

**Original Article****PERCEIVED STRESS AND COPING STRATEGIES UTILIZED BY NURSING STUDENTS OF BACHELOR LEVEL IN THE COVID-19 PANDEMIC***\*Ajanta Maharjan Singh, Bhagawaty Kalikotay**Department of Child Health Nursing, Maharajgunj Nursing Campus, Kathmandu, Nepal.**Submitted: 2<sup>nd</sup>-April-2023 Revised: 17<sup>th</sup>-November-2023 Accepted: 5<sup>th</sup>-January-2024**DOI: <https://doi.org/10.3126/mjen.v3i01.67443>***ABSTRACT****Background**

The COVID-19 global pandemic was challenging for the general population and the students as well. The classes moved to online and stayed at home with a safe execution was ordered. Many students faced distressing changes. Both behavioral and psychological coping strategies were employed to minimize stress. This study aimed to assess the perceived stress and coping strategies used during the COVID-19 pandemic by nursing students.

**Methods**

A cross-sectional descriptive design was used. Nursing students studying bachelor level in the Constituent Colleges of Tribhuvan University were the study population. A structured self-administered online questionnaire containing demographic information, a perceived stress scale, and a modified brief cope scale was used. The obtained data were analyzed using SPSS version 16 using descriptive and inferential statistics.


**Results**

The mean age of the respondents was  $25.76 \pm 3.13$  years, almost half (42.9%) were from Maharajgunj Nursing Campus. More than half (53.8%) were studying in a Bachelor of Nursing Science (BNS) in their third year, among them 9.2% had medical problems. Only a few (5.4%) suffered from COVID-19 during this study period. Around 14.7% perceived a high level, 61.4% moderate level and 23.9% perceived a low stress level. The mean scores of approach coping strategies and an avoidant coping strategies were found to be 35.2 and 23.1 respectively. No association existed between the respondents' stress levels and the selected demographic variables.

**Conclusion**

Most of the respondents perceived a moderate level of stress and used a healthy coping strategies to minimize stress during the COVID-19 pandemic.

**Keywords:** Approach Coping, Avoidant Coping, Nursing Students, Perceived Stress

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## INTRODUCTION

The World Health Organization declared COVID-19 as a public health emergency of international concern on 30<sup>th</sup> January 2020 and the COVID-19 pandemic on 11<sup>th</sup> March 2020.<sup>1</sup> The first case of COVID-19 in Nepal was confirmed on 23<sup>rd</sup> January 2020 in a student. Nepal took steps to prevent the outbreak preparing for it by upgrading the health infrastructures, training medical personnel, and spreading public awareness. A country-wide lockdown came into effect on 24<sup>th</sup> March 2020 and ended on July 2020 A.D.<sup>2</sup> After the lockdown, students suffered a double burden of stress; one from the disease and the other from courses changing from conventional to virtual classes. This generated stress among the study population.<sup>3</sup> Students all over the country were facing these stressful conditions. Since the start of COVID-19, psychological and emotional impact was also evident. Its emergence and spread created increased levels of anxiety.<sup>4</sup> The classes were postponed and also faced challenges with virtual learning.<sup>5</sup> Restriction of mobility acted as a psychosocial stressor, difficulties in obtaining necessary daily life supplies, potential financial loss, and access to conflicting and inadequate information. About 15% of the participants reported high perceived stress, and 35% of participants scored high for psychological distress, more frequent among women.<sup>6</sup> In India higher scores of perceived stress were observed among women, youth, and students.<sup>7</sup> During the pandemic, nursing students also stayed at home studying online and limited studies have been conducted among the students of Nepal. The general objective of the study was to find out the perceived stress and coping strategies utilized by nursing students during the COVID-19 pandemic.

