

Perceived Stress and Its Associated Factors Among Nursing Students Regarding Clinical Learning EnvironmentBinita Adhikari,¹ Jenny Ojha¹¹School of Health and Allied Sciences, Pokhara University**ABSTRACT**

Introduction: Stress is a state of mental or emotional strain resulting from demanding circumstances. This study aims to assess the perceived stress and its associated factors among nursing students regarding clinical learning environment.

Methods: A cross-sectional study was conducted among 172 Proficiency Certificate Level nursing students of second year. The respondents were selected using lottery method and information collected using the semi-structured self-administered questionnaire. Descriptive and inferential statistics with Chi-square test were performed.

Results: The mean age of the respondents was 18.17±0.612. The study revealed that more than half (54.7%) students had Moderate stress, 41.3% had Mild and 4.0% had Severe stress regarding clinical learning environment. The clinical learning environment related factors such as: using or handling unfamiliar equipment ($\chi^2=7.646, df=1, p=0.006$), Interpersonal relationship with clinical supervisor ($\chi^2=7.516, df=1, p=0.006$) were significantly associated with perceived stress regarding clinical learning environment.

Conclusions: The study revealed that more than half (54.7%) students had Moderate stress, 41.3% had Mild and 4.0% had Severe stress regarding clinical learning environment.

Keywords: *Nursing students, perceived stress, clinical learning environment, associated factors*

INTRODUCTION

Stress is specific response by our body to a stimulus that disturbs normal functioning. A stressor is an event or any stimuli that cause an individual to experience stress.¹ According to Donald Tube sing “Stress is like Spice-in the right proportion it enhances the flavour of a dish. Too little produces a bland, dull meal; too much may choke you.” Stress depends upon individuals perception because one kind of events may be stressful to one person but may not be stressful to another person.²

The stress is called health epidemic of 21st century and stress was increased by 10 to 30 percent among all demographic groups in the USA.³ According to the data of research conducted at university of UK, 82% of students suffer from stress and anxiety and 45% have experienced depression.⁴ It also varied from 70%, 75% and 60% as the prevalence of stress among students due to academic, clinical and environmental factors respectively in Pakistan.⁴ In India 97% of the students had moderate stress and 3% had severe stress. In Nepal 61.5% of students have moderate stress 27.9% have severe stress and 10.6% have mild stress.⁵

The nursing curriculum is formulated with clinical as well as theory of the related subject. Most of the times during the study of nursing, students are involved in clinical learning environment. Therefore they may face various stressors in clinical learning environment.⁵

In Jordan the mean of stress perceived by nursing students was

45.9. Among different sources of stress the main source of stress was students' assignment, patients' and stress from teachers and nursing staff whereas the least perceived source of stress was lack of professional knowledge and skills.⁶

In India among nursing students, factors associated with stress were the environmental factors (40%) the interpersonal factors (30%), academic factors 19% contribution whereas the intrapersonal factors minimally.⁷ In Nepal most common stresses among students were personal-environmental stress, clinical stress and academic stress.⁸

The common sources of stress among nursing students in clinical learning environment basically include: academic-related stress such as assignments, lack of knowledge, examination, teaching style; clinical practice for example, lack of competence, taking care of death and dying, shift, supervision, status of patient, handling emergency situations, interpersonal relationships related (patients, peers, teachers or other health professionals) and personal and social factors.¹⁰⁻¹³

This study aims to assess the perceived stress and its associated factors among nursing students regarding clinical learning environment.

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METHODS

A cross-sectional descriptive study was carried out in clinical setting of five nursing colleges of Pokhara Metropolitan which were selected randomly using lottery method. Students studying PCL nursing in second year were involved in the study. We calculated sample size considering the prevalence of clinical related stress 75% at Allied Hospital, Faisalabad, Punjab⁷ with probable error 5%. The sample size was 172. From the selected colleges all students of PCL second year were involved in this study.

