Academic Stress among Undergraduate Nursing and Midwifery Students of a Public University

Rejina Dhungel[1], *Apsara Pandey[1]

[1]Maharajgunj Nursing Campus, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal

ABSTRACT

Background: Stress is a major contributing factor to many psychological illnesses that plague today's society. A student's life is impacted by a variety of stressors, including academic pressure with the expectation of success, fear of anticipated academic failure, and an uncertain future. The objective of the study was to determine the level of academic stress among undergraduate nursing and midwifery students.

Methods: A descriptive cross-sectional study was conducted among 157 undergraduate nursing and midwifery students at Tribhuvan University (TU) in Kathmandu, Nepal. Different years of various bachelor level programs were taken as strata and proportionate stratified probability sampling technique was used to select the required sample for the study. The instrument included sociodemographic and academic characterization questions, as well as a self-administered, structured Scale for Assessing Academic Stress (SAAS) to collect data. Frequencies, percentages, means, standard deviations, and Pearson's chi-square or Fishers exact test were used to analyze the data.

Results: The mean age of the students was 23.08 years, with 98.7% being female and 85.4% unmarried. More than half (63.7%) of the students reported low academic stress, while 36.3% reported high academic stress. The study also revealed that stress related to cognitive indicators was higher (mean ± SD = 3.17 ± 1.91) compared to affective indicators, (mean ± SD = 1.43 ± 1.49). Academic stress among students was found to be significantly associated with their age (p = 0.004) and academic year (p = 0.026).

Conclusions: Nursing and midwifery students experience academic stress, which is associated with age and academic year. Stress reduction activities such as meditation, yoga, and other recreational activities might be helpful to the students.

Keywords: Academic Stress, Nursing Students, Scale for Assessing Academic Stress (SAAS)

***Correspondance:** Apsara Pandey, Associate Professor, Department of Pediatric Nursing, Maharajgunj Nursing Campus, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal, Email: apsara.pandey@mnc.tu.edu.np Phone: +977 9851186586

INTRODUCTION

Academic stress is inevitable in any educational institution. Increasing amounts of academic stressors over a prolonged period may create overwhelming frustration and anxiety in students, adversely affecting their morale, academic achievement, mental health, study habits, and adjustment styles.[1]In today's highly competitive world, students face various academic problems such as exam stress, disinterest in attending classes, and an inability to understand, which leads to academic stress.

Nursing students experience stress due to academic commitments, financial pressure and lack of time management skills[2]. Nursing students had mild to moderate stress due to longhours of study, assignments, grades, and lack of timely feedback after their performance.[3]

Nursing students had low self-esteem levels and

high academic stress.[4,5] Nursing students are prone to experiencing stress due to the demands of their academic and clinical responsibilities. High levels of stress can negatively impact both their health and educational performance.[6] While many research studies have been done in the field of stress among nursing students, unfortunately, the assessment of academic-related stress has not gained much attention, as researchers have come across very few literatures. Academic stress continues to be a destructive problem affecting students' academic performance. This study aimed to identify the level of academic stress among undergraduate nursing students.

METHODS

A descriptive cross-sectional study was carried out among 157 undergraduate students of Maharajgunj Nursing Campus, Tribhuvan University, Kathmandu. Students enrolled in bachelor-level first, second, and third-year nursing and first-year midwifery courses, were included in the study. There were 276 undergraduate students. Different years of various bachelor level programs were taken as strata. Proportionate stratified sampling was used to select the required sample. sample. Twenty-two, 22, and 24 students were from B.Sc. Nursing in the first, second, and third year, respectively;25, 28, and 25students from Bachelor in Nursing Science (BNS) in the first, second, and third year, respectively; and eight students from Bachelor in Midwifery Science (BMS) in the first year were selected proportionately. A self-administered, structured questionnaire was used as a data collection instrument consisting of two parts. Part one was related to socio-demographic characteristics developed by the researcher based on a literature review, consultation with the research supervisor, and subject experts. Part two was the Scale for Assessing Academic Stress (SAAS), originally prepared by Sinha, Sharma & Nepal (2001). It consists of 30 items with 'yes' or 'no' alternatives where 1 is provided for each 'yes' response and '0' for 'no' response. This scale consists of five subscales, namely cognitive (7 Items), affective (6 Items), physical (5 items), social/interpersonal (5 items), and motivational (7 items) in terms of their presence or absence. The total score ranges from 0 to 30. A score of 0-15 was categorized as low academic stress and 16-30 as high academic stress. The researcher obtained permission from the author via email to use the standard tool in her research. The test-retest reliability of SAAS over one month is 0.88, and split-half reliability is 0.75, with a validity of 0.54.[7] SAAS had already been used and validated in Nepal. The reliability consistency of this scale measured through alpha reliability was 0.70.[4,8] The data collection procedure was initiated after the approval of the proposal from the research department of Maharajgunj Nursing Campus, and the ethical approval from Institutional Review Committee (IRC). Data collection took place in the classroom at the Nursing campus. The students were approached in the classroom and invited to participate in the research. After explaining the objectives of the research, risks and benefits, confidentiality of the information and voluntary participation in the study written informed consent form was obtained from the participants. After that data collection was carried out. Data were analyzed in International Business Machines Corporation Statistical Package for the Social Sciences ((IBM SPSS) version 25.0. Descriptive statistics (i.e. frequency, mean, standard deviation, and percentage) were applied to analyze sociodemographic characteristics and the level of academic stress among undergraduate students. The Chi-square test was used to measure the association between academic stress and selected variables. All the statistical significant was set at $p<0.05$.

