

Stress and Coping Strategies among Nursing Students of selected Nursing College of Kathmandu

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ABSTRACT

Background: As nursing students have to work in different wards and deal with different types of patients, the dynamic clinical and academic environment makes them continuously exposed to the stressful situations. The purpose of the study was to identify stress and coping strategies among nursing students of Kathmandu.

Methods: A cross-sectional research design was used. Simple random sampling technique was used to choose 130 students. The tool Perceived Stress Scale and Cope Behavior Inventory was adopted for collection of data. Descriptive and Inferential statistics were used for analysis. For measurement of relationship correlation test was used.

Results: Every nursing student perceived stress. The overall stress perceived by the students was 1.8 ± 0.75 . Stress from assignment ($M = 2.41 \pm 0.80$) was identified as the most frequent cause of stress. Problem solving ($M = 2.44 \pm 0.90$) was the most common coping strategy adopted. A positive relationship was established between the stress scale and subscales of coping strategies ($r = 0.183$, $p < 0.05$).

Conclusions: This study shows every nursing student experiences some degree of stress during their study period. So effective counselling programs need to be arranged to help them to utilize the positive coping strategies like problem solving and staying optimistic when dealing with the stress.

Keywords: Coping Strategies; Kathmandu; Nursing Students; Stress

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INTRODUCTION

A body's way of responding to any kind of demand is called stress [1]. Coping strategies refers to behaviour or mental methods used to face, reduce or get rid of stress. Upon joining a training course, there are completely new circumstances which every nurse should adjust to. The theoretical and the practical areas both have some kind of stress [2].

Students have stress from different factors like academic, clinical environment, assignment, peer pressure, etc. Various ways of stress management are adopted by student nurses such as seeking family's support, social support, developing a positive optimistic attitude [3].

Globally, 80% of the nursing students have some kind of stress including clinical and academic stress. In Ethiopia, there is stress among 47.7% of nursing students [4]. A research in Australia showed 90% of nurses had stress [5]. A study in Nepal found 51% nursing students reported moderate to severe stress [6]. Logistic regression analysis found being female was the determining factor for stress type ($p = .006$) and remaining single created a reduction in stress among students [7].

As stress affects learning and performance, it is important to handle stress effectively [2]. Response to stress in a healthy way requires proper stress management techniques [8]. Establishing a student support system and continuously preparing students helps to equip with effective coping skills [9].

The assessment of the stress and coping strategies will help to develop plans for mentorship, counselling and a better environment for learning increasing productivity among students. However, to researchers' knowledge very few studies have been conducted regarding this topic in Nepal. Thus, the study aimed to identify the stress (clinical and academic stress) and coping strategies in nursing students.

METHODS

A cross-sectional descriptive research design was adopted in achieving the objective of the

research. The population included all the nursing students studying in P.C.L. (1st, 2nd, 3rd) years, B.Sc. (2nd, 3rd & 4th) years and B.N. (2nd & 3rd) years at Kantipur Academy of Health Science, Kathmandu. Data was collected within a week from January 2-7, 2022.

Using the Cochran's formula, considering 95% confidence interval, 5% permissible error and stress prevalence 27.9%,³sample size for definite population was calculated 132 considering 10 % non -response rate. The probability random sampling technique with streamwise proportion has been taken as described next to select the desired sample. There were 194 students in total, proportion was calculated for each stream. The students were numbered from 1 to 194 on the basis of their roll numbers (P.C.L. 1st year 1-20, P.C.L. 2nd year 21-40, P.C.L. 3rd year 41-60, B.Sc. 2nd year 61-80, B.Sc. 3rd year 81-98, B.Sc. 4th year 99-116 , B.N.S. 1st year 117-156 and B.N.S. 2nd year 157-194 , streamwise proportion of nursing students were calculated and respective students were selected using random table method; 39 students from B.Sc. Nursing, 53 from B.N. and 40 from P.C.L. nursing. With two of the selected students missing, data were collected from only 130 students. The students who didn't sign written consent and were absent on the day of collection of data were excluded from this study.

