

*Original Article*

# Association Between Financial Stress and Academic Performance Among Undergraduate Nursing Students in Private Nursing Institutions of Hyderabad, Sindh, Pakistan

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## ABSTRACT

**Background:** Financial stress is an important educational and psychosocial concern among nursing students, particularly in private institutions where tuition fees, accommodation, transport, study materials, and family responsibilities may create substantial financial pressure. **Objective:** This study aimed to assess the prevalence and sources of financial stress and evaluate its association with academic performance among undergraduate nursing students in private nursing institutions of Hyderabad, Sindh, Pakistan. **Methods:** The descriptive cross-sectional study design was conducted from January to March 2026 among 384 undergraduate Generic BSN students selected through convenience sampling. Data were collected using a structured self-administered online questionnaire and data were analyzed using SPSS version 25. Frequencies and percentages were calculated, and chi-square tests were applied to examine associations between CGPA and selected variables. **Results:** Overall, 58.1% of students reported financial stress and 31.8% reported financial stress sometimes. Frequent financial worry was reported by 49.4% of participants. Anxiety or emotional distress was reported by 63.5%, part-time work affecting academics by 63.3%, and reduced motivation by 54.7%. Financial stress was significantly associated with CGPA,  $\chi^2(6)=56.08$ ,  $p<0.001$ . **Conclusion:** Financial stress was highly prevalent and significantly associated with academic performance among undergraduate nursing students. Institutional financial support, flexible fee plans, scholarships, and student wellbeing services are recommended. **Keywords:** Financial stress; Academic performance; Undergraduate nursing students; Private nursing institutions; CGPA; Pakistan.

## INTRODUCTION

Education plays a crucial role in developing countries or nations while also measuring students' success within that country through academic achievements, this process creates human capital and encourages innovation and social/economic development(1). Education is a pathway for personal success (regardless of whether you live in a developed or underdeveloped) and is foundational to the success of a country environmentally and economically (2). Recent changes in the way higher education works around the

world have made it more complicated, specifically, tuition costs and the cost of living have changed dramatically in recent years. As we continue to see high increases in the cost of education because of inflation and uncertain economic conditions, many students and families are finding it extremely difficult to pay for their education(3).

The issues related to finance seen globally with both developed and developing countries experiencing similar issues. For example, college tuition has increased in price by approximately 31% over the past 10 years in the US and about 75% of students reported having high to moderate levels of financial distress(4). This reflects a global problem with higher education growing increasingly difficult to access and becoming more expensive at the same time. The perception of financial stress has spread to encompass all aspects of student life as a major impediment to academic achievement and general well-being (5).

Financial strain generally defined as feeling stressed and anxious due to not having ample income or financial resources to pay for school-related expenses, such as tuition, or to support one's self outside of school (6). All of these financial pressures can cause students to lose focus and be less involved in their classes, which will ultimately result in a decline in their overall academic performance also, financial stress can lead to the development of depression and anxiety, which will continue negatively affect subsequent academic performance. Nursing education is considered to be one of the toughest educational programs available globally within the health care sector (7).

Nursing programs require students to balance intensive amounts of theoretical study, including classroom instruction, with the practical application of that knowledge in clinical training settings; therefore, nursing programs are much more difficult than most educational programs (8). There are many stresses experienced by nursing students. Examples include long hours of demanding theoretical study, having to do unpaid clinical practicum experiences (called "placement poverty" and being pressure to be highly skilled and competent during their clinical experiences (9). Having to do a clinical placement means that nursing students are unable to hold down a part-time job since they will be working so many hours at their clinical site and also managing educational and living expenses without a regular income to support themselves; this means that there is a big financial imbalance (students have to pay for all/most of their education) (10). In addition, nursing students are under great psychological stress as they are predictable to perform competently in high-pressure/high-stakes situations while on clinical placements, with these expectations and obligations placed on students, opportunities to participate in paid work are limited, thus making it challenging for these students to establish financial independence from family and the government (11). Because of this limited paid employment, students' financial difficulties place an excessive burden on thirty to ninety percent of marginalized populations; particularly, those students whose families have lower levels of income, education, social status, and social capital. Students who are at an economic disadvantage have less access to various methods of financial support (i.e., scholarships, loans, and savings) and therefore are generally less capable of responding effectively to the risk factors associated with being financially stressed. In addition to the negative impact of financial stress on student academic performance, these differences in support can create barriers to equity and inclusivity in nursing education (12). Nursing students in Pakistan usually face a lot of stress due to both the large volume of school and their financial situation.

