Stress and Coping among Nursing Students

*Kamala Gharti[1], Gaura Gurung[2], Nirupa Thapa[1], Sarita Karki[2]

[1]Pokhara Nursing Campus, Institue of Medicine, Tribhuvan University, Nepal
[2]Pokhara Academy of Health Sciences, Pokhara, Nepal

ABSTRACT

Introduction: Stress is common among nusrsing students and it can affect their academic and clinical performance. Nursing students must cope with various stressors as inability to cope up with the stressors may lead to many physical and psychological health issues. This study was conducted to assess the stress and coping strategies used by bachelor level nursing students in Pokhara.

Methods: A descriptive cross-sectional study was conducted on 159 bachelor-level nursing students. A structured questionnaire Perceived Stress Scale and Coping Behaviour Inventory was adopted for the data collection. Informed written consent was taken from the study participants. Both descriptive (percentage, mean, and standard deviation) and inferential statistics (chi-Square and correlation) were calculated.

Results: This study found that 52.2% of respondents had a high and 47.8% had a moderate level of stress. The most common stressors was assignment and workload and the most commonly used coping strategy was problem-solving. There was a significant statistical association between stress level, economic status, and grading point average (GPA). A low degree of positive correlation between stress and coping strategies (r = 0.254, p = 0.001) and a moderately positive correlation between all PSS subscales and avoidance were found.

Conclusions: This study concluded that severe level of stress was found among bachelor-level nursing students and the "assignment and workload" was the most common stressor. The most frequently used coping strategy by nursing students was problem solving. The study findings also revelaed a low degree of positive correlation between stress and coping strategies used by nursing students.

Keywords: Stress, coping, student, nursing

*Correspondance: Kamala Gharti, Lecturer, Pokhara Nursing Campus, Institute of Medicine, Tribhuvan Universtiy, Email: ghartik2017@gmail.com, Mobile: 9846063954

INTRODUCTION

Stress is a "state produced by a change in the environment that is perceived as challenging, threatening, or damaging to a person's dynamic balance or equilibrium" and it is a mental or physical strain.[1-2] Nursing education and profession remain challenging and stressful and nursing students are affected by different kinds of stressors such as the pressure to achieve academic performance and clinical skills.[3] Constant stress alters the hormonal balance in the body leading to feel irritated, anoyed, restless, anxious, etc. by events that are uncontrollable or threatening.[4] The stress among the students can have serious effects on their health status and academic performance.[5]

Students need to develop coping strategies to succeed and for the betterment of their health.[6] Coping strategies helps the person to maintain psychological balance during stressful situations.[7] The problem solving approach is the most commonly used coping strategy used by nursing students to adapt to the stressors.[8]

Stress is a natural and psychological phenomenon among human beings. The prevalence of stress among medical students are estimated to be around 14.3%-56% worldwide.[9] Nursing students have been facing more stress in both academic and clinical areas and they try to adopt different coping strategies themselves to reduce their stress. Inappropriate coping methods could

be a barrier in overcoming the challenges of nursing education. Therefore, this study was conducted to assess the level of stress, common stressors, coping strategies used by the bachelor-level nursing students in Pokhara and to identify the association between stress level and demographic variables, and correlations between stress and stressors with coping strategies.

METHODS

A cross-sectional descriptive study design was carried out in Tribhuwan University, Institute of Medicine, Pokhara Nursing Campus, Pokhara, Nepal. The total study population was 159 bachelor-level nursing students from Bachelor in Nursing Science (BNS) and Bachelor of Science in Nursing (BSN) program. Complete enumeration was taken for the sample. Data were collected by a self-administered questionnaire which consisted of three parts. The first part comprised of socio-demographic information of the participants. The second part consisted of standard valid tool Perceived Stress Scale (PSS) developed by Sheu et al.[10] to assess the stressors perceived by nursing students. It is 5- point Likert scale comprised of 29 items, that are grouped into six subscales. The PSS scale ranged from 0-4; 0 indicating that the student never perceived stress from the specific stressor and 4 indicating that the student had always perceived stress from that stressor. The total score of PSS can range from 0-116. A higher score on the scale indicated a higher level of stress. The level of stress was categorized according to the mean score. A score equal to or higher than the mean score indicated severe stress and a score less than the mean score indicated mild to moderate stress.

