



# “A descriptive study to assess the psychological impact of COVID-19 pandemic on B.sc Nursing final year students of DBUSON Mandi Gobindgarh, Punjab.”

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## ABSTRACT:

### Purpose

The COVID-19 pandemic has undoubtedly altered the routine of life and caused unanticipated changes resulting in severe psychological responses and mental health health crisis. The study aimed to assess psychological impact of COVID-19 pandemic on B.sc Nursing final year students of DBUSON Mandi Gobindgarh, Punjab.

**Materials and methods:** A descriptive research design was used to assess the psychological impact of COVID-19 on B.sc Nursing final year students of DBUSON Mandi Gobindgarh, Punjab. Pilot Study was conducted on sample of 4 students. Convenience sampling technique was used to select 40 students from B.sc Nursing 4<sup>th</sup> year . Data was collected through electronic format by online forms to assess the psychological impact of COVID-19. Data was analyzed using descriptive and inferential statistics.

**Results:** The results of the study revealed that majority of students had no previous knowledge (62%) about the Corona virus before the onset of the COVID-19 pandemic and had no significant known person (70%) that was infected with COVID-19 while some students revealed that their friends (21%) were positive for COVID-19. Most of students used Internet/social media (70%) to seek COVID-19 related information. The

majority of students (67.5%) believed that society has a positive attitude towards health care workers during COVID-19 pandemic. Depression scores of 65% of students are within normal level while 20% students had moderate depression. Anxiety scores revealed 75% had mild to extremely severe levels of anxiety where Moderate Anxiety 31.3% was present. The stress scores of 76.3% of students revealed a subclinical level of stress with Mild stress (11.3%) associated with COVID-19.

**Conclusion:** The findings of present study concluded that the depression, anxiety and stress among students was associated with lack of previous knowledge about COVID-19, a significant known person infected with COVID-19, communication media used to search COVID-19 information.

## INTRODUCTION

COVID-19 is an unprecedented infectious disease outbreak that was originally reported in Wuhan, China during December 2019 and declared as Pandemic by World Health Organization (W.H.O). SARS-CoV-2 is highly infectious. It mainly causes respiratory and digestive tract symptoms, with symptoms ranging from mild self-limited disease to severe pneumonia, acute respiratory distress syndrome, septic shock, and even systemic multiple organ failure syndrome. Asymptomatic infected patients may also become the source of infection, mainly via aerosols from the respiratory tract, but also through direct contact. Elderly people with underlying diseases are more likely to be infected with the virus and develop severe disease and children and infants are at risk. At present, there are no specific drugs for this disease. The treatment and nursing mainly include antiviral, isolation, symptomatic support, and close monitoring of disease progression. The pandemic that claimed lives of healthcare workers around the world is also jeopardizing their physical, mental and psychological health, making them vulnerable to mental health problems.

As on March 2020 more than 3.5 lakh cases have been confirmed and more than 14000 deaths have been reported affecting 190 countries worldwide (WHO website dated March 24 2020 at 21:00 pm Indian Standard Time ) and these figures have exponentially increased to about 27.19 lakh cases with about 1.9 lakh deaths in 1 month time (WGO website date April 25,2020 at 05:30 pm Indian Standard Time).

Psychological distress is defined as a state of emotional suffering typically characterized by symptoms of depression and anxiety, which is recognized as a common mental health problem in the community (covid 19 and psychological distress : lessons for india 11). Stress is a state of disrupted homeostatic balance. It is triggered by intrinsic or extrinsic stressors or situations that are perceived as a threat to one's well being . The body counteracts by a range of complex physiological and behavioural responses to reestablish eutasis- the optimal body equilibrium (Tigos et al., 2000). University students, compared to the general public, have been found to be more susceptible to the adverse effects of quarantine (3) According to a World Health Organisation report published in 2008, 1 in every 5 adults had experienced mental health disorders in the past year.

