Perceived stress among newcomer students in Gandaki Medical College: A cross-sectional study

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ABSTRACT

Introduction: Medical students perceive medical education as stressful, which has both positive and negative effects on physical and psychological health. The mental health of a medical student remains affected throughout training due to long study and working hours, extensive course content, examinations, peer competition, uninspiring environments, sleep deprivation, and loneliness. Hence, the objective of this research was to assess the prevalence of stress among newcomer students at Gandaki Medical College. **Methods:** A descriptive cross-sectional study was conducted among 195 newcomer students at Gandaki Medical College in Kaski, District. Data was collected on orientation dated May 21, 2021 at the GMC. A complete enumerative technique was used. Data was collected using the self-administered Perceived Stress Scale (PSS-10) tool. Descriptive (mean, frequency, percentage, and standard deviation) and inferential (chi-square test) statistics were applied for data analysis in Statistical Package for Social Science (SPSS) version-16.0. **Results:** Most of the respondents 163(83.58%) reported moderate stress, 18(9.23%) reported high stress and 14(7.19%) reported low stress. Stress among students was found to be significantly associated with residence (p=0.02) and type of family (p=0.04). **Conclusions:** Most respondents reported moderate stress. The research findings highlight counselling is an integral part of newcomer students to prevent stress.

Keywords: Newcomer, stress, students.

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INTRODUCTION

Stress is the experience of the body to adjust to continually changing environment. Our body reacts according to stress which has both physical and emotional effects. During stressful events, our body releases hormones and increases blood flow to the heart and the major muscles which causes nausea, increases heartbeat, and raises blood pressure.[1] Stress arouses feelings of fear, incompetence, uselessness, anger, and guilt. It may hurt concentration, problem-solving, decision-making, completion of work, and other abilities necessary for student learning.[2] Medical education requires lots of effort and dedication and makes education full of stress. For many students, the first year brings dislocation from the environment along with the realization that it is impossible to master education completely.[3] Depending upon their cultural background, personal traits, experience, and coping skills same stressors may be perceived differently by individuals.[4] The mental health of a medical student remains affected throughout training due to long study and working hours, extensive course content, examinations, peer competition, uninspiring environments, sleep deprivation, and loneliness. Considerable degree of psychological morbidity has been reported among medical students ranging from stress, interpersonal problems, and suicidal ideation to psychiatric disorders.[5]

Studies conducted among KIST Medical College and hospital showed

that among 159 medical and dental students, 68.6% students were found to have stress. Moderate stress was observed in 50/81 (61.7%) medical students and 38/78 (48.7%) dental students. Similarly, high stress was observed in 10/81(12.3%) medical students and 11/78 (14.1%) dental students. Gender, accommodation, and motivation for the study were found to be significantly associated with stress. Early detection and intervention may prevent and minimize the effects of distress on medical students. Therefore, stress in newcomer students should be recognized, and strategies developed to deal with it focusing on both individual and situational factors.[6]

Very few studies have been conducted in Nepal to study the prevalence and degree of stress among newcomer students. So, this study was conducted to assess the prevalence of perceived stress among newcomer students and to find out the association between the level of perceived stress and selected sociodemographic variables at Gandaki Medical College of Kaski district.

METHODS

This was a descriptive cross-sectional research study. The study participants were 195 newcomer students enrolled in medical and allied health science program: Bachelor of Medicine and Bachelor of Surgery (MBBS), Bachelor's in Dental Surgery (BDS), Bachelor in Nursing Science (BNS), Bachelor of Science in Nursing (BSC Nursing), Bachelor of Pharmacy (B-Pharm), Bachelor in Public Health (BPH), Bachelor in Medical Lab Technology (BMLT), Bachelor in Medical Image Technology (BMIT) attending the orientation programs in Gandaki Medical College on 2079/5/19. A complete enumerative sampling technique was used for data collection. Ethical clearance was obtained from the Institutional Review Committee of Gandaki Medical College (GMC-IRC) with reference number 246/079/080. The purpose of the study was explained before the administration of the tool. A semi-structured questionnaire was distributed to each participant to provide information in written form. For the completion of the questionnaire, ten minutes were given. Researchers remained at the site till the completion of the questionnaire and then collected the questionnaire filled in by respondents. Confidentiality was maintained by not disclosing information about the research participants and ensuring that the information would be used entirely for research purposes only.

The questionnaire consisted of two parts. Part I consisted of questions related to socio-demographic characteristics and Part II comprised of Perceived Stress Scale (PSS). This is a valid tool that was developed in 1983 which helps to understand how different situations affect feelings and perceived stress. The questions in this scale ask about feelings and thoughts during the last month. PSS consists of 10 items and responses are marked on the Likert scale from 0 to 4 where 0=Never, 1=Almost never, 2=Sometimes, 3=Often, and 4=Very often. All the items pose positive markings except items 4, 5, 7, and 8 where, 4=Never, 3=Almost never, 2=Sometimes, 1=Often, and 0=Very often. The total score ranges from 0 to 40 with higher scores indicating higher perceived stress. Scores ranging from 0 to 13 would be considered low stress. Scores ranging from 14 to 26 would be considered moderate stress. Scores ranging from 27 to 40 would be considered high perceived stress. The reliability of the tool was 0.754 for the PSS-1015.

Data entry and analysis were done in IBM Statistical Package for Social Science (SPSS) version 16.0. The collected data was analysed using both descriptive and inferential statistics. Descriptive statistics (mean, frequency, percentage, and standard deviation) were used to describe the socio-demographic characteristics. Inferential statistics (Chi-square test) was used to find out the association between stress and selected socio-demographic variables (age, sex, and marital status).