The third part consisted of Coping Behavior Inventory (CBI) developed by Sheu et al.[10] CBI is a 5-point Likert scale which consisted of 19 items. All items were grouped into four subscales and the scale ranged between 0 – 4. The score 0 indicates that the student had never used that specific coping strategy whereas 4 indicates the most frequently used coping strategy. The total score of CBI can range from 0-76 in which higher score in particular strategy indicated more frequent use of that coping behavior. Both instruments (PSS and CBI) were widely used by researchers and were freely accessible.

The researcher approached the students during their break time in the college and explained the purpose of the study. Informed written consent was obtained and data were collected from the students who were willing to participate in the study. Data were checked for completeness.

Internal consistency reliability using Chronbach's alpha coefficient for the total scale of PSS and CBI was 0.84, and 0.70. Both descriptive (percentage, mean, SD) and inferential statistics (chi-Square, correlation) were used to answer the research questions. Ethical approval to conduct this study was obtained from the Institutional Review Committee (IRC), Tribhuwan University, Institute of Medicine (Ref: 427[6-11] E^2/075/76). All the participants were informed about the objectives of the study and written informed consent was taken.

RESULTS

Socio-demographic Characteristics

Total number of respondents were 159 out of which majority of respondents (61.6%) were between 21-25 years of age and studying BNS (67.3%). The majority (67.9%) of respondents were Brahmin/Chhetri, 76.7% were unmarried, 89.3% were Hindu and more than half (51.6%) of the respondents were living with their families. Most of the respondents (94.97%) had average Grading Point Average (GPA), normal BMI (72.3%) and sleeping hours was 7-8 hours (71.7%). More than fifty percent (54.1 %) of respondents' economic status was just sufficient for one year (Table 1).

Table 1 Socio-Demographic Characteristics of the Nursing Students (n=159)

Socio-Demographic Variables	Number	Percent
Age (Years)		
≤20	19	11.9
21-25	98	61.6
26-30	38	23.9
>30	4	2.5
Mean age: 23.75 ±3.0		
Ethnicity		
Brahmin/ Chhetri	108	67.9
Gurung/Magar	28	17.6
Newar	20	12.6
Others	3	1.9
Marital status		
Married	37	23.3
Unmarried	122	76.7
Religion		
Hindu	142	89.3
Buddhist	11	6.9
Christian	6	3.8
Sleeping hours (in hours)		
5-6	25	15.8
7-8	114	71.7
9-10	20	12.6
Program		
BNS	107	67.3
BSN	52	32.7
Living style		
Family	82	51.6
College hostel	77	48.5

Socio-Demographic Variables	Number	Percent
BMI		
Underweight	24	15.1
Normal	115	72.3
Overweight/Obese	20	12.6
GPA		
Average	151	94.9
High	8	5.0
Family income		
> Sufficient for one year	73	45.9
Just sufficient for one year	86	54.1

Regarding the overall stress level, 52.2% of respondents had severe stress whereas 47.8% of respondents had mild to moderate level of stress (Table 2).

Table 2 Level of Stress among Nursing Students (n=159)

Stress level	Number	Percent
Mild to moderate level stress	78	47.8
Severe stress	81	52.2

The total stress level was calculated using mean and standard deviation. Table 3 indicates that the 'assignments and workload' (2.83 ± 0.65) was the highest stressors and 'stress from the clinical environment' (2.21±0.68) was the lowest stressor perceived by the respondents.

Table 3 Stress Perceived by Nursing Students (n=159)

Stressors	Rank	Mean	SD
PSS		2.55	0.56
I. Stress from patients care	4	2.25	0.67
Lack of experience and ability in giving nursing care and in making judgments		2.01	1.08
Don't know how to help patients with physio-psycho social problems		1.92	1.08
Unable to reach one's expectations		2.13	0.90
Unable to give appropriate responses to doctor's/teacher's patient's queries		2.15	0.85
Worrying for not being accepted by patients or patient's family		1.51	0.96
Unable to provide good nursing care to patients		1.76	0.87
Don't know how to communicate with patients		1.28	0.95
Experience difficulties in changing role from a student to that of a nurse		1.74	0.99