Self- administered questionnaire was used for data collection. The tools Perceived Stress Scale and Coping Behaviour Subscale [10,11] were adopted for the study. Questionnaire related to factors affecting stress was developed by the researchers themselves by consulting the subject experts and literature review.

The questionnaire consisted of 60 items and was divided into three main parts. The first part dealt with the background information of students. The second part consisted of Perceived Stress Scale Questionnaire. The scale consisted of Likert scale graded on a five point: '0' = never, '1' = Rare, '2' = sometimes, '3' = frequent, '4' = always. There were 29 items grouped under six domains; stress from patient care, teachers,

assignments, peers, lack of skills and clinical environment. The gross score fluctuates between 0 and 116. A higher score indicated a higher degree of stress [10,11].

The third part consisted of the questions related to coping strategies. It was measured by adopting the tool by Sheu et al., Cope Behaviour Inventory [10]. It had 19 items in four coping behaviour domains; avoidance, problem -solving, optimistic coping and transference. Each indicator was measured through a five-point Likert scale from 0 to 4. (0' = never, '1' = Rare, '2' = sometimes, '3' = frequent, '4' = always). Higher scores of each factor indicated more frequent use and greater effectiveness of a certain type of coping behaviour to cope with the stress.

Experts on the subjects were consulted and literature review was done to validate the content of the study. The questions were clear, orderly set and simple to understand. For the appropriate use of this tool in our setting, pre-testing of the instrument was done in 10 % of the total sample (Everest Nursing College, Kathmandu). Reliability in terms of internal consistency of the tool was tested with Cronbach's alpha (Cronbach's alpha coefficient = 0.78).

The Ethical approval was sought from the Ethical Review Board of Nepal Health and Research Council. The study follows the STROBE checklist for reporting cross-sectional study. First of all, using streamwise proportion technique, required sample was selected. Then each day data was collected from selected students of a single year via self-administered questionnaire. A written consent was taken before data collection and time allocated was 20-25 minutes. Data was collected in 8 days. The rights and welfare of all the students were maintained throughout the study by signing an informed consent before the study giving them full authority to decide whether to participate in the study or not,

maintaining anonymity, confidentiality of the data and they were given full authority to withdraw at any time.

Epi-data version 3.1 was used for entering data and imported into Statistical Package for Social Science (SPSS-16 version). The relationship of stress with coping was analysed using correlation test. The value of Confidence Interval was set at 95 % with p value <0.05 .

RESULTS

Data was collected from 130 students of which 39 students were from B.Sc. Nursing, 53 from B.N. and 40 from P.C.L. nursing. In regard to background characteristics of the students, the mean age was found to be 23 ± 3.96 years, 58.5% were less than or equal to 23 years. Regarding the father's educational level, 29.2 % of fathers' had completed higher secondary level while 28.5% of mothers were educated to primary level. Likewise, 43.8% fathers were employed in Non-governmental Organizations and 60.8 % mothers' were home maker.

The stressors perceived by students are shown in Table 1. Every student experienced some degree of stress. The overall stress perceived by the students was 1.8 ± 0.75 . The stress generated from assignment and workload was responded by the majority (2.41 ± 0.80) followed by stress from the environment (2.03 ± 0.78). The least stress was generated from lack of professional knowledge and skills (1.56 ± 1.01).

The most widely adopted strategy for dealing with stress was focusing on the problem and its solution ($2.44 \pm .90$) as shown in Table 2. The second most common strategy adopted was staying optimistic ($2.22 \pm .86$) while Avoidance was the least adopted coping strategy adopted by students (1.17 ± 0.75).