## METHODS

A descriptive cross-sectional study design was adopted to measure the perceived stress and coping strategies during the COVID-19 pandemic. All the bachelor-level nursing students studying in Tribhuvan University (TU) constituent nursing campuses of Nepal were the study population. Students studying in Bachelor in Nursing Science (BNS) first, second, and third year were the study samples. There were altogether 447 students currently studying BNS in

constituent nursing colleges of TU. Among them, 148 students were from Maharajgunj Nursing Campus, 95 from Pokhara, 87 from Biratnagar, 62 from Nepalgunj, and 55 from Birgunj. Similarly, 156 students were studying in BNS in the first year, 148 in the second year, and 143 in the third year. A purposive non-probability sampling technique was used. A self-administered questionnaire was sent to the students through their e-mail through personal contact with the class coordinators of BNS First year, second year, and third year of five nursing colleges, after getting ethical permission from the Institutional Review Committee of the TU Institute of Medicine (IOM). An informed online consent was obtained and the objectives, purposes, and right to withdraw from the study were explained before enrolling participants in the study. The response rate was found to be 41.16%. The total sample size was 184. Those students who were not willing to participate and had no access to online submissions were excluded. The participation was totally voluntary, the participants were allowed to complete the survey once, and thus, multiple entry was not allowed.

The self-administered online questionnaire was used to collect the data. The questionnaire contained three parts. Part I contained a questionnaire related to demographic information, and part II contained statements related to perceived stress. The perceived stress scale (PSS) is a 10-item standard questionnaire originally developed by Cohen et al in 1983 used to assess the stress levels in young people and adults aged 12 and above. It evaluates the degree to which an individual has perceived life as unpredictable, uncontrolled, and overloading over the previous month,<sup>8</sup> and part III contained statements related to coping strategies. It is the modified form of the standard Brief COPE questionnaire.<sup>8</sup> Both the PSS and Brief COPE had good excellent reliability with Cronbach's alpha of 0.79 and 0.87 respectively.<sup>9</sup> In our study whole questionnaire was checked for understandability of the words, and an extensive literature review and consulting with content experts was done. Clear instructions to the respondents were provided as they needed to click the link and fill up the needed options, the options they felt were correct at that particular time. The statements were organized in such a way that it demanded only one option and further statements are not

opened unless the first statement is completed. An email was provided to the participants to give their comments or to write to the authors in need. The collected data were organized and entered into SPSS and were analyzed using descriptive statistics for demographic information. The second part was the perceived stress score, which included 10 questions using a 5-point Likert scale. The questions ask about feelings and thoughts during the last month. In each case, respondents were asked how often they felt a certain way on a five-point scale from Never=0, Almost Never=1, Sometimes=2, Fairly often=3 to Very often=4. The total score of all 10 items was used to measure the level of perceived stress; a higher score indicates higher stress. The cutoff of 13 and 26 were used to categorize the total score into low, moderate, and high levels of stress. The third part was a standard short version brief coping scale developed by Carver et al., in 1997 which contained 28 coping strategies, subsequent factor analysis by Eisenberg et al., 2012 indicated 2 major factors Avoidant coping and Approach coping. Here the two subscales Humor and Religion do not load on both factors so not included and only 26 items were included. Focused on the scope of this study the coping strategies were classified as avoidant coping and approach coping. Each item was rated on 4-point Likert scale rating from; I haven't been to=1, little bit =2, Medium amount=3 and I have been doing a lot =4. Avoidant coping is characterized by the subscales of denial, substance abuse, venting, behavioral disengagement, self-distraction, and self-blame. Avoidant coping is associated with poorer physical health among those with medical conditions and is less effective at managing anxiety. Approach coping is characterized by active coping, positive reframing, planning, acceptance, seeking emotional support, and informational support. Approach coping is associated with adaptive and practical adjustment, better physical health outcomes, and more stable emotional responses.<sup>10,11</sup> Obtained mean scores were compared to identify the two overarching coping styles avoidant and approach coping based on the statements. Inferential statistics was used to measure the association between perceived stress score and selected demographic and professional-related variables.