Stressors	Rank	Mean	SD
II. Stress from teacher and nursing staff	2	2.69	0.77
Experience discrepancy between theory and practice		2.67	1.87
Don't know how to discuss patient's illness with teachers, and other health personnel		1.66	0.95
Feel stressed that teachers' instruction is different from one's expectations		2.16	1.08
Medical personnel lack empathy and are unwilling to help		2.45	1.01
Feel that teachers do unfair evaluation of students		2.32	1.20
Lack of care and guidance from teachers		2.23	1.81
III. Stress from assignments and workload	1	2.83	0.65
Anxiety about poor grades		2.68	1.19
Experience stress from the clinical practice		2.28	0.99
Feel that one's performance does not meet teachers expectations		2.37	0.92
Feel that the clinical practice requrements exceed one's physical and emotional endurance		2.37	0.93
Feel that clinical practice affects one's family and social life		2.35	0.90
IV. Stress from peers and daily life	3	2.54	0.85
Experience competition from peers		2.07	1.12
Feel pressure from teachers who evaluate students' performance by comparison		2.64	1.25
Feel that clinical practice affects one's involvement in extracurricular activities		2.10	1.18
Cannot get along with other peers		1.73	1.11
V. Stress from lack of professional knowledge and skills	5	2.21	0.82
Unfamiliar with medical history and terms		1.86	.95
Unfamiliar with professional nursing skills		2.11	.98
Unfamiliar with patients' diagnoses and treatments		1.79	.95
VI. Stress about environment	6	2.21	0.68
Feel stressed in the clinical settings		1.50	1.06
Unfamiliar with the ward facilities		1.96	0.92
Feel stressed from the prompt change in patient's condition		2.13	1.00

Table 4 depicts that the most commonly used coping strategy by respondents was problem-solving (3.29 ±0.68) whereas the avoidance was least used as a coping strategy (1.69 ± 0.47).

Table 4 Coping Strategies Utilized by Nursing Students (n=159)

Parameters - Coping mechanism	Rank	Mean	SD
Coping scale	2.78		0.47
I. Avoidance	4	**1.69**	0.67
Avoid problems during clinical practice		1.59	1.07
Avoid teachers		0.82	0.88
Quarrel with others and lose temper		0.86	0.98
Expect miracles		1.57	1.23
Expect others to solve the problem		1.28	0.98
Attribute to fate		1.55	1.05

Parameters - Coping mechanism	Rank	Mean	SD
II. Problem solving	1	**3.29**	**0.68**
Adopt different strategies for problem solving		3.00	0.91
Make objectives to solve problems		2.94	0.95
Make plans, list priorities, and solve stressful incidents		2.81	0.89
Find the meaning of stressful events		2.72	0.92
Use previous experience in problem solving		3.05	0.98
Have confidence in performance as senior student		2.79	0.78
III. Stay optimistic	2	**3.01**	**0.66**
Keep an optimistic attitude towards life		3.12	0.84
See things objectively		2.72	0.96
Have confidence in solving problems		2.86	0.93
Cry, feel moody, sad, and helpless		1.89	1.15
IV. Transference	3	**2.72**	**0.48**
Feast and take a long sleep		2.14	1.08
Save time for sleep and maintain good health		2.71	0.98
Relax via TV, movies, a shower, or physical exercises		3.23	0.88

Table 5 there was no association between level of stress and socio-demographic variables except class GPA and economic status (p=0.004).

Table 5 Association between Stress Level and Selected Socio-Demographic Variables (n=159)

Socio-demographic information	Stress level		X^2- value	P- value
	Moderate stress	Severe stress		
Age (in years)				
<20	11	8	0.674	0.411
>20	57	73		
Marital status				
Married	18	19	0.003	0.955
Unmarried	60	62		
Sleeping hour (in hours)				
5-6	11	14	0.304	0.859
7-8	57	57		
9-10	10	10		
Grade Point Average				
Average	73	76	0.951	0.004*
High	5	5		
Programme				
BNS	56	51	1.408	0.235
BSN	22	30		
Residence				

Socio-demographic information	Stress level		X^2- value	P- value
	Moderate stress	Severe stress		
With Family	42	36	0.537	0.317
At college-hostel	40	41		
Family income				
More than sufficient for one year	36	42	0.952	0.004*
Just sufficient for one year	3	44		

In regards to correlation, there was a low degree of positive correlation between stress and strategy (r = 0.254, p = 0.001) (Table 6).

Table 6 Correlation between Stress and Coping Strategies (n=159)

Stress	Coping strategies	P- value
	r= .254**	0.001

The correlation was significant at the 0.01 level (2-tailed)

Pearson correlation test to determine the relationship between PSS and CBI susbscales shows a positive moderate correlation between "avoidance" and all the PSS subscales. In addition, stay optimistic was correlated with stress from teachers and nursing staffs (r = 0.182, p = 0.021) and with stress from peers and daily life (r = 0.193, p = 0.000) (Table 7).