Recent studies showed that feeling of anxiety and depressive symptoms, distress and sleep problems are typical signs of the COVID-19 pandemic

**KEY WORDS:** Psychological ,impact, covid-19, pandemic, .

## MATERIAL AND METHODS

The methodology of research indicates the general pattern of organizing the procedure of gathering valid and reliable data for investigation. It is a brief description of the different steps taken to conduct the study. It includes strategies to be used to collect and analyze the data to accomplish the research objectives. This chapter deals with the description of methodology adopted for descriptive study to assess the psychological impact of COVID-19 Pandemic on B.Sc Nursing Students of Desh Bhagat University School of Nursing, Mandigobindgarh, Punjab.

A descriptive research design was used to conduct the study about psychological impact of COVID-19 among B.Sc Nursing Students.

The present study was conducted at:

- Desh Bhagat University School of Nursing, Mandigobindgarh, Punjab.

### Sample Size

The total sample was 40 students of B.sc Nursing.

The sample was drawn using **convenient sampling technique**, which is a non-probability sampling technique, keeping in mind the following inclusion and exclusion criteria.

## INCLUSION AND EXCLUSION CRITERIA

### INCLUSION CRITERIA

- B.sc nursing students who are present at the time of data collection.
- B.sc nursing students who are willing to participate in the research study.
- B.sc nursing students who will be present in college with negative test report of COVID- 19.
- B.sc nursing students studying in Desh Bhagat School of Nursing, Mandigobindgarh, Punjab.

## EXCLUSION CRITERIA

- B.sc nursing students who were not willing to participate in the study.

### Ethical Consideration:

- Ethical clearance was undertaken from the Ethical Committee of Desh Bhagat University School of Nursing, Punjab.

## RESULTS :

Total 40 students B.sc nursing were involved in this study. A microscopic view of data illustrates percentage distribution of socio-demographic profile as follows:

Most of the students were of age 16-18 years, Unmarried, Muslims, from Nuclear families, rural habitat. Majority of students do not heard about corona virus before onset of COVID-19 pandemic. Most of them used internet/social media to gain COVID-19 related information.

The percentage distribution of B.SC Nursing Students as per psychological impact of COVID-19. 35% B.SC Nursing Students have depression, a considerable portion of B.SC Nursing Students i.e. 75% have anxiety and only 23.7% have stress due to COVID-19 pandemic.

The frequency distribution of students as per level of depression due to COVID-19 pandemic. 65% of the students have no depression. Out of total, 6.3% have mild depression, 20% have moderate, 3.8% have severe and 5% have extremely severe level of depression related to COVID-19 pandemic.

The frequency distribution of students as per level of anxiety due to COVID-19 pandemic. Out of total, 12.5% have mild anxiety, 31.3% have moderate anxiety, 11.3% have severe anxiety and 20% have extremely severe level of anxiety related to COVID-19 pandemic. Only 25% of the total students have no anxiety due to COVID-19 pandemic

The percentage distribution of students as per level of stress related to COVID-19 pandemic. A significant number of students i.e. 76.3% have no stress related to COVID-19 pandemic. 11.3% of the total students have mild levels of stress. 5%, 6.3% and 1.3% students have moderate, severe and extremely severe level of stress respectively.

**TABLE 1:- Association of socio-demographic variables with psychological impact of COVID-19 pandemic (Depression) among B.sc Nursing students.**