## RESULTS

The study findings showed that the mean age of the respondents was  $25.76 \pm 3.13$  years and almost all (92.4%) of the respondents were between the age group of 20-30 years of age, almost half (42.9%) of the respondents were from Maharajgunj Nursing Campus. More than half (53.8%) of the respondents were studying in BNS in the third year. Almost all (90.2%) of the respondents follow the Hindu religion, and more than half (60.3%) were married. More than half (65.8%) reside in a nuclear family, Similarly, 9.2% had medical problems. Only a few (5.4%) encountered COVID and only 4.9% had their family members had COVID during this study period.

**Table 1: Stress Perception of the Respondents n=184**

Statements	Never		Almost Never		Sometime		Fairly Often		Very Often	
	f	%	f	%	f	%	f	%	f	%
Being upset; unexpected	6	3.26	14	7.61	85	46.2	45	24.4	34	18.4
Felt unable to control life.	23	12.5	26	14.1	82	44.5	38	20.6	15	8.15
Felt nervous and stressed.	12	6.52	28	15.2	99	53.8	31	16.8	14	7.61
Unable to handle the problem.	37	20.1	47	25.5	78	42.3	15	8.15	7	3.8
Felt things not going well.	24	13.0	24	13.0	76	41.3	45	24.4	15	8.15
Could not cope with things	40	21.7	44	23.9	72	39.1	18	9.78	10	5.43
Not able to control irritation	33	17.9	42	22.8	78	42.3	21	11.4	10	5.43
Felt down.	37	20.1	48	26.0	74	40.2	18	9.78	7	3.8
Angered outside of control.	28	15.2	36	19.5	74	40.2	30	16.3	16	8.7
Difficulties not overcome.	38	20.6	38	20.6	82	44.5	14	7.61	12	6.52

Never=0, Almost never=1, Sometimes =2, Fairly Often=3, Very Often= 4

Table 1 shows the perception of stress perceived by respondents in the previous month. Almost half of the respondents (46.2%) the highest the respondent felt upset and unexpected during COVID-19 for some time. Similarly more than half (53.8%) felt nervous and stressed sometimes. Very few only 3.8% of the respondents felt that they were unable to handle the problem very often, and only 5.43% felt that they were not able to control the irritation very often. Only 3.8% felt down during the COVID-19 pandemic very often. Similarly, almost half (44.5%) sometimes felt that the difficulties would not be overcome. The above table also reveals that almost half of the respondents felt stressed sometimes only during the COVID-19 pandemic.

**Table 2: Level of Perceived Stress among the Respondents n=184**

Level of Stress	Frequency	Percentage
Low (Score < 13)	44	23.9
Moderate (Score 14-26)	113	61.4
High (Score >26)	27	14.7

(Score range 0-40, mean score of  $18.18 \pm SD 7.76$ ) Table 2 shows the level of perceived stress among the respondents, 14.7% of the respondents perceived a high level of stress, 61.4% perceived a moderate level of stress and 23.9% perceived a low level of stress with a mean score of  $18.18 \pm SD 7.76$ .

**Table 3: Avoidant Coping Strategies Utilized By the Respondents n=184**

Statements	Haven't		Little bit		Medium		Doing Lot	
	f	%	f	%	f	%	f	%
Turning to other work	21	11.4	63	34.2	61	33.1	39	21.2
Saying this isn't real.	110	59.7	39	21.2	25	13.5	10	5.43
Using alcohol/drugs feel better	177	96.2	4	2.17	3	1.63	00	00
Giving up trying to deal	111	60.5	43	23.3	17	9.24	13	7.07
Refusing to believe it happened	116	63.0	50	27.1	15	8.15	3	1.63
let unpleasant feelings escape	69	37.5	71	38.5	34	18.4	10	5.43
Alcohol/drugs to get through.	175	95.1	4	2.17	5	2.72	00	00
Been criticizing myself.	138	75	36	19.5	7	3.8	3	1.63
Giving up the attempt	127	69.0	35	19.0	13	7.0	9	4.89
Less going movies/reading/.	19	10.5	60	32.6	50	27.1	55	29.8
Expressing negative feelings	44	23.9	79	42.9	39	21.2	22	11.9
Blaming myself	143	77.7	27	14.6	11	5.98	3	1.63
Concentrating on something	25	13.5	67	36.4	56	30.4	36	19.5

