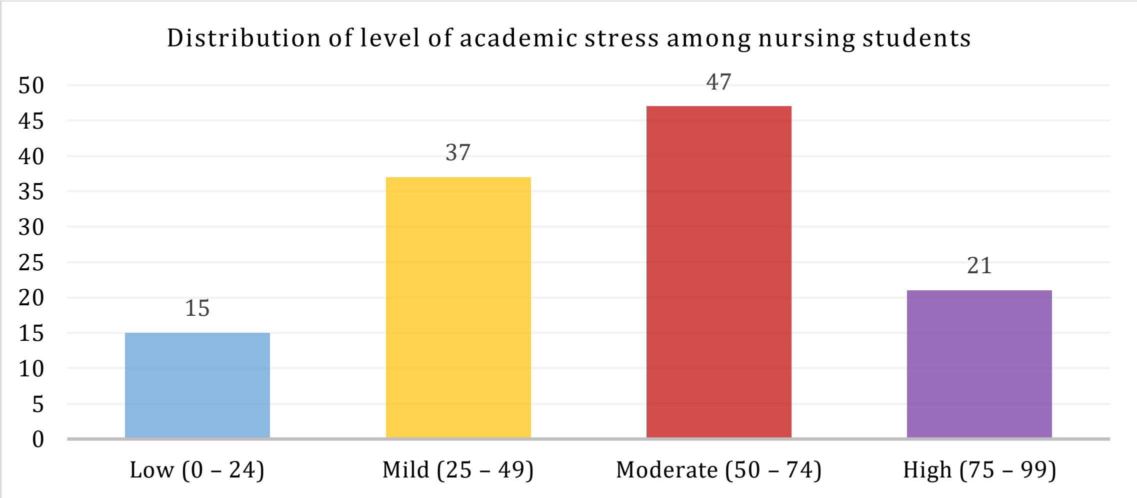

Fig.1 Distribution of level of academic stress among nursing students

As the bar diagram reveals, the majority of nursing students experienced moderate (39.17%) to mild (30.83%) levels of academic stress, with only 12.5% reporting low stress and none experiencing extreme stress. The overall mean stress level was low (M = 2.62, SD = 0.918), indicating generally manageable stress among participants.

Table 2: Association between the level of academic stress with their socio-demographic variables among nursing students

Variable		Level of academic stress: No n	%	Mild n	%	Moderate n	%	High n	%	Extreme n	%	Chi square Test
Age	19–20 years	9	7.5	12	10.0	18	15.0	10	8.3	0	0	χ^2 = 23.963, *p* = 004* **(S)**
	21 years and above	6	5.0	25	20.8	29	24.2	11	9.2	0	0	
Gender	Male	1	0.8	4	3.3	14	11.7	3	2.5	0	0	χ^2 = 7.110, *p* = 068 (NS)
	Female	14	11.7	33	27.5	33	27.5	18	15.0	0	0	
Course of Study	BSc. in Nursing	4	3.3	13	10.8	29	24.2	14	11.7	0	0	χ^2 = 11.445 *p* = 010* (S)
	Diploma in Nursing	11	9.2	24	20	18	15.0	7	5.8	0	0	
Religion	Islam	13	10.8	31	25.8	39	32.5	20	16.7	0	0	χ^2 = 3.837 *p* = 0.699 (NS)
	Hinduism	1	0.8	5	4.2	5	4.2	0	0	0	0	
	Christianity	1	0.8	1	0.8	3	2.5	1	0.8	0	0	
Type of Family	Nuclear	11	9.2	35	29.2	35	29.2	19	15.8	0	0	χ^2 = 7.889 *p* = 048* (S)
	Joint	4	3.3	2	1.7	12	10	2	1.7	0	0	
Father's Education	Illiterate	2	1.7	0	0	2	1.7	1	0.8	0	0	χ^2 = 11.881 *p* = 0.455 (NS)
	Primary	3	2.5	7	5.8	6	5.0	5	4.2	0	0	
	Secondary	2	1.7	12	10	20	16.7	5	4.2	0	0	
	Higher Secondary	5	4.2	14	11.7	15	12.5	6	5.0	0	0	
	Graduate and above	3	2.5	4	3.3	4	3.3	4	3.3	0	0	
Mother's Education	Illiterate	2	1.7	2	1.7	2	1.7	0	0	0	0	χ^2 =10.630 *p* = 0.561 (NS)
	Primary	3	2.5	7	5.8	9	7.5	6	5.0	0	0	
	Secondary	3	2.5	17	14.2	22	18.3	10	8.3	0	0	
	Higher Secondary	5	4.2	8	6.7	13	10.8	3	2.5	0	0	
	Graduate and above	2	1.7	3	2.5	1	0.8	2	1.7	0	0	