| S.No.     | VARIABLE                 | f (%)     | DEPRESSION SCORES<br>(Mean ± SD) | t/F-value  |
|-----------|--------------------------|-----------|----------------------------------|------------|
| <b>1.</b> | <b>1. Age(in years)</b>  |           |                                  |            |
|           | a. 16-18                 | 65(81.25) | 8.46 ± 8.67                      | F= 1.092   |
|           | b. 19-21                 | 11(13.75) | 8.73 ± 7.96                      | p=0.341NS  |
|           | c. 22-26                 | 04(5)     | 15 ± 8.87                        |            |
| <b>2.</b> | <b>2. Gender</b>         |           |                                  |            |
|           | a. male                  | 48(60)    | 6.79 ± 7.41                      | t=-2.690   |
|           | b. female                | 32(40)    | 11.87 ± 9.44                     | p=0.009*   |
|           | c. other                 | 0         |                                  |            |
| <b>3.</b> | <b>3. Marital status</b> |           |                                  |            |
|           | a. Unmarried             | 70(87.5)  | 8.4 ± 8.59                       | t=0.933    |
|           | b. Married               | 10(12.5)  | 11.2 ± 8.7                       | p=0.354NS  |
|           | c. divorced              | 0         |                                  |            |
|           | d. widowed               | 0         |                                  |            |
| <b>4.</b> | <b>4. Religion</b>       |           |                                  |            |
|           | a. Muslim                | 46(57.5)  | 9.5 ± 8.8                        | F= 0.584   |
|           | b. Sikh                  | 22(27.5)  | 7.76 ± 8.33                      | p= 0.627NS |
|           | c. Hindu                 | 11(13.8)  | 8.0 ± 0                          |            |
|           | d. Christian             | 01(1.25)  | 0 ± 0                            |            |
|           | e. others                | 0         |                                  |            |
| <b>5.</b> | <b>5. Residence</b>      |           |                                  |            |
|           | a. Rural                 | 43(53.75) | 8.74 ± 9.06                      | F=1.820    |
|           | b. Urban                 | 33(41.25) | 8.18 ± 7.89                      | p=0.151NS  |
|           | c. semi urban            | 01(1.25)  | 2.0 ± 0                          |            |
| <b>6.</b> | <b>6. Type of family</b> |           |                                  |            |
|           | a. Nuclear               | 63(78.75) | 8.28 ± 8.78                      | t=-1.081   |
|           | b. Joint                 | 17(21.25) | 10.82 ± 7.81                     | p=0.283NS  |

|    |   |                                 |                                       |                      |
|----|---|---------------------------------|---------------------------------------|----------------------|
|    | c .Extended   | 0                               |                                       |                      |
| 7. | <b>7. Do u heard about corona virus before onset of COVID-19 pandemic?</b><br>a. yes<br>b. no   | 30(37.5)<br>50(62.5)            | 10.4 ± 8.58<br>7.8 ± 8.55             | t=1.274<br>p=0.207NS |
| 8. | <b>8. Communication media used to obtain COVID-19 related information</b><br>a)Print media<br>(Newspaper/Booklet/ Pamphlet)<br>b. electronic media<br>(television/radio)<br>c. internet/social networking | 09(9.6)<br>19(20.2)<br>66(70.2) | 15.33±12.33<br>9.23±7.94<br>7.72±7.75 | F=3.239<br>p=0.045*  |

\*= *significant* ( $p \leq 0.05$ )

NS= *not significant* ( $p > 0.05$ )

df for ANNOVA=79

df for independent t-test=78

The data presented in table-01 reveals association of depression score related to COVID-19 with selected demographic variables in the study.

In relation to depression, it was inferred that gender, communication media used to obtain COVID-19 related information are 0.009, 0.045 ( $p < 0.05$ ) respectively which means that they are significant at 0.05 level of significance, rest other like age, marital status, religion, residence, type of family, heard about corona virus before onset of COVID-19 pandemic are not significant ( $p > 0.05$ ).

Therefore, it can be concluded that there exists a significant association between depression related to COVID -19 pandemic among B.sc Nursing students and the variables.