Haven't been=1, Little Bit= 2, Medium Amount =3, Doing a Lot=4

Score range 4-52 mean score of Avoidant Coping  $23.1 \pm SD 5.64$

Table 3 depicts the responses of the respondents regarding the coping strategies used by them during the COVID-19 pandemic. All the statements or the responses above are categorized into the avoidant coping strategy. Among the respondents, very few 11.4% did not turn to other work during COVID-19, similarly more than half 59.7% haven't said that it was not real. Among the respondents, almost all 96.2% did not use alcohol or any drugs to feel better and only 1.63% criticized themselves. Similarly, more than one quarter (29.8%) did not go out to the movies, 11.9% expressed negative feelings, 77.7% never blamed themselves, and more than a quarter (36.4%) had a little bit of difficulty concentrating sometimes.

**Table 4: Approach Coping Strategies Utilized by the Respondents n=184**

Statements	Haven't		Little bit		Medium		Doing Lot	
	f	%	f	%	f	%	f	%
Getting emotional support.	31	16.8	51	27.7	59	32.0	43	23.3
Taking action situation better.	18	9.78	60	32.6	63	34.2	43	23.3
Getting help/advice	22	11.9	55	29.8	68	36.9	39	21.2
Trying to see it positive	12	6.5	49	26.7	73	39.6	50	27.2
come up with a strategy	21	11.4	56	30.4	61	33.2	46	25
Comfort & understanding.	26	14.1	54	29.4	60	32.6	44	23.9
Looking for good happening.	16	8.7	48	26.1	64	34.8	56	30.4
Accepting reality.	9	4.9	23	12.5	55	29.9	97	52.7
Get advice/help	26	14.1	59	32.1	58	31.5	41	22.3
Learning to live with it.	14	7.61	24	13.0	68	37.0	78	42.4
Thinking hard steps to take	29	15.7	54	29.4	60	32.6	41	22.3
Praying or meditating	17	9.2	59	32.1	60	32.6	48	26.1
Making fun of the situation.	117	63.6	34	18.5	15	8.2	18	9.8

Haven't been=1, Little Bit= 2, Medium Amount =3, Doing a Lot=4

Score range 4-52 mean score of Approach Coping

$35.2 \pm SD 8.03$

Table 4 depicts the responses of the respondents regarding the coping strategies used by them during the COVID-19 pandemic. All the statements or the responses above are categorized into the approach coping strategy. Among the respondents almost a quarter (23.3%) got emotional support a lot, the same percentage of respondents took various actions to make the situation better, and 36.9% got a medium level of help and needed bits of advice. Very few 11.4% ever came up with a strategy to relieve stress, more than half (52%) accepted reality, almost half (42.4%) learned to live with it, and only a few (9.2%) respondents did praying and meditation as a coping strategy and most of the respondents (63.6%) never make fun of the situation. The mean score of approach coping was higher than that of avoidant coping (35.2 and 23.1) respectively. The study also showed no statistical association between the level of stress and selected demographic and professional-related variables of the respondents.