Variable		Level of academic stress										Chi square Test
		No		Mild		Moderate		High		Extreme		
		n	%	n	%	n	%	n	%	n	%	
Father's Occupation	Farmer	3	2.5	5	4.2	13	10.8	1	0.8	0	0	χ^2 = 17.782 *p* = 0.122 (NS)
	Daily Wager	0	0	3	2.5	2	1.7	0	0	0	0	
	Govt. Service	2	1.7	4	3.3	9	7.5	0	0	0	0	
	Business	7	5.8	18	15.0	19	15.8	15	12.5	0	0	
	Others	3	2.5	7	5.8	4	3.3	5	4.2	0	0	
Mother's Occupation	Housewife	14	11.7	35	29.2	43	35.8	18	15.0	0	0	χ^2 = 6.070 *p* = 0.733 (NS)
	Govt. Service	0	0	0	0	0	0	0	0	0	0	
	Business	0	0	0	0	1	0.8	1	0.8	0	0	
	Others	0	0	1	0.8	2	1.7	0	0	0	0	
Monthly Family Income in BDT	5000–10000 BDT	2	1.7	3	2.5	10	8.3	1	0.8	0	0	χ^2 = 8.642 *p* = 0.471 (NS)
	10001–15000 BDT	3	2.5	5	4.2	2	1.7	2	1.7	0	0	
	15001–20000 BDT	2	1.7	6	5.0	7	5.8	5	4.2	0	0	
	Above 20000 BDT	8	6.7	23	19.2	28	23.3	13	10.8	0	0	
Residential Area	Home	5	4.2	13	10.8	17	14.2	7	5.8	0	0	χ^2 = 4.320 *p* = 0.633 (NS)
	College Hostel	8	6.7	15	12.5	15	12.5	6	5.0	0	0	
	Rented Home	2	1.7	9	7.5	15	12.5	8	6.7	0	0	

Notes: * $p < .05$ is considered significant.

The chi-square test analysis in table 3 revealed significant associations between the level of academic stress and the variables age (p = .004), course of study (p = .010), and type of family (p = .048), indicating that these demographic factors may influence students' perceived academic stress levels. Specifically, students aged 21 years and above, those enrolled in BSc Nursing, and those from nuclear families reported higher stress levels. On the other hand, variables such as gender, religion, parental education and occupation, monthly family income, and residential area showed no statistically significant association with academic stress, suggesting these factors may not have a strong influence in this context.

Table 3: Comparison of academic stress levels between nursing students' characteristics

Variable	Group	Mean (SD)	df	p-value	95% Confidence Interval	Significance
Course of Study	BSc in Nursing	59.73 (21.01)	118	.001**	6.11 to 21.76	**Significant (S)**
	Diploma in Nursing	45.80 (22.25)				

The comparison of academic stress levels between nursing students' characteristics in the table 4 revealed that a statistically significant difference based on the course of study (p = .001), with BSc in Nursing students reporting significantly higher stress levels (Mean = 59.73, SD = 21.01) than Diploma in Nursing students (Mean = 45.80, SD = 22.25). The confidence interval (6.11 to 21.76) confirms a reliable difference between the groups. Although the difference in stress levels between males (Mean = 59.00, SD = 17.05) and females (Mean = 51.37, SD = 23.58) did not reach statistical significance (p = .086), the higher mean among males suggests a possible trend worth further exploration.

For all other variables, including age, religion, type of family, parental education and occupation, monthly family income, and residential area, no statistically significant differences were observed ($p > .05$). This indicates that these characteristics may not have a substantial influence on the academic stress levels of nursing students within the study population.