Families with a higher income usually have no problem paying for educational expenses while families with lower-income levels struggle to meet minimum academic requirements. Because of this gap in income, there is an inequitable system of academics where one cannot achieve success by ability or hard work alone but also socially and through income (14). According to students enrolled at both public and private educational facilities in Pakistan, the financial burden placed upon them due to pressure exerted by the institution combined with insufficient funds from home to pay for schooling, in addition to being burdened by the high costs associated with purchasing textbooks, clinical supplies, uniforms, and transportation, results in producing excessive levels of stress among these young people, hence the result

of these difficulties often forces students who attend school to choose between utilizing fewer resources in order to maintain a level of academic success or working part-time as a way to generate income which may ultimately adversely impact educational progress (15). There are many factors that we must take into account when studying the association between financial stress and academic success in nursing students in different regions. Such as, regional characteristics like socioeconomic status, institutional policies, and cultural influences that will shape the prevalence and type of financial stress experienced by nursing students in Hyderabad(16).

The data on the relation between the financial pressure experienced by individuals in Private Nursing Institutions (PNIs) in Hyderabad Sindh and their academic performance has not been sufficiently explored. This relation must be understood to create and implement effective interventions and policies designed to support the academic success and well-being of students. By filling this gap in knowledge, future research will help develop evidence-based solutions that provide equal opportunities for students to obtain a PNI education, reduce barriers created by financial need in order to increase PNI student performance, and improve the overall quality of PNI education in Hyderabad. Therefore, the aim of the research was to analyze and assess the relationship between the academic and financial pressures among undergraduate nursing students enrolled in private nursing institutions of Hyderabad Sindh.

## MATERIALS AND METHODS

The present study uses a quantitative descriptive cross-sectional study design from January to March 2026 at the across private nursing institutions located in Hyderabad, Sindh, Pakistan. The target population comprised of 384 male and female undergraduate nursing students currently enrolled in private nursing institutions in Hyderabad Sindh. The sample size was calculated using Cochran's formula for an unknown population, The formula applied was:  $n = (Z^2 \times p \times q) / d^2$ , where Z represents the Z-score corresponding to the desired confidence level (1.96 for 95% confidence), p represents the estimated proportion of the population with the characteristic of interest (set at 0.5 in the absence of prior data, to maximize the required sample size), q = 1-p (0.5) and d represents the margin of errors. Substituting these values:  $n = (1.96^2 \times 0.5 \times 0.5) / 0.05^2 = (3.8416 \times 0.25) / 0.0025 = 0.9604 / 0.0025 = 384$ . The calculated minimum sample size was therefore 384 participants and in this study we employed a non-probability convenience sampling approach to collect desired sample size.

The study included undergraduate nursing students currently enrolled in private nursing institutions offering a 4-year Generic BSN degree program. Male and female students aged 18 years or older who had completed at least one semester and voluntarily consented to participate were included to ensure the availability of academic performance data. Students enrolled in public/government nursing institutions, postgraduate nursing programs (MSN, Post RN, and diploma programs), and those who refused participation or submitted incomplete questionnaires were excluded. Additionally, students without available recent academic records (GPA/marks) and those with known severe psychological or medical conditions affecting academic performance were not included in the study.

Data were collected between January and March 2026 by using converted an online structured Google Forms (electronic questionnaire). An informed consent statement was included at the beginning of the form in which purpose of the research study, ensure confidentiality and emphasize voluntary participation were clearly explained. The survey link was distributed through digital platform using institutional channels (WhatsApp groups, Email and social media). Informed electronic consent was obtained from all participants prior to survey access. Participation was voluntary, and no identifying information's were collected. The survey was available in English; language accessibility was addressed by ensuring bilingual faculty for cultural appropriateness reviewed all items. Completed responses were automatically logged to a password-protected Google account accessible only to the principal investigator.

A structured, self-administered questionnaire was adopted by the researcher based on the study objectives and an extensive review of relevant literatures (2, 8, 17-19). The research team following a systematic review of validated instruments used in comparable studies, including the Student Financial Stress Scale and modified Academic Performance Inventory items. The final questionnaire comprised 25 items organized into four Sections-I Sociodemographic characteristics (7 items), Section -II Financial stress indicators including frequency of worry, expense management difficulties, and consideration of study discontinuation (5 items), Section –III Self-reported impact of financial stress on academic performance domains including concentration, examination performance, attendance, assignment submission, and motivation to study (8 items); and Section-IV Coping strategies and institutional support perceptions (5 items). Closed-ended items employed 5-point Likert scales (Strongly Disagree to Strongly Agree) and nominal categorical options (Yes/No/Sometimes). Face and content validity of the instrument were established through expert review by two expert MSN faculty members, one PHD Scholar in the nursing, and my practicum Supervisor and preceptor validated the instrument used for data collection in this research study.