Table 1: Stressors Perceived by Nursing Students (n = 130)

Stress Factor/Items	Factor Ranking	Mean	S.D.
Overall stress perceived by students		1.8	0.75
1.Stress from taking care of patients	5	1.58	0.88
Lack of experience and ability		1.69	1.28
Do not know to help patients		1.66	1.24
Unable to reach expectations.		1.94	1.10
Unable to provide appropriate responses to questions		1.67	1.20
Worry about not being trusted or accepted		1.38	0.49
Unable to provide patients with good nursing care.		1.29	0.84
Do not know how to communicate		1.32	1.02
Experience difficulties in changing the role		1.82	1.21
2. Stress from teachers and nursing staff	4	1.80	0.82
Experience discrepancy between theory and practice		2.08	1.04
Do not know how to discuss patients' illness		1.35	0.21
Feel stressed that teacher's instruction is different from one's expectations.		2.14	1.12
Medical personnel lack empathy		1.55	0.94
Feel that teachers do not give fair evaluation		2.05	1.19
Lack of care and guidance from teachers.		1.67	1.04
3. Stress from assignments and workload.	1	2.41	0.80
Worry about bad grades.		2.51	1.15
Experience pressure from clinical practice		1.89	1.26
Feel performance does not meet teachers' expectations.		2.05	1.05
Feel that the requirements of clinical practice exceed one's physical and emotional endurance.		2.05	1.15
Feel that dull and inflexible clinical practice affects one's family and social life.		2.22	1.22
4. Stress from peers and daily life	3	1.92	0.82
Experience competition from peers		2.05	1.28
Feel pressure from teachers		2.35	1.22
Feel that clinical practice affects one's involvement in extracurricular activities.		1.92	1.18
Cannot get along with other peers		1.37	1.16
5. Stress from Lack of Professional Knowledge and skills	6	1.56	1.01
Unfamiliar with medical history and terms.		1.58	1.13
Unfamiliar with professional nursing skills.		1.53	1.21
Unfamiliar with patients' diagnoses and treatments.		1.59	1.13
6. Stress from the environment	2	2.03	0.78
Feel stressed in the hospital environment		1.82	1.23
Unfamiliar with the ward facilities.		1.79	1.17
Feel stressed from the rapid change in patient's condition		1.98	1.11

Table 2: Coping Strategies used by Nursing Students (n=130)

	Coping Strategies	Factor Ranking	Mean	S.D.
1.	Avoidance	4	1.17	0.75
	To avoid difficulties during clinical practice		1.45	1.08
	To avoid teachers		1.19	0.98
	To quarrel with others and lose temper		1.0	0.80
	To expect miracles so one does not have to face difficulties		1.31	1.23
	To expect others to solve the problem		1.19	0.91
	To attribute to fate		1.51	1.09
2.	Problem solving	1	2.44	0.90
	To adopt different strategies to solve problems		2.45	1.09
	To set up objectives to solve problems		2.72	1.21
	To make plans, list priorities, and solve stressful events		2.46	1.31
	To find the meaning of stressful incidents		2.38	1.21
	To employ past experience to solve problems		2.28	1.34
	To have confidence in performing as well as senior schoolmates		2.42	1.17
3.	Stay optimistic	2	2.22	0.86
	To keep an optimistic and positive attitude in dealing with everything in life		2.72	1.24
	To see things objectively		2.34	1.24
	To have confidence in overcoming difficulties		2.42	1.17
	To cry, to feel moody, sad, and helpless		1.42	1.19
4.	Transference	3	2.05	0.98
	To feast and take a long sleep		1.54	1.35
	To save time for sleep and maintain good health to face stress		2.19	1.18
	To relax via TV, movies, a shower, or physical exercises (ball playing, jogging)		2.45	1.27

Table 3: Relationship between Stress and Coping Strategies (n=130)