D. Discussion

The study provides a comprehensive overview of academic stress and its association with socio-demographic variables among first-year BSc and Diploma nursing students from a selected nursing college in Bangladesh. The findings reveal that 39.17% of students experienced moderate stress, 30.83% mild stress, and 17.50% high stress, with no cases of extreme stress. The overall mean stress score (M = 2.62, SD = 0.918) aligns with global trends. A meta-analysis by Zheng et al. (2022) reported a pooled prevalence of moderate stress at 35% and high stress at 10% among nursing students worldwide. These findings position our cohort within the global average while highlighting a noteworthy proportion of students experiencing high stress. This aligns with findings from India, where 37.7% reported moderate stress and 33.3% severe stress (Babu & Mishra, 2024). In contrast, Sunandha et al. (2021) documented a higher severe stress rate of 77.3%, and Egyptian studies also report considerable stress levels linked to gaps in professional knowledge (Dogham et al., 2024).

Age showed a statistically significant association with stress, $\chi^2(3) = 23.963$, $p = .004$. Students aged 21 years and above demonstrated higher proportions of mild (20.8%) and moderate stress (24.2%) compared to their younger counterparts aged 19–20 years. However, mean stress levels did not differ significantly between these age groups ($p = .915$), suggesting that while age may influence stress categories, it has limited impact on average stress scores. Similar age-related trends have been observed internationally. For instance, Onieva-Zafra et al. (2020) in Spain found stress levels increasing with academic and clinical demands, while Cheng et al. (2023) in Hong Kong reported peak stress levels during the second academic year. Supporting this, Sweety, Gauba, and Jeba (2024) found that students aged 22–23 had significantly higher knowledge scores ($p \le .005$), indicating that academic maturity and exposure may enhance competence but also correlate with elevated stress levels.

Gender did not show a statistically significant association with stress ($p = .068$). However, female students—who comprised 81.67% of the sample—reported higher levels of mild (27.5%) and moderate stress (27.5%) than their male peers (3.3% and 11.7%, respectively). Mixed findings regarding gender and stress are frequently reported. While Nebhinani et al. (2020) found no significant gender differences among students in Western Rajasthan, Dogham et al. (2024) noted gender-linked variations in coping strategies among Egyptian nursing students. Similarly, Jafaru and Afolabi (2023) in Nigeria identified gender as a weak predictor of stress when compared to coping styles.

The course of study emerged as a significant factor, with BSc students experiencing higher levels of moderate (24.2%) and high stress (11.7%) compared to Diploma students (15.0% and 5.8%, respectively), $\chi^2(3) = 11.445$, $p = .010$. The mean stress score was also significantly higher for BSc students (M = 59.73) than for Diploma students (M = 45.80), $t(118) = 3.52$, $p = .001$. These results align with previous studies from India and other regions, where BSc programs—with their intense theoretical load and English-medium instruction—are associated with greater academic pressure (Kanade et al., 2021; Jo et al., 2023). Reviews have consistently identified curriculum intensity and workload as major sources of stress among nursing students globally (Labrague, 2024; Zheng et al., 2022). Reinforcing this, Sweety, Gauba, and Jeba (2024) reported that BSc students, especially those with prior neonatal resuscitation training or clinical exposure, demonstrated significantly higher knowledge and more positive attitudes ($p \le .001$). These outcomes suggest that while the BSc curriculum fosters cognitive development, it also increases psychological demands.

Students from nuclear families reported significantly higher stress than those from joint families, $\chi^2(3) = 7.889$, $p = .048$. The presence of extended family support in joint families may provide emotional and practical assistance, serving as a buffer against academic stress. This finding echoes evidence from Spain and Korea, where strong social support networks were inversely related to stress levels (Onieva-Zafra et al., 2020; Park & Hong, 2021). Nazari et al. (2025) also highlighted that self-compassion—often nurtured through supportive environments—reduces stress among nursing students.

No statistically significant associations were found between stress and other socio-demographic variables, including religion, parental education, parental occupation, family income, and residential area. While Ahmed et al. (2024) in Pakistan reported that both socio-demographic and educator-related factors influence academic outcomes, the present findings suggest that the immediate pressures of academic demands in structured programs may overshadow the effects of such background variables. In support, Bibi et al. (2022) noted that institutional and teacher-related burdens are more prominent stressors than familial or financial issues. Similarly, Sweety, Gauba, and Jeba (2024) found that exam marks significantly predicted positive student attitudes, further underscoring the centrality of academic performance over background demographics in influencing psychological responses.

