

COVID-19 Pandemic-related Stress, and Coping Strategies among Undergraduate Nursing Students, Sri Lanka

Atheef M., Rathnayake A.

Abstract

Introduction: COVID-19 resulted in disruptions to the teaching and learning process for nursing students. In Asia, nursing students were particularly affected, facing heightened stress and interruptions in their education and clinical practice. This study assesses the COVID-19 pandemic-related stress, depressive symptoms and coping strategies among undergraduate nursing students in Sri Lanka.

Methodology: A descriptive cross-sectional study was conducted among 385 nursing undergraduates from government universities in Sri Lanka, which offer a BSc nursing degree program. Self-administered online questionnaire was used for data collection. COVID-19-related stress, depressive symptoms, psychological changes and coping strategies among nursing students were included as dependent variables. The Chi-square test was adopted to assess the association between variables, with $p < 0.01$ considered as the significance level.

Result: Of the participants, 74.4% ($n=286$) reported stress at a moderate level; 13.8% ($n=53$) of respondents reported stress at a mild level, and 11.9% ($n=46$) reported a higher level of stress during the pandemic. The coping strategies that nursing undergraduate students used to relieve COVID-19 pandemic-related stress and depression varied among individuals.

Conclusion: Stress due to COVID-19 reported by the participants could have affected academic activities of nursing undergraduates. These findings highlight the need for targeted mental health interventions to enhance coping skills among nursing students during public health crises.

Keywords: COVID-19, Stress, Depressive symptoms, Coping strategies, Nursing undergraduates.

Introduction

COVID-19 was identified as a pandemic by the World Health Organization (WHO) in December 2019. Research indicates that the COVID-19 pandemic significantly impacted nursing students in Asia, leading to increased stress due to academic disruptions and fear of infection.

Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya.

Corresponding author: Ms. Anuradha Udayangani Rathnayake

Email: anuradha@ahs.pdn.ac.lk

Studies reported moderate to high stress levels, experienced by many students, affecting their psychological well-being and academic performance (Koirala *et al.*, 2024; Hamadi *et al.*, 2022). As discussed by Ilankoon (2020), and Idris (2021), nursing undergraduates were affected as the pandemic impacted physical participation in attending classes, practical sessions and clinical practices which lead to academic disruption. The loss of peer interaction social connectedness, and financial stressors of the family due to the pandemic have improved physical changes and psychological distress



© SEAJME. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

South-East Asian Journal of Medical Education
Vol.19, no.1, 2025

among nursing undergraduates (Hargreaves, 2021).

The pandemic has impacted nursing education and has increased the stress, depressive symptoms, and physical, and psychological changes among nursing students, who therefore used various types of coping strategies to relieve stress (Masha'al *et al.*, 2022; Chaudhary, 2021). A study conducted by Lelisho & Tareke, (2022) identified that students started to use alcoholic, khat chewing, and smoking habits during the pandemic period. As discussed by Hamadi *et al.*, (2021), students who experienced anxiety used four types of coping strategies: seeking social support, avoidance/ acceptance, mental disengagement, and humanitarian work. Similar findings were identified by Sun *et al.* (2024), in a study conducted at china, reporting that cultural factors also influenced coping mechanisms, as collectivist societies favored community support.

Similar to other nations, Sri Lankan nursing undergraduates were also affected by the COVID-19 pandemic. This study aims to assess the level of stress among nursing undergraduates in Sri Lanka and their coping strategies to overcome stress due to COVID-19.

Methods

The study was conducted as a descriptive cross-sectional study among undergraduates of University of Colombo, University of Peradeniya, University of Sri Jayawardenapura, University of Jaffna, University of Ruhuna and the Eastern University of Sri Lanka, which offer a BSc nursing degree program in Sri Lanka.

Inclusion and Exclusion Criteria

All undergraduate nursing students currently studying in government universities, in Sri Lanka were included in the study. Nursing students who were on leave for medical/ personal reasons were excluded.

Sampling method and sample selection

Sample size was calculated using standard formula called "Sample Size Formula for a Proportion in Complex Survey Designs". The stratified random sampling technique was used for sample selection. Participants were enrolled from the study settings as given in Table 1.

Table 1: Sample size from each University

	University of Colombo	University of Peradeniya	University of Jayewardenepura	University of Jaffna	University of Ruhuna	Eastern University	Total
1st Year	29	14	14	15	42	12	126
2nd Year	25	13	08	13	25	09	93
3rd Year	24	13	09	11	15	07	79
4th Year	24	14	07	15	16	11	87
Total	102	54	38	54	98	39	384

Ethical Considerations

Ethical clearance was obtained from the Ethics Review Committee of the Faculty of Allied Health Sciences, University of Peradeniya (AHS/ERC/2022/075). Permission to collect

data from government universities was obtained from relevant Deans of the Faculties.