Data collected through the structured Google Forms questionnaire were exported into a CSV file and analyzed using SPSS version 25 software. Descriptive statistics, including frequencies and percentages, were used to summarize sociodemographic characteristics. Chi square was performed to examine the association between financial stress and academic performance. A p-value of less than 0.05 was measured statistically significant.

Ethical approval and administrative permission were obtained from the relevant departmental head and principals of the participating institutions. Participation was voluntary, anonymous, and based on informed electronic consent. No compensation was provided to participants. Data were stored securely and used only for research purposes. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki for research involving human participants.

## RESULTS

A total of 384 undergraduate nursing students from private nursing institutions in Hyderabad, Sindh, Pakistan participated in the study. Table 1 shows that most participants were aged 19–22 years (n=246, 64.1%), followed by 23–26 years (n=95, 24.7%). Male students represented a larger proportion of the sample (n=232, 60.4%) than female students (n=152, 39.6%). First-year students formed the largest academic group (n=173, 45.1%), followed by third-year students (n=134, 34.9%). More than half of the participants were from rural areas (n=204, 53.1%), and most students reported receiving no scholarship support (n=294, 76.6%). Regarding living arrangements, 217 students (56.5%) lived with family, while 127 (33.1%) lived in hostels. Monthly family income was below PKR 30,000 among 129 students (33.6%), indicating that one-third of the sample belonged to a low-income household category.

*Table 1. Sociodemographic Characteristics of Undergraduate Nursing Students (n=384)*

Variable	Category	Frequency	Percentage
<b>Age</b>	18 years	14	3.6%
	19–22 years	246	64.1%
	23–26 years	95	24.7%
	Above 27 years	29	7.6%
<b>Gender</b>	Male	232	60.4%
	Female	152	39.6%
<b>Year of study</b>	1st year	173	45.1%
	2nd year	64	16.7%
	3rd year	134	34.9%
	4th year	13	3.4%
<b>Residence</b>	Rural/village	204	53.1%
	Urban/city	180	46.9%
<b>Scholarship status</b>	No scholarship	294	76.6%
	Full scholarship	81	21.1%

Variable	Category	Frequency	Percentage
Living arrangement	Partial scholarship	9	2.3%
	With family	217	56.5%
	Hostel	127	33.1%
Monthly family income	Rented accommodation	40	10.4%
	Below PKR 30,000	129	33.6%
	PKR 30,000–50,000	111	28.9%
	PKR 50,001–80,000	86	22.4%
	Above PKR 80,000	58	15.1%

Financial stress was highly prevalent among the participants. As shown in Table 2, 223 students (58.1%) reported experiencing financial stress, while 122 students (31.8%) reported experiencing it sometimes. Therefore, 345 students (89.9%) experienced at least some degree of financial stress, whereas only 39 students (10.2%) reported no financial stress. Regarding frequency of worry, 143 students (37.2%) always worried about finances and 47 (12.2%) often worried, meaning that nearly half of the respondents (n=190, 49.4%) experienced frequent financial worry.

*Table 2. Prevalence and Frequency of Financial Stress among Students (n=384)*

Variable	Category	Frequency	Percentage
Experience of financial stress	Yes	223	58.1%
	Sometimes	122	31.8%
	No	39	10.2%
Frequency of financial worry	Always	143	37.2%
	Often	47	12.2%
	Sometimes	157	40.9%
	Rarely	20	5.2%
	Never	17	4.4%

Table 3 presents the major sources of financial stress. Family responsibilities were the most common standalone source of financial stress (n=65, 16.9%), followed by tuition fees (n=40, 10.4%) and personal expenses (n=40, 10.4%). Hostel or rent expenses were reported as a standalone stressor by 27 students (7.0%), while transportation was reported by 16 students (4.2%). A considerable proportion of students (n=170, 44.3%) reported multiple stressor combinations, showing that financial stress was usually multidimensional rather than limited to one expense category.