Several variables approached statistical significance but did not meet the conventional threshold, likely due to the smaller sample sizes in some subgroups, which may have reduced the study's statistical power. Moreover, stress was assessed as a composite construct without separating academic, clinical, and personal stressors, which may have obscured domain-specific associations. Egyptian research, for example, has shown that stress related to deficits in professional knowledge predicts distinct academic difficulties (Dogham et al., 2024). Future studies in Bangladesh should incorporate domain-specific validated instruments and larger, more representative samples to better capture these subtleties. Notably, Sweety, Gauba, and Jeba (2024) reported that students with 6–10 days of NICU or labor room postings exhibited significantly higher knowledge levels ($p \leq .001$), highlighting how clinical immersion enhances cognitive performance. However, the nature and duration of such exposure may also modulate stress levels, warranting further exploration.

The present study identifies age, program type, and family structure as significant factors associated with academic stress among first-year nursing students. The heightened stress observed in BSc students points to a need for tailored academic and psychological support systems, especially for those in intensive curricula. Findings from related studies, particularly by Sweety, Gauba, and Jeba (2024), provide further evidence that educational exposure improves competence but may increase stress unless adequately balanced with support mechanisms. The role of family support, practical training, and student resilience should be emphasized in designing interventions to foster both academic success and psychological well-being in nursing education.

Implication and limitation

The findings of this study have important implications for nursing education, particularly in supporting first-year students during the transition into academically demanding programs. The higher levels of stress observed among BSc students suggest the need for targeted academic support, including curriculum adjustment, workload management, and structured mentoring systems. Educational institutions should prioritize early stress screening and implement student support services such as counseling, peer mentoring, and stress management programs to enhance students' psychological well-being and academic performance.

In addition, the significant association between family structure and stress levels highlights the importance of social support systems. Students from nuclear families may require additional emotional and institutional support to cope with academic demands. Therefore, integrating psychosocial support within nursing education programs is essential to promote resilience and reduce stress-related academic difficulties.

However, several limitations should be acknowledged. First, the cross-sectional design limits the ability to establish causal relationships between academic stress and associated factors. Second, the study was conducted in a single institution, which may limit the generalizability of the findings to other nursing colleges in Bangladesh or similar contexts. Third, data were collected using self-reported questionnaires, which may introduce response bias. Additionally, this study assessed academic stress as a general construct without distinguishing between specific domains such as academic, clinical, and personal stressors, which may have limited the depth of analysis. Future studies are recommended to employ longitudinal and multi-center designs and to incorporate domain-specific stress assessments for a more comprehensive understanding.

Relevance for Practice

The results of this study highlight the need for practical interventions to manage academic stress among nursing students, particularly during the early stages of education. Nurse educators should incorporate structured stress management strategies into the curriculum, including time management training, coping skills development, and resilience-building activities.

In practice, early identification of high-risk students—such as those enrolled in BSc programs or those lacking strong family support—can enable targeted interventions. Mentorship programs, academic advising, and accessible psychological counseling services should be strengthened to support students in adapting to academic demands.

Furthermore, educational institutions should create supportive learning environments by improving faculty–student communication, reducing excessive academic workload, and ensuring access to learning resources. A multidisciplinary approach involving educators, counselors, and institutional leadership is essential to promote student well-being, reduce academic stress, and improve retention and academic success in nursing education.

E. Conclusion

Academic stress is prevalent among first-year nursing students in Bangladesh, with BSc students and those from nuclear families exhibiting significantly higher stress levels. While most socio-demographic variables were not statistically associated with stress, programme type and family structure appear to play important roles. These findings underscore the need for continuous monitoring and further research to explore domain-specific stressors and coping mechanisms in nursing education.

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Author Contribution

Chinna Chadayan contributed to the study conceptualization, data collection, and initial manuscript drafting. Dipa Rani Roy contributed to the study design, data analysis, and interpretation of results. Melba Sahaya Sweety contributed to manuscript revision, critical review, and final approval of the manuscript. All authors read and approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

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Declaration of Conflicting Interest

The authors declare no conflict of interest.

Declaration of Use of AI in Scientific Writing

The authors declare that generative AI and AI-assisted technologies were used to support language editing and grammatical refinement of the manuscript.

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