Table 7 Correlation between Stressors and Coping Strategies (n=159)

Stressors	Avoidance	Problem solving	Stay optimistic	Transference
Stress from taking care of patient	r = 0.271**	r = -0.098	r = 0.018	r = 0.099
Stress from teachers and nursing staffs	r = 0.235**	r = -0.091	r = 0.182*	r = 0.136
Stress from assignment and workload	r= 0.289**	r = -0.098	r = 0.064	r = -0.151
Stress from peers and daily life	r = 0.383**	r = -0.018	r = 0.193*	r = 0.111
Stress from lack of professional knowledge and skills	r = 0.331**	r = -0.003	r = 0.119	r = 0.195
Stress about environment	r = 0.334**	r = -0.128	r = 0.106	r = 0.122

**Significant correlation at the 0.01 level (2- tailed)
*Significant correlation at the0.05 level (2-tailed)

DISCUSSION

The present study revealed that the mean age of respondents was 23.75 ± 3.05 years. Regarding stress level, 52.2% of nursing students had severe stress whereas 47.8% had a moderate level of stress. These findings contradict the study done in Kathmandu which reported that 61.5% of the respondents had moderate, 27.9% had severe, and 10.6% had mild level of stress.[5] Another study done in Kathmandu also depicted a moderate level of stress in 84.5% nursing students.[11] Stress in a minimal amount is beneficial for the wellbeing of the individual if faced with challenges and responsibility.[12] However exposure to stress for an extended period can be harmful. Therefore, the findings of this study showed that nurse educators should plan strategies to prevent stress among students while keeping them motivated for better learning.

This study showed that the overall PSS score was 2.55 ± 0.56 where the highest-ranking stressor was 'assignments and workload' (2.83 ± 0.65) followed by the stress from 'teacher and nursing staff (2.69 ± 0.77), whereas 'stress from the environment (2.21 ± 0.68) was the least sources of stress. This finding is consistent with study done in Saudi Arabia which showed that the most common stressor for students was assignment and workload (1.82 ± 0.90) followed by teacher and nursing staff (1.80 ± 0.83); and stress from the clinical environment (1.28 ± 0.90) was the lowest stressor perceived by the nursing students respectively.[13]

The overall coping level was (2.78 ± 0.47). The most frequently used coping strategy was problem-solving (3.29 ± 0.68) whereas avoidance (1.69 ± 0.67) was the least used coping strategy by nursing students. This study finding is similar to a study done in Saudi Arabia which showed that problem solving was the most frequently used coping strategy, while avoidance was least used by nursing students.[11] Another study done in Kathmandu was also consistent with this present study result in which problem solving (3.26 ± 0.72) and transference (3.05 ± 0.88) were frequently used coping strategies while avoidance was the least used coping strategy (1.97 ± 0.62) by the nursing students.[14]

This study found no association between stress level and socio-demographic variables except class GPA and economic status (p=0.004). It was also evident in other studies that there is a relationship between stress level and the academic performance of the respondents.[15] Moreover, a low degree of positive correlation between perceived stress and coping strategies (r = 0.254, p = 0.001) were obtained from the study. This finding is congruent with the results of a study done in Kathmandu which showed that there was a positive correlation between stress and coping (r = 0.138).[8] Another study done in West Bengal, India showed a statistically significant correlation between the overall mean PSS and CBI score (r = 0.306, P < 0.01).[16]

Pearson correlation was carried out to identify the relationship between PSS subscales and CBI subscales, which revealed a positive moderate correlation between avoidance and all the PSS subscales. In addition, stay optimistic was correlated with stress from teachers and nursing staffs (r = 0.182, p = 0.021) and with stress from peers and daily life (r = 0.193, p = 0.000). Similar study done in Saudi Arabia also found a positive moderate correlation between avoidance and all the PSS subscales.[12] A study done in Patan Academy of Health Science[11] and the study findings of Nigeria[17] is also consistent with our study results which revealed a positive correlation between the stress and coping behavior used by the students (r=0.138) (r=0.185, P=0.002) respectively. This indicates that the total coping behavior increases when the level of stress increase.