*Table 3. Primary Sources of Financial Stress among Students (n=384)*

Source of Financial Stress	Frequency	Percentage
Family responsibilities only	65	16.9%
Tuition fees only	40	10.4%
Personal expenses only	40	10.4%
Hostel/rent only	27	7.0%
Transportation only	16	4.2%
Books and supplies only	4	1.0%
All major stressors combined	22	5.7%
Other multiple stressor combinations	170	44.3%

Table 4 shows that financial stress affected several academic and psychological domains. Anxiety or emotional distress was the most frequently reported impact, with 244 students (63.5%) either agreeing or strongly agreeing. Part-time work affecting academics was reported by 243 students (63.3%), while reduced motivation to study was reported by 210 students (54.7%). Mental exhaustion was reported by 189 students (49.2%), and difficulty concentrating during lectures was reported by 169 students (44.0%). These findings indicate that financial stress was most strongly reflected in emotional distress, motivation, and competing work-related demands rather than only in direct academic tasks.

*Table 4. Self-Reported Impact of Financial Stress on Academic Performance Domains (n=384)*

Academic Domain	Strongly Agree n (%)	Agree n (%)	Agree/Strongly Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly Disagree n (%)
Concentration during lectures	46 (12.0%)	123 (32.0%)	169 (44.0%)	75 (19.5%)	108 (28.1%)	32 (8.3%)

Academic Domain	Strongly Agree n (%)	Agree n (%)	Agree/Strongly Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly Disagree n (%)
Examination performance	45 (11.7%)	127 (33.1%)	172 (44.8%)	76 (19.8%)	98 (25.5%)	38 (9.9%)
Missed classes/clinical duties	48 (12.5%)	78 (20.3%)	126 (32.8%)	60 (15.6%)	140 (36.5%)	58 (15.1%)
Assignment submission difficulty	30 (7.8%)	83 (21.6%)	113 (29.4%)	103 (26.8%)	108 (28.1%)	60 (15.6%)
Reduced motivation to study	69 (18.0%)	141 (36.7%)	210 (54.7%)	54 (14.1%)	94 (24.5%)	26 (6.8%)
Mental exhaustion from financial burden	65 (16.9%)	124 (32.3%)	189 (49.2%)	86 (22.4%)	101 (26.3%)	8 (2.1%)
Anxiety/emotional distress	80 (20.8%)	164 (42.7%)	244 (63.5%)	70 (18.2%)	60 (15.6%)	10 (2.6%)
Part-time work affects academics	69 (18.0%)	174 (45.3%)	243 (63.3%)	70 (18.2%)	53 (13.8%)	18 (4.7%)

Academic performance, measured by CGPA category, is presented in Table 5. Most students reported strong academic performance, with 178 students (46.4%) having a CGPA above 3.5 and 141 students (36.7%) having a CGPA between 3.1 and 3.5. Overall, 319 students (83.1%) had a CGPA above 3.0. Only 9 students (2.3%) reported a CGPA below 2.5.

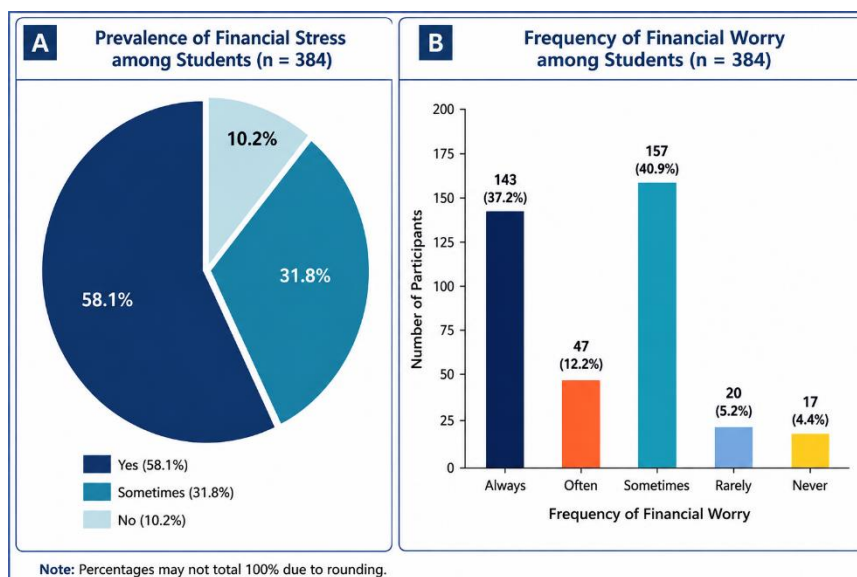
*Table 5. Academic Performance Based on CGPA Category (n=384)*

