

STRESS AMONG BACHELOR LEVEL NURSING STUDENTS

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ABSTRACT

The world we live includes many stressful circumstances and nursing profession is not an exception to it. As nursing students are the future work force of a nation, it is necessary to provide a conducive learning environment where students are well supported and inspired. This may be possible by exploring this aspect so that strategies could be planned on time to help students adapt to the numerous challenges of academic life. We aimed to find out stressors as perceived by bachelor level nursing students and coping strategies used by them. Descriptive cross-sectional study approach was used. A moderate level of stress was found, and the major stressors identified were: stress from assignment and workload, teachers and clinical environment. No statistical difference of stress levels was found between the academic years ($P=0.54$). Staying optimistic, problem solving and transference coping strategies were used by majority nursing students in coping with stressful situation. Multiple linear regression analysis revealed that significant results were obtained in the model for the frequency of use of avoidance and problem solving. Stress from clinical environment explained 28.7% of the variance in the frequency of use of avoidance while stress from assignment and workload explained 4.1% variance in the frequency of use of problem solving. In conclusion, presence of stress among nursing students in this study indicates the need for assessment and planning of strategies to help students to cope with stressful situations so that conducive learning environment will be enhanced.

KEYWORDS

Coping strategies, Nepal, nursing students, stress

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INTRODUCTION

Stress refers to a condition in which a person experiences emotional and physical changes caused by various stressors that is perceived as challenging or threatening.^{1,2} It can be said that stress is a part of life and has different facets at different point of time. Well, to a certain limit stress may facilitate personal growth as it stimulates thinking but when it overwhelms a person's coping mechanisms then crisis results.^{1,3,4} The responses to stress are unique to each individual and the extent of crisis experience may be influenced by the person's ability to cope with the stressful conditions.^{3,5}

As nursing is a demanding profession, student nurses are subjected to various stressors.⁵⁻⁷ Role transition, role demand and role ambiguity in clinical practice and academic environment exposes students to various stressors which may directly or indirectly impede their learning and performance.^{3,8,9} However, these stressful experiences and its consequences make student nurses develop different coping strategies to survive and withstand these situations but if the use of coping strategies are less effective, then students are vulnerable to various conditions such as sleep disorders, eating disorders, use of illegal substances, suicide, absenteeism, psychosomatic illness.^{6,9,10} Thus, these study years should be carefully assessed and monitored so that the learning environment can be made more conducive for nursing students.^{6,8}

Objectives

1. To identify overall perceived stress
2. To find out stressors as perceived by nursing students
3. To identify the difference in mean perceived stress among three different academic years
4. To find out the coping strategies used by nursing students
5. To determine the predictors for the frequency of use of coping strategies

MATERIALS AND METHODS

Design, Setting and Sample

The study was conducted in three nursing colleges of Nepal with a sample size of 214. All the three nursing colleges were selected conveniently and all the B.Sc nursing students of 2nd, 3rd, and 4th year who were willing to participate and present during data collection were included in the study. Sample size calculation was not conducted as all of the students were included in the study. A cross sectional descriptive study design was selected for the study to meet its objectives and purposive sampling technique was used to enroll participants in the study.

Ethical Considerations

Formal ethical approval was obtained from institutional

review committee of Nepal Medical College and all the three nursing colleges. Verbal consent from each participants and assurance of confidentiality and anonymity prior to data collection was obtained. Permission to use the data collection tool was obtained from Elsevier.

Data Collection

A self-administered semi structured questionnaire was used to collect data on socio demographic information. Further, stress level and coping strategies was assessed through likert scale of perceived stress scale (PSS) and coping behavior inventory (CBI) developed by Sheu *et al.*¹¹ The five point likert scale of PSS scale ranged between 1 (indicating that student never had stress from the particular stressor) and 5 (indicating that student had always stress from the particular stressor) and consisted of 33 items, which were grouped into six stressors. A higher the score on the scale indicated higher degree of stress. Similarly, five-point Likert scale of CBI consisted of total of 20 items, which were grouped into four coping strategies and the scale ranged between 0 indicating student never using the particular coping strategy and 4 indicating student always using the particular coping strategy. A higher score in one coping strategy indicated more frequent use and greater effectiveness of this type of coping behavior. Only English version was available for the adopted likert scale and as all the eligible participants were proficient in using English language, English version of the tool was used for data collection.