**TABLE 2:- Association of socio-demographic variables with psychological impact of COVID-19 pandemic (anxiety) among B.sc Nursing students.**

N=80

| S.No.     | VARIABLE                 | f (%)     | ANXIETY SCORES (Mean ± SD) | t/F-value |
|-----------|--------------------------|-----------|----------------------------|-----------|
| <b>1.</b> | <b>1. Age(in years)</b>  |           |                            |           |
|           | a. 16-18                 | 65(81.25) | 13.05 ± 8.40               | F=0.962   |
|           | b. 19-21                 | 11(13.75) | 16.73 ± 12.21              | p=0.387NS |
|           | c. 22-26                 | 04(5)     | 11 ± 6                     |           |
| <b>2.</b> | <b>2. Gender</b>         |           |                            |           |
|           | a. Male                  | 48(60)    | 12.04 ± 7.89               | t= -1.775 |
|           | b. Female                | 32(40)    | 15.56 ± 9.99               | p=0.083NS |
|           | c. Other                 | 0         |                            |           |
| <b>3.</b> | <b>3. Marital status</b> |           |                            |           |
|           | a. Unmarried             | 70(87.5)  | 13.31 ± 8.64               | t=-0.359  |
|           | b. Married               | 10(12.5)  | 14.4 ± 11.02               | p=0.721NS |
|           | c. Divorced              | 0         | 0                          |           |
|           | d. Widowed               | 0         | 0                          |           |
| <b>4.</b> | <b>4. Religion</b>       |           |                            |           |
|           | a. Muslim                | 46(57.5)  | 13.62 ± 9.13               | F=0.283   |
|           | b. Sikh                  | 22(27.5)  | 13.52 ± 8.79               | p=0.838NS |
|           | c. Hindu                 | 11(13.8)  | 10.0 ± 0                   |           |
|           | d. Christian             | 01(1.25)  | 6.0 ± 0                    |           |
|           | e. Others                | 0         |                            |           |
| <b>5.</b> | <b>5. Residence</b>      |           |                            |           |
|           | a. Rural                 | 43(53.75) | 12.51 ± 7.89               | F=0.713   |
|           | b. Urban                 | 33(41.25) | 14.96 ± 10.3               | p=0.547NS |
|           | c. Semi urban            | 01(1.25)  | 6.0 ± 0                    |           |

|    |   |                                 |  |                       |
|----|---|---------------------------------|--|-----------------------|
| 6. | <b>6. Type of family</b><br>a. Nuclear<br>b. Joint<br>c .Extended   | 63(78.75)<br>17(21.25)<br>0     | 13.33 ± 9.44<br>13.88 ± 6.76<br>0          | t=0.224<br>p=0.823NS  |
| 7. | <b>7. Do u heard about corona virus before onset of COVID-19 pandemic?</b><br>a. Yes<br>b. No   | 30(37.5)<br>50(62.5)            | 12.53 ± 8.81<br>14.0 ± 8.99                | t=-0.711<br>p=0.479NS |
| 8. | <b>8. Communication media used to obtain COVID-19 related information</b><br>a)Print media<br>(Newspaper/Booklet/ Pamphlet)<br>b. electronic media<br>(television/radio)<br>c. internet/social networking | 09(9.6)<br>19(20.2)<br>66(70.2) | 20.22±13.09<br>14.0 ± 6.88<br>12.28 ± 8.19 | F=3.316<br>p=0.042*   |

\*= significant ( $p \leq 0.05$ )

NS= not significant ( $p > 0.05$ )

df for ANNOVA=79

df for independent t-test=78

The data presented in table-02 reveals association of anxiety score related to COVID 19 with selected demographic variables in the study.



## Major findings of the study

- The findings of the present study showed Most of the students were i.e (81.25%) of age 16-18 years, (13,75%) lied under age group of 19-21 and only 5% were of age equal to or more than 22
- As per marital status maximum number of students (87.5 %) were Unmarried, and only (12.5%) were married 57.5% were Muslims, 27.5% were Sikhs 13.8% were Hindus and remaining (1.25%) belonged to Christianity.
- In relation to the habitat and the type of families the students belonged to, more than half (53.75%) were from rural areas and more than half (78.75 %) of them belonged to nuclear families.
- In terms of previous knowledge about corona virus before the onset Covid-19 pandemic, more than half (62.5%) of the students had no knowledge.
- . over half of the students (70.2%) used internet /social media to obtain COVID-19 related information
- In terms of psychological impact, analysis of data showed that 35% of the students had depression considerable portion of B.SC nursing students i.e 75% have anxiety and only 23.7% have stress . More than half (75%) had anxiety due to COVID-19 pandemic.