RESULTS

Table 1 shows the sociodemographic characteristics of the respondents where 146(74.87%) of respondents were below 20 years of age with the average mean age and standard deviation being 19.88±1.70. More than half 116(59.48%) of respondents were female. Most of the respondents 173(88.73%) followed Hindu religion. Most of them 156(80%) were from urban area. Almost all, 187(95.89%) of the respondents were unmarried with 76.42% of them from a nuclear family.

Table 1: Sociodemographic characteristics of respondents (N=195)

Characteristics	Number	Percentage
Age (in years)		
<20	146	74.87
≥20	49	25.12
Mean age (± SD)=19.88 (±1.70)		
Sex		
Female	116	59.48
Male	79	40.52
Religion		
Hinduism	173	88.73
Buddhism	11	5.64
Islam	6	3.07
Christian	5	2.56
Residence		
Urban	156	80
Rural	39	20
Marital status		
Unmarried	187	95.89
Married	8	4.11
Type of family		
Nuclear	149	76.42
Joint	46	23.58

Table 2 shows the sociodemographic characteristics of the respondents' parents where almost all the respondents' father 192(98.46%) and 183(93.85%) of the mothers were literate. With regards to respondents' parents' occupational status, almost all 190(97.43%) fathers and 184(94.35%) mothers were employed.

Table 2: Sociodemographic characteristics of respondents' parents (N=195)

Parameters	Number	Percentages
Father's education status		
Literate	192	98.46
Illiterate	3	1.54
Mother's education status		
Literate	183	93.85
Illiterate	12	6.15
Father's occupation		
Employed	190	97.43
Unemployed	5	2.67
Mother's occupation		
Employed	184	94.35
Unemployed	11	5.6 5

Table 3 shows whether the respondents had stress or not. Most (83.58%) of respondents reported moderate stress, 18(9.23%) reported high stress and 14(7.19 %) reported low stress.

Table 3: Proportion of perceived stress among respondent (N=195)

Perceived Stress	Number	Percentage
Low stress (0-13 score)	14	7.19
Moderate stress (14-26 score)	163	83.58
High stress (27-40 score)	18	9.23
Mean score (± SD)=2.02 (±0.40)		

Table 4 reveals the association between the level of perceived stress and the socio-demographic characteristics of students. The level of perceived stress among students was found to be significantly associated with residence (p=0.02) and type of family (p=0.04).

Table 4: Association between perceived stress level and selected sociodemographic variables (N=195)

Characteristics	Perceived Stress				
	Mild stress n (%)	Moderate stress n (%)	High stress n (%)	χ^2	p-value
Sex					
Female	4 (3.4)	101 (87.1)	11 (9.5)	5.99	0.05*
Male	10 (12.7)	2 (78.5)	7 (8.9)		
Age					
<20	9 (6.2)	125 (85.6)	12 (8.2)	1.76	0.41
≥20	5 (10.2)	38 (77.6)	6 (12.2)		
Religion					
Hinduism	12 (6.9)	143 (82.7)	18 (10.4)	2.57	0.28
Others	2 (9.1)	20 (90.9)			
Residence					
Urban	11 (7.1)	135 (86.5)	10 (6.4)		
Rural	3 (7.7)	28 (71.8)	8(20.5)	7.55	0.02*
Type of family					
Nuclear	7 (4.7)	123 (86.6)	13 (8.7)		
Joint	7(15.2)	34 (73.9)	5 (10.9)	6.27	0.04*

*p value significant at <0.05; χ^2 =Chi-square test

DISCUSSION

The current study assessed the level of stress among 195 undergraduate students in a medical college in Kaski district. Based on the obtained results, most of the respondents (83.58%) had moderate levels of stress, 9.23% had high and 7.19% had low levels of stress with a mean and standard deviation of the score 2.02 (±0.40). This finding is similar to the findings of the study conducted among undergraduate medical students of a government medical college in Mysore in 2017 which found the prevalence of mild, moderate, and severe stress as 20%, 74%, and 6% respectively where the mean and SD of PSS score was 17.7 and 5.5 in that study.[7] This findings of this study is similar with the study done in China by Jun et al. (2021) among Chinese medical students engaging in online learning which indicated that 82.3% of them had moderate level of stress.[8] Another study conducted in Germany by Kambiz et al. (2022) showed that 61.7% of medical students had moderate levels of stress.[9] Studies conducted among 100 undergraduate nursing students at RAKMHSU, United Arab Emirates showed that the majority of nursing students (91%) had low to moderate levels of stress (49% and 42% respectively), and only 9% had high stress.[10] Similarly, another study conducted among 340 nursing students from a School of Nursing, in Sri Lanka revealed that the majority were moderately stressed (78.50%).[11] Another study conducted in Nepal by Poudel et al. (2022) also showed that 55% of undergraduate students of Pokhara had stress.[12] In line with the study findings study conducted among first-year to final year students of a tertiary care centre in Nepal found that prevalence of perceived stress was found to be 80.55(45%).[13]

This study had a few limitations. Firstly, it is a self-administered questionnaire so bias cannot be ignored. Secondly, it is a single-centre study in a medical college, so our results cannot be generalized. Thirdly, in discussion section, study findings were compared with the study conducted among the medical students who were studying because a very few studies were found done in newcomer students.

CONCLUSIONS

Most newcomer medical and allied science students had moderate perceived stress levels. There was a statistically significant association between the perceived level of stress among students with residence type and the type of family.

The research finding highlights counselling is an integral part of newcomer students to prevent stress.

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AUTHORS CONTRIBUTION

BT contributed to conceptualization of the study, data collection, manuscript preparation, and editing. MS contributed conceptualization, data analysis, and editing. SG contributed conceptualization, data collection, analysis, and editing. DK contributed conceptualization, data analysis, and editing. KK contributed to conceptualization, manuscript preparation. Final editing and confirmation have been given by all authors.

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