Content validity of instrument was established by reviewing related literature, consulting the subject expert, and statistician. Also, questionnaire was pretested for 10 % of total subjects to ensure that the tool could be easily comprehend by the participants. Slight modification in the tools were made after pre-testing to suit according to the study context. Internal consistency reliability test was assessed using Cronbach's alpha which was found to be 0.86.

Data Analysis

SPSS version 16 was used for data entry and analysis. Frequency, percentage, tables, mean and standard deviation were used to express data descriptively. Shapiro Wilk test was used to verify normality of the quantitative variables and the data were found to be normally distributed ($P > 0.05$). Analysis of variance (ANOVA) was used for mean comparison of stress levels between the three academic years and multiple linear regression was used to identify the factors affecting frequent use of coping strategies. A p value less than 0.05 was regarded as the appropriate level of statistical significance.

RESULTS

Characteristics	Frequency	Percentage (%)
Academic Years		
Second Year	58	27.0
Third Year	77	36.0
Fourth Year	79	37.0
Interest in Nursing		
Yes	192	89.7
No	22	10.3
Age	Minimum 18 years to maximum 24 Years Mean± SD = 20.69 ± 1.21	

Overall Perceived Stress and Difference in Stressors among Academic Years

Overall perceived stress mean score was 2.53 (SD=0.44). (Table 2). A one-way ANOVA was conducted to evaluate difference in perceived stress among academic years

which revealed no statistical significant difference between the groups (F=0.60, df=2,211, P=0.54) (Table 3).

	M	SD
Overall perceived stress	2.53	0.44

Academic Years	M	SD	F	P-value
2nd	2.52	0.47	0.60	0.54
3rd	2.49	0.42		
4th	2.57	0.42		

Stressors

The most common stressor identified was stress from assignment and workload (M=2.89, SD=0.64). Students were worried about their poor grades which contributed as one of the major stressors under this domain. Stress from teachers (M=2.80, SD=0.74) and

Table 4: Stressors perceived by bachelor level nursing students (n=214)

Domains	Rank	M	SD
Domain 1: Stress from lack of Professional Knowledge and skills	5	2.37	0.48
Unfamiliar with medical history and terms		2.24	0.70
Unfamiliar with professional nursing skills		2.21	0.69
Unfamiliar with patient's diagnosis and treatment		2.26	0.66
Fear of making mistakes in clinical/community practice and failing in the course		2.77	0.93
Domain 2: Stress from assignments and workload	1	2.89	0.64
Worry about poor grades		3.11	1.11
Pressure from nature and quality of clinical practice		2.89	1.01
Pressure from amount of classwork material to be learned		2.92	1.00
Fear from examination		3.14	1.18
Feelings that performance does not meet teachers' expectations		3.01	1.13
Feelings that dull and inflexible clinical practice affect family social life		2.51	1.09
Feelings that demands of clinical practice exceed physical and emotional endurance		2.70	0.99
Domain 3: Stress from taking care of patient	6	2.22	0.55
Lack of experience and ability in providing nursing care and in making judgements		2.29	0.84
Not knowing how to help patient with physio-psychosocial problems		2.23	0.85
Unable to reach expectations in caring patients		2.19	0.74
Unable to provide appropriate responses to doctors', teachers' and patients' questions		2.34	0.75
Worry about not being trusted or accepted by patients or families		2.11	0.85
Not knowing how to communicate with patients		1.92	0.87
Experience difficulties in changing role from student to nurse, as need to behave like professional nurse in caring patient		2.47	0.94
Domain 4: Stress from clinical Environment	3	2.52	0.63
Feeling of stress and fear in clinical environment where invasive procedures are being conducted		2.42	1.03

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Unfamiliarity with ward facilities		2.32	0.91
Feelings of stress from rapid changes in patients' condition		2.53	0.85
Fear of criticism from staffs, teachers		2.77	1.05
Medical personnel lacking empathy and willingness to help		2.60	1.01
Domain 5: Stress from teachers	2	2.80	0.74
Seeing discrepancy between theory and practice		3.00	1.05
Not knowing how to discuss patients' illness with teachers		2.15	0.92
Feelings of stress when teachers' instruction is unclear/ unexpected		2.69	1.01
Feelings that teachers do not evaluate fairly		3.08	1.27
Lack of care and guidance from teachers		2.72	1.31
Fear of placement evaluation and marks in academics		3.17	1.18
Domain 6: Stress from peers and daily life	4	2.38	0.69
Experience of competition from peers in college and clinical practice		2.71	1.08
Feelings that clinical practice affects involvement in extracurricular activities as need to involve more in clinical duties		2.75	1.08
Inability to get along with group peers		2.08	0.95
Fear of criticism from peers		1.99	0.92

stress from clinical environment (M=2.52, SD=0.63) were the other two major contributors to stress as indicated by the students in this study (Table 4).