## DISCUSSION

In this study, 14.7% of the respondents perceived a high level of stress, 61.4% perceived a moderate level of stress, and 23.9% perceived a low level of stress with a mean score of  $18.18 \pm SD 7.76$ , among the respondents 5.4% suffered from COVID-19. A similar study done in Pune found the highest stress among 13.35% of the respondents and 82.67% experienced moderate levels of stress, the maximum mean perceived stress score was observed in students in the fourth year.<sup>14</sup> Similar studies done among nursing students in Turkey found that 49.2% had a moderate level, 47.3% had a good level 3.5% had a bad level of perceived health, and 39.6% thought that they had been infected with COVID-19 during the pandemic. The mean stress score of the respondents was  $30.82 \pm SD 7.16$ .<sup>15</sup> Similar study done in Turkey among the students found that the perceived stress score was  $31.69 \pm SD 6.91$ , most of the students had moderate levels of stress, and the stress level of female students was found to be higher.<sup>12</sup> Similar studies done at Jordan University among nursing students showed that 13.8% had severe anxiety, 21.3% had a moderate level of anxiety, 35.5% had mild anxiety and 29.4% had perceived no anxiety.<sup>12</sup> Another study done in Turkey among senior

nursing students showed an average stress score  $43.32 \pm SD 6.51$  which was at a medium level.<sup>13</sup> Another study conducted in Vietnam among medical public health students showed that they reported high levels of stress in almost all statements. Among them 1.6% had perceived high levels of stress, 81.3% had perceived moderate levels of stress, and 17.1% perceived low levels of stress.<sup>9</sup>

In this study mean score of the approach coping strategies was higher than that of the avoidant coping strategies (35.2 and 23.1). There was no statistical association between the level of stress and selected demographic and professional-related variables of the respondents. A similar study showed that none of the socio-demographic variables showed an association with the stress level. Similarly, among the respondents, the maladaptive coping score was highest with a mean of  $31.5 \pm SD 5.19$  and the adaptive coping being least  $9.44 \pm SD 2.64$ .<sup>14</sup> In another study age, sex, watching the news, worrying about infection, and the imposed curfew affected students' stress levels. No significant differences in Perceived Stress Score were found between years of study.<sup>15</sup> Behavioural disengagement and self-blame were found to be the coping strategies that were found to increase the severity of anxiety.<sup>12</sup> The average score for the problem-solving subscale (approach coping) was  $11.58 \pm SD 2.71$  while the average score was  $17.24 \pm SD 3.62$  for the avoidance subscale.<sup>13</sup> The mean score of approach coping strategies was higher than the avoidant coping strategies (2.74 and 1.84). Similar to the present study among avoidant coping strategies turning into work was the most common with the highest

mean score of  $2.89 (SD 0.68)$ . In terms of the coping approach, the most common included accepting the reality learning to live with the problem, and concentrating on doing something to make the situation better was most common with mean scores of  $3.15 \pm SD 0.69$  and  $3.00 \pm SD 0.67$  respectively.<sup>9</sup>

## CONCLUSION

The study concluded that most of the nursing students perceived moderate levels of stress. Feeling of nervousness, being upset and feeling of things not happening well were the most prevalent stress. Most of them were found to use a healthy coping strategy. Accepting reality and learning to live with it was mostly practiced by the respondents.

## LIMITATIONS OF THE STUDY

The study was limited to the BNS students of TU constituent colleges who use internet services. This was the online survey, and a repeated reminder email was sent as a follow-up to request to fill out the form but the response rate was less than fifty percent.

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## REFERENCES

1. World Health Organization Coronavirus (COVID-19) Dashboard [https://en.wikipedia.org/wiki/Coronavirus\\_disease\\_2019](https://en.wikipedia.org/wiki/Coronavirus_disease_2019) on 26th July
2. Shrestha R, Shrestha S, Khanal P, KC B. Nepal's first case of COVID-19 and public health response: Journal of Travel Medicine. 2020 27 (3). <https://doi.org/10.1093/jtm/taaa024>. ISSN 1195-1982. [Google Scholar] | [PubMed] | [PMC] [Full Text]
3. Fefferbaum P, North B, Carol S. Mental Health and the COVID-19 Pandemic. New England Journal of Medicine 2020. <https://doi.org/10.1056/p2008017> [Google Scholar] | [PubMed] | [PMC] [Full Text]
4. Roy D, Tripathy S, Kar SK, Sharma N, Verma SK, Kaushal V. Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. Asian Journal of Psychiatry 2020 Jun; 51: 102083. Published online 2020 Apr 8. <https://doi.org/10.1016/j.ajp.2020.102083>. [Google Scholar] | [PubMed] | [PMC] [Full Text]
5. Talidong KJB, Toquero CMD. Philippine Teachers' Practices to Deal with Anxiety amid COVID-19, Journal of Loss and Trauma, 2020 <https://doi.org/10.1080/15325024.2020.1759225> [Google Scholar] [Full Text]
6. Carlos J, Pedrozo P. Perceived stress associated with COVID-19 epidemic in Colombia an online survey. Journal of Behavioral Science. 2020