CGPA Category	Frequency	Percentage
Below 2.5	9	2.3%
2.5–3.0	56	14.6%
3.1–3.5	141	36.7%
Above 3.5	178	46.4%

*Table 6. Association of Demographic and Financial Variables with Academic Performance among Undergraduate Nursing Students (n=384)*

Variables	Categories	Frequency (n)	CGPA > 3	CGPA < 3	$\chi^2$	df	p-value																																																																																																				
Gender	Male	232			16.54	3	0.001																																																																																																				
	Female	152						Year of Study	1st Year	173			28.33	9	0.001	2nd Year	64			3rd Year	134			4th Year	13			Scholarship Status	No Scholarship	294			13.49	6	0.036	Full Scholarship	81			Partial Scholarship	9			Monthly Family Income (PKR)	Below 30,000	129			66.98	9	<0.001	30,000–50,000	111			50,001–80,000	86			Above 80,000	58			Living Arrangement	With Family	217			22.32	6	0.001	Hostel	127			Rented Accommodation	40			Financial Stress	Yes	223			56.08	6	<0.001	Sometimes	122			No	39			Frequency of Financial Worry	Always	190			31.27	4	<0.001	Sometimes	157		
Year of Study	1st Year	173			28.33	9	0.001																																																																																																				
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The chi-square analysis demonstrated statistically significant associations between CGPA and all selected demographic and financial variables (Table 6). Financial stress demonstrated a highly significant association with CGPA ( $\chi^2 = 56.08$ ,  $df = 6$ ,  $p < 0.001$ ), indicating that students experiencing greater financial stress were more likely to report lower academic performance. Similarly, frequency of financial worry was significantly associated with CGPA ( $\chi^2 = 31.27$ ,  $df = 4$ ,  $p < 0.001$ ). In addition, gender ( $\chi^2 = 16.54$ ,  $df = 3$ ,  $p = 0.001$ ), year of study ( $\chi^2 = 28.33$ ,  $df = 9$ ,  $p = 0.001$ ), scholarship status ( $\chi^2 = 13.49$ ,  $df = 6$ ,  $p = 0.036$ ), monthly family income ( $\chi^2 = 66.98$ ,  $df = 9$ ,  $p < 0.001$ ), and living arrangement ( $\chi^2 = 22.32$ ,  $df = 6$ ,  $p = 0.001$ ) were also significantly associated with academic performance among undergraduate nursing students.



*Figure 1 Prevalence and Frequency of Financial Stress among Undergraduate Nursing Students (n=384). Panel A shows that 58.1% reported financial stress, 31.8% reported it sometimes, and 10.2% reported no stress; Panel B shows that financial worry was reported sometimes by 40.9%, always by 37.2%, often by 12.2%, rarely by 5.2%, and never by 4.4%.*

## DISCUSSION

The present study revealed that a significant portion of undergraduate nursing students in Hyderabad experienced substantial financial pressure, with over one-third of families earning below 30,000 PKR monthly. This economic strain manifested predominantly as emotional distress, as 63.5% of participants reported anxiety or emotional distress linked to their financial situation. These findings aligned with researchers which identified financial constraints as primary stressors for Pakistani medical and nursing students (14, 18). Furthermore, the observation in Table 3 that 44% of students struggled with concentration during lectures due to financial worry was consistent with findings from Nigerian undergraduates, where 92% reported similar cognitive disruptions (19). The current results further reported that 54.7% of respondents suffered from reduced motivation, which corresponded with the transactional model of stress suggesting that perceived threats to financial security activate cognitive responses that interfere with learning engagement these findings were presented in Table 3, while similar findings were reported by (15, 20) in his findings. In addition our findings regarding part-time employment negatively, 63.3% of students noted that part-time employment negatively affected their academic progress shown in table no 3. This reliance on external income mirrored findings where nursing students worked additional hours to offset costs, effectively reducing time for academic study (13, 21). High emotional stress and significant financial challenges remained pervasive across the cohort.