Data collection tool

Self-developed online questionnaire was obtained for data collection developed based on previous literature followed by content validation. The questionnaire consisted with:

- a) Part 1- Demographical Information
- b) Part 2- Stress and Depression due to covid-19 (Perceived stress scale is included)
- c) Part 3- Physical and Mental Health Experiences of Students due to the stress
- d) Part 4- Coping strategies and their correlation with Anxiety (Brief cope scale is included)

Data Analysis

Descriptive statistics was used to analyze frequencies and the Chi-square test was used to determine the association between variables. Statistical significance was fixed at $p < 0.01$.

Results

Demographics characteristics of students are summarized in Table 2. Students were aged between 21 – 28 years (24 ± 1.51).

Mental Health Experiences of Students during Covid-19

Of the total participants, 13% ($n=50$) students had been infected with the COVID-19 virus while 87% ($n=335$) were not infected; 29.6% students' ($n=114$) reported a family member, relative, or acquaintances have been infected with the COVID-19 virus while 70.1% ($n=270$) reported no infection among those categories. Assessment of mental health experiences, found that, 90.1% ($n=347$) of students were afraid of being infected with the COVID-19 virus as they were returning to campus whilst 9.8% ($n=37$) reported that they were not afraid of the COVID-19 pandemic. However, most of them were impacted by it.

Level of distress among students

Students reported their level of stress concerning the current COVID-19 pandemic on a 10-point scale, ranging from 0–3=mild stress, 4–6=moderate stress and 7–10=extreme amount of stress (Cielo *et al.*, 2021).

The majority (74.4%, $n=286$) of respondents reported stress at a moderate level, 13.8% ($n=53$) of respondents reported stress at a mild level whilst 11.9% ($n=46$) reported a higher level of stress during the pandemic. Details are given in Table 3. Reasons for stress are given in Table 4

Table 2: Demographical Data of Students

Character	Categories	Frequency (n= 385)	Percentage (%)
University	University of Colombo	56	14.5
	University of Peradeniya	105	27.3
	University of Jayewardenepura	51	13.2
	University of Jaffna	59	15.3
	University of Ruhuna	57	14.8
	Eastern University	57	14.8
Academic Year	1st Year	116	30.1
	2nd Year	96	24.9
	3rd Year	85	22.1
	4th Year	88	22.9

Accommodation	University hostels	284	73.8
	Rented boarding places	74	19.2
	Home	27	7.0
Marital Status	Married	14	3.6
	Single	371	96.4
Monthly Budget	<Rs.5000	15	3.9
	Rs.5000 - Rs.10,000	35	9.1
	Rs.10,000 - Rs.15,000	97	25.2
	>Rs.15,000	238	61.8
Family Income	<Rs.20,000	20	5.2
	Rs.20,000 - Rs.30,000	40	10.4
	Rs.30,000 - Rs.50,000	206	53.5
	Rs.50,000 - Rs.75,000	101	26.2
	>Rs.75,000	18	4.7

Table 3: Stress among students due to COVID-19

Variables	Frequency (n=385)	Percentage (%)
1. In my opinion, the situation with the COVID-19 pandemic is really serious and represents a great danger to health.		
Yes	369	95.8
No	10	2.6
Difficult to answer	5	1.3
2. I am very worried about the situation.		
Yes	374	97.1
No	8	2.1
Difficult to answer	2	.5
3. I am worried about my health and the health of my loved ones.		
Yes	380	98.7
No	5	1.3
4. I worry about my family's financial situation.		
Yes	291	75.6
No	33	8.6
Slightly	61	15.8
5. I feel that I may need psychological support.		
Yes	336	87.3
No	33	8.6
Difficult to answer	14	3.6
Total	385	100

Coping strategies among nursing students during the period of Covid-19

The majority of students used denial 59.2% (n=228), avoidance 54.8% (n=211) and self-distraction 54% (n=208) as coping strategies

and others reported active coping 40.5% (n=156), 13.5% (n=52) substance use, 30.6% (n=118) got emotional support, 36.4% (n=140) used informational support, 36.1% (n=139) behavioural disengagement, 39% (n=150) venting, 31.9% (n=123) used positive reframing, 34.8% (n=134) planning to accept,

36.4% (n=134) humour, 36.1% (n=139) acceptance, 42.6% (n=164) students followed religious activities and 36.6% (n=141) were self-blame as their coping strategies to cope with stress and depression due to COVID-19 pandemic and their correlation with anxiety. Details are given in Table 5.