CONCLUSIONS

The study concluded that the bachelor-level nursing students experience severe level of

stress because of assignments and workload and the most frequently used coping strategies were problem-solving and staying optimistic. The findings provided valuable information for nursing educators in identifying students' stressors, and developing effective interventions and strategies to minimize them.

ACKNOWLEDGMENTS

REFERENCES

1. Samson-Akpan PE, Edet John ME, Edet OB, Etita Ella R. Stress and coping strategies among undergraduate nursing students in Calabar, Nigeria. J Nurs Health Sci. 2017; 6(3):61-70. doi: 10.9790/1959-0603086170.

2. Acharya Pandey R, Chalise HN. Self-esteem and academic stress among nursing students. Kathmandu Uni Med J (KUMJ). 2015; 13(52):298-302. doi: 10.3126/kumj.v13i4.16827. PMID: 27423278.

3. Shukla A, Kalra G, Pakhare A. Understanding stress and coping mechanisms in Indian student nurses, SL J Psychiatry. 2013; 4(2):29-33. doi: 10.4038/sljpsyc.v4i2.5387.

4. Davey A, Sharma P, Davey S, Shukla A. Is work-associated stress converted into psychological distress among the staff nurses: A hospital-based study. J Family Med Prim Care. 2019; 8(2):511-16. doi: 10.4103/jfmpc.jfmpc_419_16. PMID: 30984664.

5. Bista B, Bhattrai B, Khadka N. Stress and coping mechanisms among nursing students in Kathmandu. Journal of Manmohan Memorial Institute of Health Sciences. 2017; 3(1): 16. doi:10.3126/jmmihs.v3i1.19175.

6. Hassanein SE, Elshair IH , Abdrbo AA, Hassan EG. Coping strategies as predictors of coursework stress among university nursing students. J Nurs Educ Prac. 2017;7 (2):99-106. doi: 10.5430/jnep.v7n2p99.

7. Marini R, Renzi A, Di Trani M, Trabucchi G, Danskin K, Tambelli R. The impact of coping strategies and perceived family support on depressive and anxious symptomatology during the coronavirus pandemic lockdown. Front. Psychiatry. 2020,11, 587-724.

8. Labrague LJ, McEnroe-Petitte DM, Gloe D, Thomas L, Papathanasiou IV, Tsaras K. A literature review on stress and coping strategies in nursing students. J Ment Health. 2017,26, 471-480.

9. Salam A, Yousuf R, Bakar SM, Haque M. Stress among medical students in Malaysia: A systematic review of literatures. Int Med J. 2013;20:649–55.

10. Sheu S, Lin HS, Hwang SL. Perceived stress and physio-psycho-social status of nursing students during their initial period of clinical practice: the effect of coping behaviors, Int J Nurs Stud. 2002; 39(2):165-75. doi: 10.1016/s0020-7489(01)00016-5. PMID: 11755447.

11. Pun KM, Samson P, Timalsina R. Stress, stress responses and coping strategies among bachelor nursing students, Journal of Patan Academy of Health Sciences.2018; 5(2):74-80. doi:10.3126/jpahs.v5i2.24016.

12. Gibbons C, Dempster M, Moutray M. Stress and eustress in nursing students. J Adv Nurs. 2008;61(3):282-90. doi: 10.1111/j.1365-2648.2007.04497.x. PMID: 18197862.

13. Salman H, Alsaqr. Stressors and coping strategies of the Saudi Nursing Students in the clinical training: A cross-sectional study. J Educ Int. 2017. doi: https://doi.org/10.1155/2017/4018470.

14. Devkota R, Shrestha S. Stress among bachelor level nursing students. Nepal Med Coll J. 2018;.20 [1-3]:33-40.

15. Llego J, Gabriel E, Corpus J. A correlational study on the stress level and academic performance of nursing students. J Basic Appl Res Biomed. 2018; 4(4):83–7. doi: 10.51152.

16. Dasgupta A, Podder D, Paul B, Bandyopadhyay L, Mandal S, Pal A, Mandal M. Perceived stress and coping behavior among future nurses: A cross-sectional study in West Bengal, India. Indian J Community Med. 2020; 45(2): 204-8. doi: 10.4103/ijcm.IJCM_200_19. PMID: 32905185.

17. Ajibade BL, Olabisi OO, Fabiyi B, Ajao OO, Ayeni AR. Stress, types of stressors and coping Strategies amongst selected nursing schools students in south-west, Nigeria. European J Biology and Medical Science Res. 2016;4(3):1-15.