Coping Strategies	Avoidance	Problem Solving	Stay Optimistic	Transference
Stress from taking care of patients	0.326**	0.186*	0.183*	0.134
Stress from teachers and Nursing staffs	0.317**	0.190*	0.138	0.175*
Stress from assignments and workloads	0.306**	0.189*	0.157	0.212*
Stress from peers and daily life	0.314**	0.123	0.106	0.105
Stress from lack of professional Knowledge and skills	0.234**	0.036	0.033	-0.035
Stress from the environment	0.293**	0.211*	0.170	0.234**
Overall stress score	0.370**	0.032*	0.160	0.157

** Co-relation is significant at 0.01 level (2-tailed) *Co-relation is significant at 0.05 level (2-tailed)

Table 3 revealed "Avoidance" behaviour to have a positive relationship with different factors of stress ($p < 0.01$). In contrast, coping factor "stay Optimistic" and stress developed by caring

patients had weak positive relationship ($r = 0.183$, $p < 0.05$). A significant relationship of overall stress scales was determined with Avoidance and problem-solving subscales.

DISCUSSION

The main objective of the study was to identify stress and coping strategies among nursing students. In this research, mean stress experienced by students was 1.8 (SD=0.75). The stress generated from assignment and workload was responded by the majority (2.41 ± 0.80). Alike results were drawn from the case study of Malawi nursing students, where the stress of respondents was 2.24 ± 0.70 [12]. Several other studies conducted in Saudi Arabia and India have also identified assignment to be the predominant stress factor [8,13]. The nursing program in Nepal consists greater credit hours in clinical practice. The students have to submit at least a case study, log book and clinical teaching at each clinical posting and several presentations at classroom. All these may have created stress among the students.

The most frequently adopted strategy for dealing with stress was focussing on problem and its solutions (2.44 ± 0.90). These findings are same as findings of study at Malawian and Saudi Arabia [12,14]. This difference in the findings may be due to the sample difference, the sample in this study included all years of B.Sc. Nursing except the first year as there were no first-year students while the later study involved 1st and 2nd year students only as a sample.

These findings are different than the results of the study done in Mangalore where only one student had severe stress. It may be because of the difference in the sample size and setting. As the present study was done after the second wave of COVID 19 pandemic, the findings may have varied.

Pearson's correlation was used to find out the relationship of stress with coping subscales. "Avoidance" behaviour had a positive relationship with different factors of stress ($p < 0.01$). The coping factor "stay Optimistic" and stress developed by caring patients had a weak positive relationship ($p < 0.05$). Similar results were obtained from research in India, where all the stress subscales were found to have positive co-relation with Avoidance [15].

As the research data was collected based on self-reporting by the respondents, although precautions were taken, recall bias might have affected the responses. In addition, faculty nature, teaching style and factors in clinical settings were not taken into consideration which affects the perceived level of stress.

CONCLUSION

Based on the findings of the study, every nursing student experiences some kind of stress during the study period due to various factors. The preceding stressor was the stress experienced from doing assignments. Focussing on the problem and its solution was the predominant strategy utilized by the students for dealing with the stress. The concerned authorities can help to relieve stress among the nursing students by conducting intervention programs like proper orientation and demonstration before going to the hospital and not overloading the students with assignments to lower academic stress and to better cope with the perceived stressors.

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Ethical Approval: This study received ethical approval from the Ethical Review Board, Nepal Health Research Council (684/2021 P). Participation was purely voluntary, informed consent was signed before research and there was no conflict of interest between the authors and the participants.

Data Availability Statement: Data are available from the corresponding author upon reasonable request.

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Layman Summary: Nursing students are exposed to dynamic clinical and academic environment and work with patients and staffs with different attitudes and nature everyday during their study period. This creates a stressful environment for nursing students. Every Nursing Students experiences some kind of stress during their academic and clinical posting. Better coping

strategies will help them to better adjust with the stressful situations and improve their overall performance. This research is aimed to identify stress and coping strategies among the nursing students.

Self-administered questionnaire was used for data collection which showed that every nursing students experiences some kind of stress during the study period. Stress from assignment was the most common cause of stress and problem solving was the most common strategies applied by the nursing students in overcoming the stress.

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