Coping Strategies used by Nursing Students

In this study, higher proportion of students tend to stay optimistic when stressful events were encountered

(M=3.30, SD=0.83). They tend to keep optimistic and positive attitude in dealing with everything in life which is quite commendable. Problem solving (M=3.26, SD=0.72) and Transference (M=3.05, SD=0.88) were other two coping strategies frequently used by the students while avoidance was the least rated coping strategy (M=1.97, SD=0.62) (Table 5).

Table 5: Coping strategies used by nursing students (n=214)

Domains	Rank	M	SD
Domain 1: Avoidance	4	1.97	0.62
To avoid difficulties during academic and clinical/community practice		2.23	0.89
To avoid teachers, staff and friends		1.77	0.86
To quarrel with others and loose temper		1.87	1.02
To expect miracles so one does not have to face difficulties		2.21	1.10
To expect others to solve the problem		1.84	0.87
To blame the circumstances as fate		1.94	0.94
Domain 2: Problem solving	2	3.26	0.72
To adopt different strategies to solve problems		3.29	1.04
To set up objectives to solve problems		3.14	1.03
To make plans, list priorities and solve stressful events		3.27	1.06
To find the meaning of stressful incidents		3.21	0.95
To employ past experience to solve problems		3.44	1.02
To seek help from seniors in solving problems		3.27	1.12
Domain 3: Stay Optimistic	1	3.30	0.83
To keep an optimistic and positive attitude in dealing with everything in life		3.48	1.01
To see things objectively		3.13	1.01

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To have confidence in overcoming difficulties		3.14	1.04
To accept the problematic situation and hope that best possible things will happen		3.47	1.07
Domain 4: Transference	3	3.05	0.88
To eat large meals		2.33	1.34
To take long sleep		3.00	1.32
To relax via TV, movies, a shower, physical exercises, meditations, traveling, visiting relatives, ventilating with friends, relatives or with close ones		3.82	1.11
To cry for relieving stress		3.07	1.37

Factors Affecting the Frequency of use of Coping Strategies

A multiple linear regression analysis was performed to identify the predictors of the frequency of coping strategies used by nursing students. Significant results were obtained in the model for the frequency of avoidance and problem solving. However, the variance for avoidance was quite high than problem solving. The variables: stress from taking care of patient, stress from peers and daily life and stress from clinical environment showed significant results in the model for the frequency of use of avoidance as a coping strategy. Stress from clinical environment explained quite a high variance of 28.7% ($F=29.54$, $df=3,210$, $P=0.00$); stress from peers and daily life explained quite similar variance of 27.3% ($F=40.97$, $df=2,211$, $P=0.00$) and stress from taking care of patient depicted comparatively low variance of 22.6% ($F=63.04$, $df=1,212$, $P=0.00$) in the frequency of using avoidance. While, stress from taking care of patients and stress from assignment and workload explained very low variance of 2.7% ($F=6.81$, $df=1,212$, $P=0.01$) and 4.1% ($F=5.53$, $df=2,211$, $P=0.00$) respectively in the frequency of using problem solving.

Results showed that increase in one unit in the level of stress from taking care of patient, peers and daily life and clinical environment, would result in an increase of frequency in using avoidance by 0.33 unit, 0.25 unit and 0.19 unit respectively, holding the other two stressors constant in the model for each of the stressors. Regarding problem solving approach, we expect an approximately -0.26 decrease in use of problem solving approach with every unit increase in stress from taking care of patient, holding the other stressor constant in the model. While, with every unit increase in stress from assignments and workload, we expect a 0.14 unit increase in frequency of using problem solving approach, holding the stressor "stress from taking care of patient" constant. Interpreting the standardized coefficients value, we can say that stress from taking care of patient has higher impact in using avoidance when compared to other variables ($\beta=3.41$ vs $\beta=0.190$ vs $\beta=0.162$). On the other hand, stress from assignments and workload has higher impact in using problem solving approach when compared to stress from taking care of patients ($\beta=0.150$ vs $\beta=-0.237$).