## Conclusion

The findings of present study showed that the majority of students have mild depression, moderate anxiety and mild stress associated COVID-19 pandemic.

Depression among students was associated was associated lack of previous knowledge about COVID-19, a significant known person infected with COVID-19, communication media used to search COVID-19 information.

## Recommendations

- A similar study can be undertaken with a larger sample.
- Further study may be conducted on other professionals working in different organizations
- A similar study may be conducted on family members providing direct care to COVID-19 patients.
- A comparative study may be conducted between staff nurses as well as student nurses working in private and public sector hospitals.
- Different study may be conducted on other health care workers who are involved in treating and dealing the patients directly or indirectly during COVID-19 pandemic.

## **Nursing implications    Nursing practice**

- The study findings will help the student nurses to understand the psychological impact of COVID-19 pandemic on them.
- The student nurses can understand the contributing factors for depression, anxiety and stress during pandemic.
- This awareness will help them to adopt appropriate self-care strategies for their mental health. It will help the student nurses to reduce psychological impact and work as an efficient health care giver.
- Acknowledgement and confrontation of one's own anxieties and stresses related to practicing period , in hospital during COVID-19 pandemic will enable the student nurse to offer quality care to patients without allowing those anxieties to impede the care provided.

## **Nursing education**

- It seems obvious from both literature and practice that the staff nurses, student nurses need preparation, in-service education & training and continuous support in order to work in hospital during any pandemic.
- The results of this study have great importance in designing of educational programs geared at providing COVID-19 related information and mental health promotion strategies.
- The educational programs may be tailored according to the characteristics of the students participating in this program.
- College administration must have awareness regarding the psychological impact of COVID-19 pandemic on nursing students so that they may understand the need of management of mental health while getting training in hospitals during this Covid-19 and learn various strategies to tackle the psychological distress there.

## Nursing administration

- The psychological impact of COVID-19 pandemic can be assessed as stress and depression. Responsibility for preventing and recognizing these aspects lies with the individual as well as nurse administrators.
- Acknowledging the results of the study, the nurse administrator should take active part in adopting mental health promotion strategies like establishing mental health support system, enhancing mental health awareness among staff, student's guidance, support in distress and specific programs.
- Nurse administrator should encourage staff and students to participate in that programmes that will reduce this psychological burden in them during this pandemic.

## Nursing Research

- The findings of the study will help the professional nurses and students to develop a more complete understanding of the psychological impact of COVID-19 pandemic.
- The study helps the nurse researchers to develop an insight into the areas of greater importance that need to be assessed further. It will help in development and comparison of mental health promotion strategies for staff nurses and student nurses working in hospitals during COVID-19 Pandemic.

## REFERENCES

1. Cabello IR, Echavez JFM, Ripoll MJS, Navarro DF, Roque MAF, Moreno GP, et al. Impact of viral epidemic outbreaks on mental health of healthcare workers: a rapid systematic review. medRxiv [preprint]. 2020 [cited 2020 Jun 30]. Available from: <https://www.medrxiv.org/content/early/2020/04/06/2020.04.02.20048892>
2. Oh N, Hong N, Ryu DH, Bae SG, Kam S, Kim KY. Exploring nursing intention, stress, and professionalism in response to infectious disease emergencies: the experience of local public hospital nurses during the 2015 MERS outbreak in South Korea. Asian Nurs Res [serial on the Internet]. 2017 [cited 2020 Jun 30];11(3):230-6. Available online: ScienceDirect. <https://www.sciencedirect.com/science/article/pii/S1976131717300762#>
3. Sun N, Wei L, Shi S, Jiao D, Song R, Ma L, et al. A qualitative study on the psychological experience of caregivers of COVID-19 patients. Am J Infect Control [serial on the Internet]. 2020 [cited 2020 Jun 30];48(6):592-8. Available online: PubMed.