Table 4: Reasons for stress during the COVID-19 period

Variables	Frequency (n= 385)	Percentage (%)
1. Stress from taking care of patients		
• Lack of experience and ability to make judgments	216	56.1
• Unable to reach one's expectations	188	48.8
• Unable to provide patients with good nursing care	357	92.7
• Don't know how to communicate with patients	369	95.8
2. Stress from teachers and nursing staff		
• Experience discrepancy between theory and practice	221	57.4
• Feel stressed that the teacher's instruction is different from one's expectations	316	82.0
• Medical personnel lack empathy and are not willing to help	219	56.9
• Feel that teachers do not give a fair evaluation of students	88	22.8
• Lack of care and guidance from teachers	58	15.1
3. Stress from assignments and workload		
• Worry about bad grades	373	96.8
• Experience pressure from the nature and quality of clinical practice	318	82.7
• Feel that one's performance does not meet teachers' expectations	215	55.9
• Feel that dull and inflexible clinical practice affects one's family and social life	311	80.7
4. Stress from peers and daily life		
• Experience competition from peers in clinical practice	289	75.1
• Feel pressure from teachers who evaluate students' performance by comparison	129	33.5
• Feel that clinical practice affects one's involvement in extracurricular activities	322	83.7
• Cannot get along with other peers in the group	110	28.6
5. Stress from lack of professional knowledge and skills		
• Unfamiliar with medical history and terms	275	71.4
• Unfamiliar with professional nursing skills	343	89.2
• Unfamiliar with patients' diagnoses and treatments	270	70.1
6. Stress from the environment		
• Feel stress in the hospital environment	353	91.6
• Unfamiliar with the ward facilities	235	61.1
• Feel stressed from the rapid change in the patient's condition	314	81.6

Table 5: Activities Followed by students to deviate their attention from Covid-19

Variables	Frequency (n= 385)	Percentage (%)
1. I've been turning to work or other activities to take my mind off things		
Not doing this at all	18	4.7
Doing this a fair amount	170	44.2
Doing this a lot	197	51.2
2. I've been concentrating my efforts on doing something about the situation I'm in		
Not doing this at all	21	5.5
Doing this a fair amount	232	60.3
Doing this a lot	132	34.3
3. I've been using alcohol or other drugs to make myself feel better		
Not doing this at all	297	77.1
Doing this a fair amount	68	17.7
Doing this a lot	20	5.2
4. I've been getting emotional support from others		
Not doing this at all	25	6.5
Doing this a fair amount	233	60.5
Doing this a lot	127	33.0
5. I've been taking action to try to make the situation better		
Not doing this at all	16	4.2
Doing this a fair amount	172	44.7
Doing this a lot	197	51.2
6. I've been refusing to believe that it has happened		
Not doing this at all	26	6.8
Doing this a fair amount	223	57.9
Doing this a lot	136	35.3
7. I've been trying to see it in a different light, to make it seem more positive		
Not doing this at all	26	6.8
Doing this a fair amount	216	56.1
Doing this a lot	143	37.1
8. I've been trying to come up with a strategy about what to do		
Not doing this at all	28	7.3
Doing this a fair amount	201	52.2
Doing this a lot	156	40.5
9. I've been getting comfort and understanding from someone		
Not doing this at all	25	6.5
Doing this a fair amount	222	57.7
Doing this a lot	138	35.8
10. I've stopped trying to cope		
Not doing this at all	174	45.2
Doing this a fair amount	168	43.6
Doing this a lot	43	11.2
11. I've been looking for something good in what is happening		
Not doing this at all	21	5.5

Doing this a fair amount	185	48.1
Doing this a lot	179	46.5
12. I've been making jokes about it		
Not doing this at all	68	17.7
Doing this a fair amount	217	56.4
Doing this a lot	100	26.0
13. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping or shopping		
Not doing this at all	10	2.6
Doing this a fair amount	92	23.9
Doing this a lot	283	73.5
14. I've accepted the reality of what has happened		
Not doing this at all	25	6.5
Doing this a fair amount	232	60.3
Doing this a lot	128	33.2
15. I've been expressing my negative feelings		
Not doing this at all	69	17.9
Doing this a fair amount	219	56.9
Doing this a lot	96	24.9

Table 6: Correlation between Academic year and level of stress

Academic Year	Level of Stress			P Value
	Mild	Moderate	High	
1 st Year	8%	16%	6%	0.06 (r=0.140**)
2 nd Year	6%	12%	8%	
3 rd Year	5%	11%	10%	
4 th Year	6%	10%	8%	

**Correlation is significant at the 0.01 level (2-tailed)

Correlations were interpreted by using Pearson's correlation coefficient using the following criteria: 0.1–0.3=weak correlation; 0.3–0.5=moderate correlation and 0.5–1.0=strong correlation) revealed a significant positive correlation between the academic year ($r=0.140$, $p=0.06$) and the level of stress that undergraduate nursing students felt due to the COVID-19 pandemic. However, considering the hypothesis, the p-value exceeded 0.01 ($p=0.06$) so, there is no statistically significant association between academic study year with COVID-19 pandemic-related stress and depression among healthcare undergraduate nursing students ($p>0.01$).