DISCUSSION

Overall Perceived Stress

Majority of nursing students do feel some level of stress during their academic years and this has been reported in various studies.^{3,6,8,12-15} Overall perceived stress level in most of the studies identified were at moderate level,^{3,6,8,16} which is in line with this study as well. However, nursing students rated stress level as mild in two of the studies conducted in Greece and Chandigarh.^{13,17} Nursing is a demanding profession and to develop into professional nurse role, structure of nursing education exposes students to various stressful situations.^{5,6,7} Certainly, minimal amount of stress enhances students' performance but stress exceeding this limit may have harmful effect on students' wellbeing.^{18,19} Therefore, all these findings point out the need to assess and plan strategies timely to prevent stress level from worsening further.

Difference in Overall Perceived Stress among Various Academic Years

Evidence indicates fluctuation of stress level when compared among various academic years. Student nurses at higher study years executed low stress level than junior student nurses.^{6,5,20-25} As student progress to higher study levels, they gain mastery over clinical skills and knowledge. This helps them to be more mature and experienced in understanding the situation and thus become capable of handling the stressors in effective way. However, this study refutes this finding as it revealed no difference in stress level among various academic years. This contradictory finding of this study is supported by two other studies.^{6,17} One of the study revealed increased stress level in senior student nurses than junior student nurses.²⁰ Expectations of teachers and staffs from nursing students' increases as the year progresses and inability to meet their expectations might put nursing students in stress at higher study level or might lead to no difference in stress level when compared to lower level. The other possible reason might be increase academic load, cultural factors, and interpersonal factors.

Stressors

Both academic and clinical burden is a major challenging aspect in nursing and students failing to adjust to this demanding environment indicates the possibility of having stress.^{3,6,8} Though the nursing

course structure is designed to provide the theoretical foundation for strengthening competence, source of stress for nursing students are related to greater extent to the academic world and this is well documented in most of the studies.^{6,16,8,12,17} Particularly, students were in stress due to assignment and workload in this study. B.Sc nursing curriculum is an integrated approach of science and nursing and the students are required to complete the designated academic hours before graduation. Moreover, during entire academic year students are loaded with continuous assignments (internal exams, project works, and presentations) but the study duration provided are short and the study days are longer making difficult for students to provide themselves with self-time and indulge in self-study. This has been indicated in two studies.^{6,26} On top of this they need to continue their shift duties and complete clinical assignments which makes the study aspect even harder. Another reason might be attributed to the curriculum structure in nursing which demands incorporation of knowledge, skill and attitude in learning process. Societal expectations and emphasis on marks and grades might act as a stressor in this tighter academic scenario making it even more stressful for nursing students. Concern regarding grades as a stressor has been indicated in few studies.^{8,11} This indicates the need to review the academic workload and make the necessary amendments to facilitate teaching learning process.

Role of teachers is an important aspect in nursing education as they act as a facilitator in both academic and clinical aspect to make it more conducive for learning. Stress that is created by the evaluation pressure in both theory and clinical, differences between real practice and theory taught, and fear that teachers has not evaluated fairly has been the main reasons occupying the top positions under this category of stress in this study. This findings shares some aspect of similarity with other two studies.^{12,26} The third most common stressor in this study indicates fear of criticism from teachers and staff as the most common item to cause stress in clinical environment which is consistent with the study by Evans and Kelly.²⁶ Besides this stressors, other stressors in clinical environment were rated the most common stressors in some studies,^{17,27} while other studies did indicate stress from lack of professional knowledge and skills,^{8,27} lack of timely feedback from faculty despite good performance, being unsure of what is expected of them,⁶ environmental factors, interpersonal and intrapersonal factors,^{8,23} financial and health related factors²² are the common stressors to cause stress among nursing students. The variation of common stressors among this and other studies may point out the variability in the content and structure of data collection instruments used in various studies. Talking about this study, the measurement tool used in this study focused more on academic stressors and very minimal clinical stressors were focused and other stressors were not included. Thus, it seems quite conceivable to have higher stress scores on academic aspect. Other relatable reasons might be less sample size and the variation in study duration of all the studies.