RESULTS

The mean age of the students was 23.08 (±3.075) years. Almost all were female; 85.4%

were unmarried; and nearly two-thirds of the students were from nuclear families. Similarly, the majority (79.6%) of the students were living in the hostel on campus. Regarding the students' educational characteristics, more than half (51.6%)) were studying in Bachelor of Nursing Science (BNS), while 43.3% were studying in Bachelor of Science in Nursing (BSN) program Similarly, 36.9% were in the first year, 30.6% were in the second year, and 32.5% were in the third year. The majority (75.2%) of students had selected the nursing profession because of their self-interest, and nearly half (47.1%) of the students' previous grades were very good (Table 1).

Table 1 : Students' Socio-demographic and Educational Variables (n=157)

Variables	Number	Percent
Age (in completed years)		
18-25	117	74.5
26-33	40	25.5
Mean age (± SD) = 23.08 ± 3.075		
Sex		
Female	155	98.7
Male	2	1.3
Marital status		
Unmarried	134	85.4
Married	23	14.6
Type of family		
Nuclear family	102	65.0
Joint family	55	35.0
Place of living		
Hostel	125	79.6
Parents	27	17.2
Relatives	5	3.2
Nursing stream of education		
BNS	81	51.6
B.Sc.Nursing	68	43.3
BMS	8	5.1
Academic year		
1st Year	58	36.9
2nd Year	48	30.6
3rd Year	51	32.5
Reason for selection of nursing education		
Self-interest	118	75.2
Unable to pursue other interested subjects	21	13.4
Family pressure	11	7.0
Peer influence	7	4.5
Reported previous grade		
Outstanding (90% and above)	5	3.2
Excellent (80-89%)	60	38.2
Very good (70-79%)	74	47.1
Good (60-69%)	12	7.6
Fair (59-59%)	6	3.8

Regarding the parental sociodemographic characteristics, more than one-third (36.9%) of the students' mothers had completed secondary education, while nearly half (46.5%) of fathers had completed secondary education. Similarly, two-thirds of respondents' mothers were homemakers, and 36.3% of fathers worked in business. In terms of parental expectations, 96.2% of students reported high parental expectations (Table 2).

Table 2 : Students' Parental Characteristics (n=157)

Variables	Number	Percent
Educational status of mother		
Cannot read and write	14	8.9
Informal education	18	11.5
Basic level (1-8 grade)	46	29.3
Secondary education (9-12 grade)	58	36.9
Higher education	21	13.4

Occupation of mother		
Business	16	10.2
Agriculture	14	8.9
Homemaker	105	66.9
Service	22	14.0
Educational status of father		
Cannot read and write	1	0.6
Informal education	9	5.7
Basic level (1-8)	31	19.7
Secondary education (9-12)	73	46.5
Higher education	43	27.4
Occupation of father		
Business	57	36.3
Agriculture	36	22.9
Homemaker	3	1.9
Service	49	31.2
Abroad	9	5.7
Retired	3	1.9
Parental expectations on academic achievements		
High expectation	151	96.2
Low expectation	6	3.8

Out of 30 items, the cognitive indicator had the highest mean score (3.17 ± 1.91), whereas the affective indicator had the lowest mean score (1.43 ± 1.49) (Table 3).