The study was conducted using self-administered questionnaire which was divided into 3 parts: Socio-demographic part, 20 items questions for assessing Perceived stress, Questions related to the some of the clinical learning environment related factors of stress respectively. The second part of the questionnaire was an adopted tool from DASS scale and Perceived Stress Scale where the required modification were done relating the tool to clinical learning environment related factors. This part consist of 20 questions related to the clinical learning environment to assess the level of perceived stress. For each of the questions 'Yes' was worth 1 point and each 'No' was worth 0 point except question number 13 and 14 where 'Yes' was worth 0 and 'No' was worth 1. The total score is 20 which was divided into different perceived stress level according to the score as:

Perceived Stress Level	Score
Mild	0-6
Moderate	7-13
Severe	14-20

In order to make the questionnaire more convenient, reliable and practicable, pretesting was done among 10% of the sample. Validity was established by seeking opinion of the subject experts and research advisors and the suggestion given by them was subsequently incorporated in the questionnaire. The nursing students of PCL nursing second year from the selected nursing colleges were selected and the students not willing to participate and give consent and students absent at the time of the study were excluded.

The data was collected after getting ethical approval from the institutional review committee of Pokhara University. The official permission was taken from the authority of the selected nursing colleges. The purpose of the study was explained to the respondents and informed consent was obtained from all the respondents. Privacy and confidentiality was maintained. After collection of the data, checking compiling was done manually on the same day of data collection. The collected data was coded and entered in SPSS 16.0. Result of the analysis were expressed in terms of descriptive and inferential statistics. Chi-square test was used to measure the strength of association between variables. P-value of <0.05 was considered significant.

RESULTS

Socio-demographic characteristics of the participants

This section deals with the analysis of socio-demographic characteristics of 172 participants and presented in the table below. There was no any non-response and incomplete information.

Table 1: Socio-demographic characteristics of the participants

Variables	Frequency (f)	Percentage (%)
Age		
≤19	167	97.1
≥20	5	2.9
Mean=18.17(SD±0.612)		
Religion		
Hindu	141	82.0
Buddhist	24	14.0
Christian	7	4.0
Ethnicity		
Brahmin	27	15.7
Chhetri	35	20.3
Dalit	7	4.1
Janajati	103	59.9
Family type		
Nuclear	133	77.3
Joint	36	20.9
Extended	3	1.8
Wealth quantile		
<40000	42	24.4
40000-50000	51	29.7
50000 - 60000	18	10.4
60000 - 100000	61	35.5
(Min.=20000, Max.=100000)		

On the basis of literature found wealth index has been classified.

Level of perceived stress of the participants

This section deals with the analysis and interpretation of data to assess the level of perceived stress of the participants which is described in the table below:

Table 2: Level of perceived stress of the participants(n=172)

Characteristics	Frequency (f)	Percentage (%)
Mild Stress (0-6)	71	41.3
Moderate Stress (7-13)	94	54.7
Severe Stress (14-20)	7	4.0

Among total 172 participants, 54.7% of students have Moderate level of Stress, 41.3 % have Mild level of stress and 4.0% participants have severe stress regarding clinical learning environment.

Description of clinical learning environment related factors

This section deals with the analysis and interpretation of data related to the responses of the participants on Clinical Learning Environment related factors. Since this study is about identification of stress of nursing students when they are exposed to clinical setting, the table below shows nursing student's responses on various factors related to clinical setting.

Table 3: Responses of participants on clinical learning environment related Factors(n=172)

Clinical Learning Environment related factors	Frequency (f)	Percentage (%)
Handling or using unfamiliar equipments		
Yes	161	93.6
No	11	6.4
Hospital setting		
Surgical	63	36.6
Medical	76	44.2
Emergency	26	15.1
Others	7	4.1
Shift		
Morning	35	20.4
Evening	62	36.0
Night	75	43.6
Feedback from clinical supervisor in-front of others		
Yes	136	79.1
No	36	20.9
Patients serious disease condition		
Yes	135	78.5
No	37	21.5
IPR with peer		
Good	154	89.5
Fair	17	9.9
Poor	1	0.6
IPR with clinical supervisor		
Good	89	51.7
Fair	73	42.4
Poor	10	5.9
IPR with health professionals		
Good	80	46.5
Fair	70	40.7
Poor	22	12.8

Data in table 3 describes that among clinical learning environment related factors majority of the students (93.6%) perceived stress while "Handling or using unfamiliar equipments". On the clinical learning environment related factors, "Hospital Setting" 44.2% of the students perceived Medical setting as stressful, followed by 36.6% students perceived Surgical as stressful setting, 15.1% students perceived Emergency setting as stressful and 4.1% students perceived 'Others' setting as stressful which includes Lab. On the Shift of clinical posting, 43.6% students perceived Night shift stressful, 36.0% students perceived Evening shift as stressful whereas only 20.4% students perceived Morning shift as stressful. Furthermore, majority of the students (78.5%)

perceived stress because of patients serious disease condition. Moreover, on the IPR related factors of Clinical Learning Environment, 89.5% students had Good IPR with peer, 51.7% students had Good IPR with Clinical Supervisor and 46.5 % students had Good IPR with Health Professionals.