Coping Strategies

Stressful situations compel students to develop coping strategies and the coping strategies they choose to employ can influence their stress level. Further, choice

of effective coping strategies helps to relieve stress while less effective strategies can degrade wellness condition of students.^{9,27} Major cohort of nursing students in this study seemed to use effective coping strategies as they opted for approach focused coping strategies to handle stressful situations. This result is comparable with other study results as well.^{6,14,22,28} This positive observation could be an indication that students gained good support from their supervisors because of which they became well aware of handling stressful situation in an effective way. Students could learn problem solving skills in their first year placement and as this study includes 2nd, 3rd and 4th year students, they might have preferred approach focused coping strategy. It is quite appreciable that students in this study indicated avoidance as a least preferred coping strategies as avoiding stressful situation could provide relief for short period but it will not provide benefit in long run.^{6,19,28} A considerable number of nursing students in the study conducted in India, Northern Ireland, Iran and Hongkong utilized emotion focused,^{13,14,23,28} coping strategy to tackle stressful situations while nursing students in another study conducted in Hongkong choose transference.²⁷ Mostly students depends on their supervisors when problem arises and as using transference is easier and convenient that might be the reason for choosing this coping strategy for some nursing students.

Factors Affecting the Frequency of use of Coping Strategies

Frequency of use of avoidance coping strategy was affected by three factors: stress from taking care of patients, peers and daily life and clinical environment. These stressful situations may demand guidance from supervisors to help students to handle the situation. However, they may hesitate to seek advice from supervisors due to fear of criticism and thus might expect their supervisors to solve it for them. Thus, students might just tend to avoid the problem rather than taking time to identify and solve it. The other possible reason might relate to students' inability and inexperience in handling stressful situation because of which they might find it easier and convenient to escape from the problem. Generally, student tend to use problem solving approach when they feel competent in handling situation. So, because of inexperience in handling clinical situation, student might find it easy to avoid the problem. This might be the reason for decrease in use of frequency of problem solving approach with the increase stress from taking care of patient in this study.

Even though, frequency of use of problem solving approach for stress from assignment and workload revealed a very low variance, use of this approach is quite a positive observation in this study. Students might have developed their problem solving skills during their first year learning exposure academic and clinical scenario and that may be the possible reasons for some students to opt for problem solving approach as a coping strategy. Whatever may be the reasons, high preference of avoidance over problem solving approach can raise questions about the teachers' support, counselling, and guidance provided to the students during the stressful situations. Thus, to facilitate students learning environment support services should be focused so that students get timely help when needed. Factors affecting frequency of using coping strategy is revealed by one of the study conducted by Chan *et al* where year of study, religion,

stress from teachers and nursing staff were the factors affected the frequency of use of avoidance. While, year of study and stress from taking care of patients were the two factors that affected the frequency of use of the problem solving approach.²⁷

In conclusion, the demanding nature of the nursing curriculum has led to stressful experience for nursing students. However, this may not be a novel phenomenon in the light of literature review. Assignment and workload, teachers and clinical environment acted as three major stressors in this study leading to moderate level of stress experience for a majority of nursing students. Choice of staying optimistic and problem-solving coping strategies over avoidance was a positive aspect in this study. However, majority students did prefer avoidance coping strategy when they encountered stress from taking care of patient, peers and daily life and clinical environment.

Individual health and academic performance can be affected by stress and thus measures should be implemented in academic setting to reduce or prevent stress to facilitate conducive learning environment. Further, reassessment of curriculum to strategically plan academic workload, inclusion of stress management techniques using effective coping strategies, availability and accessibility of adequate support from teachers and early recognition of difficulties faced by students in clinical environment could be done to facilitate students to identify stressors and plan effective coping strategies to tackle those stressful situations. Despite the fact that this study was conducted in a purposively selected small sample size, the finding of this study could be useful for nurse educators and academic administrators to gain some insight of stressful academic scenario in Nursing.

Limitations

No research is devoid of limitations and this applies for this study as well. As this study uses cross-sectional

design, the pattern, consistency and intensity of stress over time is not assessed. Furthermore, this study involved limited number of respondents and setting is confined to only few colleges so generalization of results to all the KU affiliated colleges should be cautioned. This study only investigated selected characteristics exploring only limited information and did not address the factors like students' cultural differences, personality, stress in clinical environment which may affect stress experience of students. Recall bias would have occurred as students needed to recall some past stressful experiences and use of self-report questionnaire may carry the risk of concealing the factual information and answering in a socially acceptable manner. Larger sample size, use of randomized sampling method, detailed exploration of stressors and effective coping strategies would help to explore this issue in depth.

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