Table 3 : Students' Academic Stress (n=157)

Statements	Academic stress		
	Yes	No	Mean ± SD
Cognitive indicators			3.17 ± 1.91
It is very difficult for me to concentrate on my studies	79 (50.3)	78 (49.7)	
I forget studies material very easily	94 (59.9)	63 (40.1)	
I day dream a lot during study	82 (52.2)	75 (47.8)	
I feel difficulty in solving problems	62 (39.5)	95 (60.5)	
Many times, I don't answer the question though I know it	100 (63.7)	57 (36.3)	
I doubt whether I'll complete my studies	36 (22.9)	121 (77.1)	
I hesitate to discuss my academic problems	46 (29.3)	111 (70.7)	
Motivational indicators			2.42 ± 1.44
I lack interest in studies these days	87 (55.4)	70 (44.6)	
I don't enjoy extracurricular activities these days	36 (22.9)	121 (77.1)	
I have difficulties in completing my lesson	75 (47.8)	82 (52.2)	
I get bored from studies	73 (46.5)	84 (53.5)	
I strongly feel to discontinue to studies	17 (10.8)	140 (89.2)	
I don't feel like going to college	38 (24.2)	119 (75.8)	
I feel sleepy when I start studies	109 (69.4)	48 (30.6)	
Affective indicators			1.43 ± 1.49
I feel myself inferior than my classmates	46 (29.3)	111 (70.7)	
I lack confidence in academic activities	54 (34.4)	103 (65.6)	

I always feel under pressure for the study	100 (63.7)	57 (36.3)	
I think of failure in the examinations	68 (43.3)	89 (56.7)	
I always worry about my parent's expectations	94 (59.9)	63 (40.1)	
I feel very sad for not concentrating on my studies	113 (72.0)	44 (28.0)	
Physical indicators			2.47 ± 1.19
I get headache while studying	50 (31.8)	107 (68.2)	
I get nervous when my teacher ask questions in class	107 (68.2)	50 (31.8)	
I feel less desire to eat	23 (14.6)	134 (85.4)	
I gradually lose my sleep as examination appears nearer	91 (58.0)	66 (42.0)	
My heart beats faster before answering the questions	117 (74.5)	40 (25.5)	
Social indicators			2.77 ± 1.73
I feel nobody is there to help me in studies	35 (22.3)	122 (77.7)	
I easily get irritated with everybody	26 (16.6)	131 (83.4)	
Most of the times, I don't feel like talking to anybody	53 (33.8)	104 (66.2)	
I like to stay alone most of the time	62 (39.5)	95 (60.5)	
I feel nobody understands my difficulties	50 (31.8)	107 (68.2)	

Academic stress is categorized as high and low based on the SAAS score. The total score was 30. An SAAS score of 0-15 is considered low stress, and 16-30 is considered high stress. More than half (63.7%) of the students had low academic stress, whereas 36.3% had high academic stress (Table 4).

Table 4 : Students' Level of Academic Stress (n=157)

Level of academic stress	Number	Percent
Low (SAAS Score ≤ 15)	100	63.7
High (SAAS score > 15)	57	36.3

Possible score: 0-30

The level of academic stress was significantly associated with the age group of the respondents (p=0.004) and academic year (p=0.026) (Table 5).

Table 5 : Association between Level of Academic Stress and Selected Variables (n=157)

Variables	Academic Stress		x^2	*p*-value
	Low No. (%)	High No. (%)		
Age group (in completed years)				
18-25	67 (57.3)	50 (42.7)	8.209	0.004
26-33	33 (82.5)	7 (17.5)		

Sex				
Female	98 (63.2)	57 36.8)	1.155	0.535*
Male	2 (100.0)	-		
Marital status				
Married	18 (78.3)	5 (21.7)	2.473	0.116
Unmarried	82 (61.2)	52 (38.8)		
Type of family				
Nuclear family	62 (60.8)	40 (39.2)	1.066	0.302
Joint family	38 (69.1)	17 (30.9)		
Place of living				
Parents	18 (66.7)	9 (33.3)	0.625*	0.779*
Hostel	78 (62.4)	47 (37.6)		
Relatives	4 (80.0)	1 (20.0)		
Nursing stream of education				
B. Sc Nursing	38 (55.9)	30 (44.1)	4.635	0.099
BNS	58 (71.6)	23 (28.4)		
BMS	4 (50.0)	4 (50.0)		
Academic year				
First year	30 (51.7)	28 (48.3)	7.337	0.026
Second year	37 (77.1)	11 (22.9)		
Third year	33 (64.7)	18 (35.3)		
Reason for selection of nursing education				
Self-interest	79 (66.9)	39 (33.1)	2.176	0.140
Others	21 (53.8)	18 (46.2)		