<https://pubmed.ncbi.nlm.nih.gov/23853589>

4. Park JS, Lee EH, Park NR, Choi YH. Mental health of nurses working at a government-designated hospital during a MERS-CoV outbreak: A cross-sectional study. *Arch Psychiatr Nurs* [serial on the Internet]. 2018 [cited 2020 Jul 5];32(1):2-6. Available online: ScienceDirect. <https://www.sciencedirect.com/science/article/pii/S0883941717300444#>
5. Al-Amer R, Malak MZ, Aburumman G, Darwish MM, Nassar MS, Darwish M, et al. Prevalence and correlates of psychological reactions among Jordanian nurses during the Coronavirus Disease 2019 pandemic. [preprint]. 2020 [cited 2020 Jul 10]. Available online: <https://www.researchsquare.com/article/rs-35820/v1>
6. Chew NW, Lee GK, Tan BY, Jing M, Goh Y, Ngiam NJ, et al. A multinational, multicentre study on the psychological outcomes and associated physical symptoms amongst healthcare workers during COVID-19 outbreak. *Brain Behav Immun* [serial on the internet]. 2020 [cited 2020 Jul 10];88:559-65. Available online: ScienceDirect. <https://doi.org/10.1016/j.bbi.2020.04.049>
7. Tan BY, Chew NW, Lee GK, Jing M, Goh Y, Yeo LL, et al. Psychological impact of the COVID-19 pandemic on health care workers in Singapore. *Ann Intern Med* [abstract]. 2020 [cited 2020 Jul 10];173(4):317-20. Available online: <https://doi.org/10.7326/M20-1083>
8. Si M, Su X, Jiang Y, Wang W, Gu XF, Ma L, Li J, Zhang S, Ren ZF, Liu YL, Qiao YL. The psychological impact of COVID-19 on medical care workers in China. [preprint]. 2020 [cited 2020 Jul 10]. Available online: SSRN. <https://dx.doi.org/10.2139/ssrn.3592642>
9. Giusti EM, Pedroli E, D'Aniello GE, Badiale CS, Pietrabissa G, Manna C, et al. The psychological impact of the COVID-19 outbreak on health professionals: A cross-sectional study. *Front Psychol* [serial on the Internet]. 2020 [cited Jul 17];11:1684. Available online: PubMed. <https://dx.doi.org/10.3389%2Ffpsyg.2020.01684>
10. Hosseinzadeh-Shanjani Z, Hajimiri K, Rostami B, Ramazani S, Dadashi M. Stress, anxiety, and depression levels among healthcare staff during the COVID-19 epidemic. *Basic Clin Neurosci* [serial on the Internet]. 2020 [cited 2020 Jul 17];11(2):163-70. Available online: PubMed. <https://dx.doi.org/10.32598%2Fbcn.11.covid19.651.4>
11. Tan W, Hao F, McIntyre RS, Jiang L, Jiang X, Zhang L, et al. Is returning to work during the COVID-19 pandemic stressful? A study on immediate mental health status and psychoneuroimmunity prevention measures of Chinese workforce. *Brain Behav Immun* [serial on the internet]. 2020 [cited 2020 Jul 17];87:84-92. Available online: ScienceDirect. <https://doi.org/10.1016/j.bbi.2020.04.055>
12. Zhu Z, Xu S, Wang H, Liu Z, Wu J, Li G, et al. COVID-19 in Wuhan: Immediate psychological impact on 5062 health workers. *MedRxiv* [preprint]. 2020 [cited 2020 Jul 18]. Available online: <https://doi.org/10.1101/2020.02.20.20025338>