Despite reported academic disruptions, 83.1% of students maintained a CGPA of 3.1 or higher Table 4. This observation suggested a "student persistence effect," where learner's persistent academic output through intrinsic motivation and resilience despite subjective distress shown. Such findings contrasted with qualitative evidence from Peshawar, where medical students explicitly linked financial pressure to failing grades and supplementary examinations (14, 22). A significant disagreement emerged regarding academic failure. Qualitative evidence explicitly linked financial stress to failing grades and supplementary exams among medical students in Peshawar (23). In contrast, 83.1% of the present cohort maintained a CGPA of 3.1 or higher Table No 4. This result agreed with Indian research, which suggested that variations in socioeconomic status do not necessarily influence final academic performance due to student resilience.

However, the strong academic standings in the present cohort may have been influenced by social desirability bias or institutional grading leniency. According to Alsayed et al., 2025, the statistical path from financial worry to reduced self-efficacy remained significant, as psychological distress variables

served as negative predictors of a student's confidence in their academic capabilities (24). Furthermore, 31.7% of participants identified a lack of adequate institutional financial support Table 3. This systemic gap was representative of private institutions in Pakistan that often lack constitutional requirements for student financial safety nets. Literature indicated that while support services like emergency grants existed in some contexts, they often failed to address the root causes of hardship (10, 22). Additionally, in Table No 3, nursing students facing these pressures frequently reported physical manifestations such as headaches and sleep disturbances. These physiological impacts were aggravated by the dual burden of theoretical coursework and clinical responsibilities (23).

The 63.5% prevalence of anxiety and emotional distress was constant with findings from Lebanon and Saudi Arabia, where financial instability and academic reforms served as major predictors of psychological distress (Figure No1) (9, 24). However, while the current study agreed with Nigerian research that financial worry caused poor concentration, the magnitude of impact differed; 92% of students in Benin City reported concentration issues compared to 44% in the present results.

According to Table No 5 results, this study revealed that the findings of the current study are consistent with the study conducted by Fatima Khatti et al. (2025), who reported a significant association between stress level and academic performance among nursing students in Pakistan ( $p = 0.002$ ). Their study concluded that stress significantly influences students' academic outcomes. Similarly, a study by Sana Majeed et al. (2024) found that stress levels were significantly associated with the academic performance of nursing students. The authors highlighted that academic workload and financial concerns contributed substantially to students' stress levels (20, 23).

The present findings are also supported by a recent study published in BMC Nursing, which reported that academic stress significantly affects learning approaches and educational outcomes among nursing students (24). Moreover, the current study observed significant associations between year of study, monthly income, and CGPA. These findings are in agreement with the longitudinal study conducted in Hong Kong, which reported that year of study and financial-related stress were significant predictors of stress and psychological distress among nursing students(22).

## CONCLUSION

This study concluded that financial stress was highly prevalent among undergraduate nursing students enrolled in private nursing institutions of Hyderabad, Sindh, Pakistan, with 89.9% of participants reporting either regular or occasional financial stress. Financial stress was significantly associated with academic performance measured through CGPA, while monthly family income, scholarship status, living arrangement, gender, and year of study were also significantly associated with CGPA. The major reported sources of financial stress included family responsibilities, tuition fees, personal expenses, accommodation, transportation, and multiple combined financial burdens. Financial stress was also linked with anxiety, emotional distress, reduced motivation, mental exhaustion, difficulty concentrating, and perceived academic disruption due to part-time work. Although many students maintained satisfactory CGPA despite these challenges, the findings highlight financial stress as an important educational and public health concern requiring institutional support, need-based scholarships, flexible fee systems, financial counseling, and integrated student wellbeing services.

## LIMITATIONS OF THE STUDY

The cross-sectional design limits the ability to establish causal relationships. Convenience sampling may introduce selection bias and affect representativeness. Data were self-reported, which may lead to recall bias or social desirability bias. The study was limited to private nursing institutions in Hyderabad, restricting generalizability to other regions or public institutions. Detailed inferential statistical outputs were limited, despite identifying a significant association

## RECOMMENDATIONS

Private nursing institutions should introduce need-based and merit-based scholarships, flexible fee payment plans, and emergency financial support funds to reduce students' financial burden. Institutions should provide financial literacy programs, budgeting guidance, and access to financial counseling to help students manage their expenses effectively. Flexible academic scheduling should be considered for students engaged in part-time work, along with early identification systems to support financially vulnerable students. Awareness programs should be conducted to improve students' knowledge of available financial aid and support services. Government and regulatory bodies should introduce stipend or financial assistance programs and ensure that private institutions implement formal financial support policies to sustain the nursing workforce in Pakistan. Future research should use longitudinal and analytical designs, apply validated measurement tools, and explore students' lived experiences and mediating factors such as anxiety, motivation, and coping strategies.

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