Association of perceived stress with socio-demographic variables

The statistical analysis was performed to show the association of perceived stress with socio-demographic variables among nursing students.

Table 4: Association of perceived stress with socio-demographic variables

Variables	Total Score (Median)		χ^2 value	p-value
	≤ 7	> 7		
Age				
≤ 19	85	82	0.231	0.680 (fisher exact)
≥ 20	2	3		
Ethnicity				
Janajati	51	52	0.117	0.732
Others	36	33		
Religion				
Hindu	73	68	0.444	0.505
Others	14	17		
Family type				
Nuclear	66	67	0.215	0.643
Joint	21	18		
Family monthly income				
≤ 50000	46	47	0.101	0.750
> 50000	41	38		

*Statistically significant at $p < 0.05$, $\chi^2 = 3.841$, $df = 1$

The results show that no significant relationship exists between perceived stress and demographic variables such as age ($p = 0.680$), ethnicity ($p = 0.732$), religion ($p = 0.505$), family type ($p = 0.643$), monthly income (0.750) among PCL 2nd year nursing students. This result is based on the result seen as per literature search which was done with median score.

Association of perceived stress with clinical learning environment related factors

The statistical analysis was performed to show the association of perceived stress with clinical learning environment related factors among nursing students which is shown in the table 6.

Table 5: Association of perceived stress with clinical learning environment related factors

Variables	Total Score (Median)		χ^2 value	P-value
	≤ 7	> 7		
Using or handling unfamiliar equipments				
Yes	10	1	7.646	0.006*
No	77	84		
Hospital setting				
IPD	69	70	0.257	0.612
Others department	18	15		
Shift				
Day	43	54	3.478	0.062
Night	44	31		
Feedback from clinical supervisor				
Yes	22	14	2.020	0.115
No	65	71		
Patients serious disease condition				
Yes	20	17	0.227	0.633
No	67	68		
IPR with peer				
Good	80	74	1.100	0.294
Poor	7	11		
IPR with clinical supervisor				
Good	54	35	7.516	0.006*
Poor	33	50		
IPR with health professionals				
Good	44	36	1.168	0.280
Poor	43	49		

*Statistically significant at $p < 0.05$, $\chi^2 = 3.841$, $df = 1$

The clinical learning environment related factors such as: using or handling unfamiliar equipment ($\chi^2 = 7.646$, $df = 1$, $p = 0.006$), Interpersonal relationship with clinical supervisor ($\chi^2 = 7.516$, $df = 1$, $p = 0.006$) were significantly associated with perceived stress regarding clinical learning environment.

DISCUSSION

This study revealed that among 172 students more than half of the total students 54.7% have moderate level of stress and less number of students 4.0% have severe stress. It is consistent with previous study, Stress and Coping mechanism of Nursing students during Clinical Practice in Ghana which was conducted to assess clinical related stress among nursing students which also revealed that more than half of (59%) respondents experienced moderate to high levels of stress.⁹ And another study at National Institute of Nursing Education, PGIMER,

Chandigarh concluded that majority of the students had moderate stress (63.6%), and less number of students had severe stress (2.3%) students.¹² The result of this study is similar to the finding of the study on the topic Level of Stress and Coping Strategies used by Nursing Students in Asian Countries: An integrated literature review which concluded that most of the studies reported that the nursing students experience moderate stress levels.¹³

In this study, the level of stress among PCL level nursing students regarding clinical learning environment or field of clinical practice revealed that majority of students perceived moderate level of stress which is similar to the finding related to Bachelor level nursing students study conducted on Hong Kong which showed that bachelor students also perceived moderate level of stress in clinical practice.⁹ Another among bachelor level nursing students on Ghana revealed that 59% of the total students have moderate to high stress in clinical practice.⁸ These findings show that every nursing students have moderate stress in clinical practice despite of their level of study.