13. Du J, Dong L, Wang T, Yuan C, Fu R, Zhang L, Liu B, et al. Psychological symptoms among frontline healthcare workers during COVID-19 outbreak in Wuhan. *Gen Hosp Psychiatry* [preprint]. 2020 [cited 2020 Jul 18]. Available online: PubMed. <https://doi.org/10.1016/j.genhosppsy.2020.03.011>
14. Shechter A, Diaz F, Moise N, Anstey DE, Ye S, Agarwal S, et al. Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic. *Gen Hosp Psychiatry* [serial on the Internet]. 2020 [cited 2020 Jul 24];66:1-8. Available online: ScienceDirect. <https://doi.org/10.1016/j.genhosppsy.2020.06.007>
15. Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, et al. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Netw Open* [serial on the Internet]. 2020 [cited 2020 Jul 24];3(3):e203976. Available online: [doi:10.1001/jamanetworkopen.2020.3976](https://doi.org/10.1001/jamanetworkopen.2020.3976)
16. Hu D, Kong Y, Li W, Han Q, Zhang X, Zhu LX, et al. Frontline nurses' burnout, anxiety, depression, and fear statuses and their associated factors during the COVID-19 outbreak in Wuhan, China: A big-scale cross-sectional study. [preprint]. 2020 [cited 2020 Jul 24]. Available online: SSRN. <https://ssrn.com/abstract=3566144>
17. Hong S, Ai M, Xu X, Wang W, Chen J, Zhang Q, et al. Immediate psychological impact on nurses working at 42 government-designated hospital during COVID-19 outbreak in China: A cross-sectional study. *Nurs Outlook* [serial on the Internet]. 2020 [cited 2020 Jul 24]. Available online: <https://doi.org/10.1016/j.outlook.2020.07.007>
18. Tu ZH, He JW, Zhou N. Sleep quality and mood symptoms in conscripted frontline nurse in Wuhan, China during COVID-19 outbreak: A cross-sectional study. *Medicine* [serial on the Internet]. 2020 [cited 2020 Jul 24];99(26):e20769. Available online: PubMed. <https://dx.doi.org/10.1097%2FMD.00000000000020769>
19. Gupta AK, Mehra A, Niraula A, Kafle K, Deo SP, Singh B, et al. Prevalence of anxiety and depression among the healthcare workers in Nepal during the COVID-19 pandemic. *Asian J Psychiatr* [serial on the Internet]. 2020 [cited 2020 Jul 24];54:102260. Available online: PubMed. <https://dx.doi.org/10.1016%2Fj.ajp.2020.102260>
20. Cui S, Jiang Y, Shi Q, Zhang L, Kong D, Qian M, et al. Impact of COVID-19 on psychology of nurses working in the emergency and fever outpatient: A cross-sectional survey. [preprint]. 2020 [cited 2020 Jul 25]. Available online: <https://dx.doi.org/10.21203/rs.3.rs-20777/v1>
21. An Y, Yang Y, Wang A, Li Y, Zhang Q, Cheung T, et al. Prevalence of depression and its impact on quality of life among frontline nurses in emergency departments during the COVID-19 outbreak. *J Affect Disord* [serial on the Internet]. 2020 [cited 2020 Aug 1];276:312-5. available online: Science Direct. <https://doi.org/10.1016/j.jad.2020.06.047>

22. Labrague LJ, De los Santos JA. COVID-19 anxiety among front-line nurses: Predictive role of organisational support, personal resilience and social support. *J Nurs Manag* [serial on the Internet]. 2020 [cited 2020 Aug 1]. Available online: <https://doi.org/10.1111/jonm.13121>
23. Savitsky B, Findling Y, Ereli A, Hendel T. Anxiety and coping strategies among nursing students during the covid-19 pandemic. *Nurse Educ Pract* [serial on the Internet]. 2020 [cited 2020 Aug 1];46:102809. Available online: ScienceDirect. <https://doi.org/10.1016/j.nepr.2020.102809>
24. Alwani SS, Majeed MM, Hirwani MZ, Rauf S, Saad SM, Shah SH, et al. Evaluation of knowledge, practices, attitude and anxiety of Pakistans nurses towards COVID-19 during the current outbreak in Pakistan. *medRxiv* [preprint]. 2020 [cited 2020 Aug 5]. Available online: <https://doi.org/10.1101/2020.06.05.20123703>