*: Fisher's Exact Test

DISCUSSION

Nursing students suffer from stress regardless of their academic degree. Academic stress affects the academic performance of students despite their use of management strategies.[9] The present study was carried out to assess the level of academic stress among undergraduate nursing students, which found that more than one-third (36.3%) of the respondents had a high level of academic stress. This finding is lower than the findings of a study conducted among nursing students at Kathmandu University, which reported that 74.0% of the respondents had high academic stress.[4] A similar study conducted at Chitwan Medical College reported that more than half (50.9%) of the respondents had high stress due to academic pressure.[10] Another similar study conducted among 200 nursing students at Abhilashi College of Nursing, India found that most of the nursing students (60.0%) had moderate stress, 26.0% had severe stress, and a few (14.0%) had mild stress.[3] A similar study conducted among the faculty of nursing at Alexandria University, Egypt revealed that more than three-quarters (79.7%) of the students had high academic stress, mainly related to patients' care, assignments, and workload.[11] In line with the

present research findings, a study done among nursing students in Western Rajasthan found that 82.4% of the students had a moderate level of stress. The major sources of perceived stress among them were interface worries and academic load.[12] This difference might be due to differences in the study population, setting, and sampling methods.

In terms of academic stress indicators, highest stress was found in cognitive indicators compared to other indicators. This finding is supported by a study conducted in China, which also revealed that the highest stress was experienced in cognitive indicators.[6] In contrast to this finding, a study conducted in 290 Health Science Preparatory Program students of two universities in Saudi Arabia revealed that the stress was highest in motivational indicators with a mean score of 2.16.[13] This difference might be due to the study setting, population, and sample size.

The association between the level of academic stress and age was found to be significant with a p-value of 0.004. This finding is similar to a study conducted in selected nursing colleges of Himachal Pradesh, India [3] and in higher education institutions in Brazil.[16] Similarly, the association between the level of academic stress and academic year was found to be significant with a p-value of 0.026. The level of stress was high among first-year students. This finding is consistent with a study conducted at Chitwan Medical College, which revealed that first-year students had higher stress levels than students in other years.[10] Likewise, a study conducted at the Faculty of Nursing, Alexandria University, also reported that first-year students experienced the highest percentage of academic stress.[11] However, in contrast to this finding, a study conducted in Kaski, Nepal, revealed no significant association between the level of stress and the year of study.[2] The difference might be due to variations in study settings and populations.

In this study, the academic stress level was found to have no significant association with selected socio-demographic variables such as sex, marital status, type of family, place of living, nursing stream of education, and reason for the selection of nursing education. These findings are similar to the findings of a study done at Kathmandu University, which also showed that there was no significant association with place of living and type of family.[4] Similarly, the study conducted at the Faculty of Nursing, Damanhour University, Egypt shows no significant association with marital status, place of living, and type of family.[6] Another study conducted in a private nursing campus in Kathmandu[5] and Kaski[2] of Nepal also reported similar findings. But in contrast to the present study findings, a study conducted in an institute in Chennai, India found a significant association between the level of academic stress and the reason for the selection of nursing education at the start of the program.[14] The study conducted at Istanbul University in Ghana found a significant association between the level of stress and marital status, which revealed that married students were about 0.014 times more likely to be stressed than those who are single.[15] Similarly, a study conducted in a higher education institution in Brazil found a significant association between the level of stress and marital status, which revealed that the majority of married students had stress.[16] These differences might also be due to differences in study settings and population characteristics.

CONCLUSIONS

This study highlights that a significant proportion of nursing students experience high levels of academic stress. The higher stress levels observe in cognitive indicators also align with findings from other research, Age and academic year influence the academic stress levels, particularly highlighting higher stress among first-year students. These findings

underscore the need for tailored support systems that address the specific stressors faced by nursing students, particularly those in their initial academic years.

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