This study revealed that there is no statistically significant association exists between stress and socio-demographic variables such as age ($p = 0.680$), ethnicity ($p = 0.732$), religion ($p = 0.505$), family type ($p = 0.643$), family monthly income ($p = 0.750$). Consistent with this findings a study conducted among nursing students at MCHOMS also illustrated no statistically significant association of stress with socio-demographic variables like age, religion, family type.¹⁴ Another study conducted on MMIHS revealed the similar result of no statistically significant association of stress with demographic variables like type of family and family income whereas this same study on MMIHS show contrast result with this present study which shows that the stress is significantly associated with age.⁶

In this study perceived stress was significantly associated with the Clinical learning environment related factors such as: using or handling unfamiliar equipment and interpersonal relationship with clinical supervisor. In contrast to this finding another research conducted on Karachi, Pakistan among nursing students to find out association of stress with clinical factors show that clinical factors like physical status of the patients, condition of the client assigned, interaction with staff nurse, exposure to contagious disease are significantly associated with nursing student's stress.¹⁰ This may be due to difference in clinical settings among nursing students according to the countries.

Furthermore, the present study was conducted among PCL level nursing students which showed clinical learning environment related factors such as: using or handling unfamiliar equipment and Interpersonal relationship with clinical supervisor were significantly associated with perceived stress which is different from the findings with the study conducted among Bachelor level nursing students in Saudi Arabia concluded that there was statistical significance of clinical stressors factors like taking care of patients' subscale and clinical environment subscale with total perceived stress scale through t-test analysis.¹⁵ From these studies it can be concluded that there are different clinical factors associated with the stress among nursing students regarding clinical learning environment or clinical settings according to their difference in clinical settings and level of study.

CONCLUSION

This study concluded that more than half of the nursing students were having Moderate level of perceived stress regarding clinical learning environment. Furthermore it was found that there was association between associated factors like: using or handling of unfamiliar equipment in clinical environment and IPR with clinical supervisor with perceived stress regarding clinical learning environment. After completion of the research, the nursing colleges were informed about the data of this research and the respective nursing colleges were informed for providing the students with stress management trainings and counseling before taking them to clinical learning environment.

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REFERENCES

1. Sharma M. Nursing concepts and principles. 1st ed. Baneshwore, Kathmandu: Medhavi Publication; 2012.
2. Townsend C. M. Psychiatric Mental Health Nursing. 1st ed. Jaypee Brothers : India ; 2012, pp. 2–10.
3. Fink G. Stress: The Health Epidemic of the 21st Century. Techconnect. elsevier.com. SciTech Connect; 2016 [cited 2018 Jul 26].
4. Veiber L. Southampton: University of Southampton; 2017 Aug [cited 2018 Jul 26].
5. Shrestha T. Stress among PCL nursing students of TUIOM nursing campuses in the Kathmandu Valley. J Inst Med. 2014;36(2).
6. Bista B, Bhattra B, Khadka N. Stress and Coping Mechanisms among nursing students in Kathmandu. J Manmohan Meml Inst Health Sci. 2018 Feb 9;3(1):16.
7. A P , S I. Evaluation of factors of stress among Nursing Students. Adv Pract Nurs. 2017;2(2):4
8. Akhu-Zaheya L, Shaban I, Khater W. Nursing students' perceived stress and influences in clinical performance. Int J Adv Nurs Stud. 2015 Jun 17;4(2):44.
9. Sharma N, Kaur A. Factors associated with stress among nursing students. Nursing Midwifery Res J. 2011;7(1).
10. Kausar T, Ali TS, Gul R. Associated factors of stress among nursing students in their clinical settings. T Malasyan J Nurs. 2014;5(2) :7.
11. Aedh DAI, Elfaki DNK, Mohamed DIA. Factors associated with stress among nursing students (Najran University - Saudi Arabia) Saudi Arab:7.
12. Singh C, Sharma S, Sharma RK. Level of stress and coping strategies used by nursing interns. 2011;7(4):9.
13. Younas A. Levels of stress and coping strategies used by nursing students in Asian countries : An Integrated Literature Review. J Middle East North Afr Sci. 2016;2(4):50–7.
14. Shrestha S, Lama R. Stress/Stressors as perceived by Nepalese nursing students. Int J of Nurse Res and Prac. 2014;1(2):1–8.
15. Ismaile S. Perceived clinical stressors among Saudi nursing students. Open J Nurs. 2017 Apr 17;07:463.