- <https://doi.org/10.1590/0102-311X00090520> [Google Scholar] [PubMed] [PMC] [Full Text]
7. Limcaoco G S R, Mateos M E, Fernández M J , Roncero C. Anxiety, worry and perceived stress in the world due to the COVID-19 pandemic. *Journal of Behavioral Medicine*. March 2020. <https://doi.org/10.1101/2020.04.03.20043992> [Google Scholar] [PubMed] [PMC] [Full Text]
  8. Cohen, S., Kamarck, T., and Mermelstein, R. A global measure of perceived stress. *Journal of Health and Social Behavior* 1983. <https://doi.org/10.2307/2136404> 24, 386-396. [Google Scholar] | [PubMed] | [PMC] [Full Text]
  9. Thai, TT. Le PTV. Huynh QHN. Pham PTTT, Bui HTH. 'Perceived Stress and Coping Strategies During the COVID-19 Pandemic Among Public Health and Preventive Medicine Students in Vietnam'. *Psychology Research and Behavior Management* Volume 14 (June 2021): 795–804. <https://doi.org/10.2147/PRBM.S317059> [Google Scholar] | [PubMed] [PMC] [Full Text]
  10. Carver, C. S., Scheier, M. F., & Weintraub, J. K. Assessing coping strategies: a theoretically based approach. *Journal of Personality and Social Psychology*, 1989 <https://doi.org/10.1037/0022-3514.56.2.26756> (2), 267. [Google Scholar] | [PubMed] | [PMC] [Full Text]
  11. Eisenberg, S. A., Shen, B. J., Schwarz, E. R., & Mallon, S. Avoidant coping moderates the association between anxiety and patient-rated physical functioning in heart failure patients. *Journal of Behavioral Medicine*, 2012. <https://doi.org/10.1007/s10865-011-9358-035> (3), 253-261. [Google Scholar] | [PubMed] | [PMC] [Full Text]
  12. Masha'al, D. Ghada S. Mohammed A. 'Anxiety and Coping Strategies among Nursing Students Returning to University during the COVID-19 Pandemic'. *Heliyon* 8, no. 1 January 2022): e08734. <https://doi.org/10.1016/j.heliyon.2022.e08734>. [Google Scholar] | [PubMed] | [PMC] [Full Text]
  13. Gamze, A. Kadiroglu T. 'Covid-19 Perception of Senior Nursing Students and Their Behaviours Regarding Coping with Stress'. *International Archives of Nursing and Health Care* 7, no. 2 28 June 2021. <https://doi.org/10.23937/2469-5823/1510161>. [Google Scholar] | [PubMed] | [PMC] [Full Text]
  14. Ersin, Fatma, Mert Kartal. 'The Determination of the Perceived Stress Levels and Health-protective Behaviors of Nursing Students during the COVID-19 Pandemic'. *Perspectives in Psychiatric Care* 57, no. 2 April 2021: 929–35. <https://doi.org/10.1111/ppc.12636>. [Google Scholar] | [PubMed] | [PMC] [Full Text]
  15. Aslan, H. Hatice P. 'Nursing Students' Views on the COVID-19 Pandemic and Their Perceived Stress Levels'. *Perspectives in Psychiatric Care* 57, no. 2 April 2021: 695–701. <https://doi.org/10.1111/ppc.12597>. [Google Scholar] | [PubMed] | [PMC] [Full Text]