Discussion

In the present study, it was identified that the majority 74.4% ($n=286$) of respondents reported stress at a moderate level, 13.8% ($n=53$) reported stress at a mild level, 11.9% ($n=46$) reported higher level of stress during the pandemic and it may have impacted on their mental health and academic program. The anxiety levels among the present study sample of nursing students were higher than the levels reported in the study by (Cao *et al* 2019), whereby 21.3% of the healthcare undergraduate students at a medical college in China reported mild anxiety, 2.7% moderate anxiety, and .09% severe anxiety. However, reasons for anxiety were similar to Masha'al, D

(2022) due to the changes to everyday life during the pandemic, including social isolation, economic instability, challenges and stress of distance learning, and the fear of becoming infected. Students had practiced dysfunctional coping strategies, which specifically included behavioural disengagement, denial, venting, and self-blame. In the study (Hamadi, H. Y. 2021) alcohol consumption, use of sedative drugs, and excessive eating were identified as coping strategies.

The present study had a few limitations. Firstly, the self-reported questionnaire was conducted online, which contributed to a certain amount of answer bias and although this study was designed to examine the association between COVID-19 pandemic-related stress and depressive symptoms, it is possible that other variables also influenced the results of this investigation as well.

Recommendations

The psychological impact of the pandemic on nursing students should not be ignored. The well-being of these students is affected by high levels of stress and emotional-based coping strategies. These findings highlight the need for targeted mental health interventions to enhance coping skills among nursing students in Asia during public health crises (Tambunan, 2022; Ayed & Sayej, 2021).

Conclusion

During the pandemic period, the majority of the students presented with depression and practiced diverse coping strategies.

References

- Ayed, A. & Sayej, S., 2021. Anxiety and coping strategies among nursing students during the COVID-19 pandemic. *International Journal of Caring Sciences*, 14(3), pp.1901–1911. Available at: <https://www.internationaljournalofcaringsciences.org/docs/35.ayed.pdf> [Accessed 1 Apr. 2023].
- Aslan, I., Ochnik, D. & Çınar, O., 2020. Exploring perceived stress among students in Turkey during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 17(23), p.8961. <https://doi.org/10.3390/ijerph17238961>
- Chaudhary, A.P., Sonar, N.S., Tr, J., Banerjee, M. & Yadav, S., 2021. Impact of the COVID-19 pandemic on the mental health of college students in India: Cross-sectional web-based study. *JMIRx Med*, 2(3), e28158. <https://doi.org/10.2196/28158>
- Clabaugh, A., Duque, J.F. & Fields, L.J., 2021. Academic stress and emotional well-being in United States college students following onset of the COVID-19 pandemic. *Frontiers in Psychology*, 12, p.628787. <https://doi.org/10.3389/fpsyg.2021.628787>
- Idris, F. et al., 2021. Academic experiences, physical and mental health impact of COVID-19 pandemic on students and lecturers in health care education. *BMC Medical Education*, 21(1), p.542. <https://doi.org/10.1186/s12909-021-02968-2>
- Ilankoon, I.M.P.S., Kisokanth, G. & Warnakulasuriya, S.S.P., 2020. COVID-19: Impact on undergraduate nursing education in Sri Lanka. *Journal of Public Health Research*, 9(S1). <https://doi.org/10.4081/jphr.2020.1916>
- Koirala, S. et al., 2024. Perceived stress and coping strategies among nursing students towards rejoining college after COVID-19 pandemic. *PLOS ONE*, 19(8), e0305588. <https://doi.org/10.1371/journal.pone.0305588>
- Hamadi, H.Y., Alghamdi, S.M. & Alshammari, F.D., 2022. Perceived stress and coping strategies among nursing students during COVID-19 pandemic: A systematic review. *Saudi Journal of Health Systems Research*, 2(3), pp.85–92. <https://doi.org/10.1159/000526061>
- Sun, Q. et al., 2024. Stress, coping and professional identity among nursing students during the COVID-19 pandemic: A latent profile analysis. *Current Psychology*, 43, pp.35577–35586. <https://doi.org/10.1007/s12144-024-06554-9>
- Tambunan, E.H., 2022. Stress and coping strategy of nursing students in online learning during COVID-19 outbreak: A mixed-methods study. Unpublished Technical Report. Available at: <https://repository.unai.edu/id/eprint/340/> [Accessed 1 Apr. 2023].
- Yadav, P.P., Chaudhary, M., Patel, J., Shah, A. & Kantharia, N.D., 2016. Effectiveness of integrated teaching module in pharmacology among medical undergraduates. *International Journal of Applied and Basic Medical Research*, 6(3), p.215. [Accessed 1 Apr. 2023].