INTRODUCTION
COVID-19 pandemic has the potential to affect the mental health of healthcare workers (HCW), who stand in the frontline of this crisis. Immediate interventions are essential in order to enhance psychological resilience and strengthen the healthcare systems’ capacity.¹ During epidemic, people tend to experience fear of getting infected with the virus/disease resulting in anxiety, stress, and depression.² Medical occupations are associated with hard working conditions and an exceptional amount of stress. Studies have shown that mental health of healthcare worker had declined during the COVID-19 outbreak, and the degree of deterioration was greater for health care worker than non health care worker.³

Since there are very few research conducted in this area in Nepal, this is important to know for planning of effective mental health management by practitioners and policymakers.

This study aims to find out the prevalence of depression, anxiety and stress among Nepalese health care workers.

METHODS
This is a descriptive cross-sectional study conducted at Devdaha Medical College (DMC). All the health care workers were invited to participate in a study through a self-administered questionnaire within the period of July 10, 2020 to September 10, 2020 after taking ethical clearance from Institutional Review Committee (IRC)

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of Devdaha Medical College. The protocol approval number is 010/20. There are 280 health workers in DMC. All the health workers working in Devdaha Medical College were included in the study. Those who didn’t give consent were excluded. Healthcare workers (HCW) included doctors, nurses, allied healthcare workers, administrators, clerical staff and maintenance workers. This questionnaire collected information on demographics, Hospital Anxiety and Depression Scale (HADS), and Perceived Stress Scale (PSS).

HADS: The original, English version of HADS contains 14 items in two subscales: anxiety (HADS-A) and depression (HADS-D), each with seven items (A1 to A7; D1 to D7). Each item is rated on a four-point scale from 0-3 (3 indicating maximum symptom severity), and the scores are summed (five items on the depression subscale and one on the anxiety subscale are reversed before summing). The Nepali version that has been developed by Rijal et al has been used in this study.

The Perceived Stress Scale (PSS) developed by Cohen, is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one’s life are appraised as stressful. The questions in the PSS ask about feelings and thoughts during the last month. In each case, respondents are asked how often they felt a certain way.

Total study participants were 270 (response rate, 96.42 percent). Data was analyzed with SPSS software (version 24.0; SPSS Inc., Chicago, USA). Statistical data was analyzed by percentage, mean and standard deviation.

RESULTS

Out of total 270 respondents, those with depressive symptoms borderline were 47 (17.4%) and abnormal 18 (6.7%), those with anxiety symptoms borderline 46 (17%) and abnormal 66 (24.4%). Sixty seven (24.8%) had perceived low level of stress, 183 (67.8%) had perceived moderate level of stress and 20 (7.4%) had perceived high level of stress. More than one third of the health workers were working in front line (Table 1 and 2).

Out of total 156 medical health workers (doctors, nurses and allied healthcare) 104 (66.66%) had moderate to high level of stress, 58 (37.17%) had borderline to abnormal anxiety and 30 (19.12%) had depression (Table 3).

Among those working as front line health workers almost two third 60 (62.4%) had perceived moderate to severe stress, one third 31 (31%) had anxiety and 17 (17.6%) had depression (Table 4).

Majority 129 (47.8%) were in the age intervals of 20-30. The females accounted for 148 (54.8%) of the total respondents (Table 1).

Mean PSS score was 16.99±5.63, Mean anxiety score was 7.38±3.76 and mean depression score was 4.93±3.57 (Table 2).

Table 1. Sociodemographic characteristics of enrolled participants (N = 270).

| Variables                              | n (%)   |
|----------------------------------------|---------|
| Gender                                 |         |
| Male                                   | 122 (45.2) |
| Female                                 | 148 (54.8) |
| Age group (years)                      |         |
| 20-30                                  | 129 (47.8) |
| 30-40                                  | 88 (32.6) |
| 40-50                                  | 37 (13.7) |
| 50-60                                  | 13 (4.8) |
| 60 and above                           | 3 (1.1) |
| Marital status                         |         |
| Single                                 | 97 (35.9) |
| Married                                | 171 (63.3) |
| Others                                 | 2 (0.7) |
| Occupation                             |         |
| Doctor                                 | 59 (21.9) |
| Nurse                                  | 57 (21.1) |
| allied healthcare (HA/CMA)             | 40 (14.8) |
| Administrator                          | 18 (6.7) |
| Others (maintenance workers, helpers, drivers) | 73 (27) |
| Working as FHW                         |         |
| Yes                                    | 96 (35.6) |
| No                                     | 174 (64.4) |

Table 2. Grading of stress, anxiety and depression and their Mean (N = 270).

| Variable                | n (%)   | Mean ±SD |
|-------------------------|---------|----------|
| Perceived stress scale  |         | 16.99±5.63 |
| Low stress (0-13)       | 67 (24.8%) |
| Moderate stress (14-26) | 183 (67.8%) |
| High stress (27-40)     | 20 (7.4%) |
| HADS (anxiety grading)  |         | 7.38±3.76 |
| Normal (0-7)            | 158 (58.5%) |
| Borderline abnormal (8-10) | 46 (17.0%) |
| Abnormal (11-21)        | 66 (24.4%) |
### DISCUSSION

Our study showed the prevalence of anxiety was 41.4%, depression 24.1% and 74% perceived moderate to severe stress. Researches conducted over China, India and Nepal had shown higher prevalence of anxiety and depression among health workers after onset of COVID-19 pandemic period ranging between (28-46)% and (25-50)% respectively.7-10 This prevalence is higher than those conducted among the general population during COVID-19 pandemic.11,12 However a study conducted in Singapore which aimed to assess the prevalence of depression, stress, anxiety among health care workers showed 15% had anxiety symptoms, 8.9% depression and 6.6% had stress.13 These differences could be due to one, methodological differences, other could be as China, India were a major hit country by pandemic, their health facilities were overwhelmed with infected cases. Nepal during this period also had similar situation. It has also been seen that health care workers working in COVID-19 wards when compared to health care workers working in other units revealed that the former reported higher levels of depressive symptoms.14 Our study also shows that those who are directly working in front line in screening of fever patients, dealing with COVID-19 patients, working in isolation ward, had higher level of stress, anxiety and depression. These findings are understandable in view of the fact that frontline healthcare workers are at higher risk of infection, inadequate rest, increased work load, shortage of protective equipment, frequent isolation from family, safety issues of their parents and children. These are all the factors that can contribute to high stress on them which might lead to the high risk of mental health condition.7,15,16

The limitation of our study is, this study cannot be generalized among health care workers of other states differing in the extent of pandemic as it was conducted in a single tertiary centre.

### CONCLUSIONS

Prevalence of depression, anxiety and stress was similar when compared with similar studies. The current study showed that frontline health workers have greater anxiety, depression and stress than non frontline health workers. Effective strategies toward improving the mental health like adequate rest, supply
of protective equipments, frequent breaks, ensuring safety issues of their family members, training on management of stress can be helpful.

Conflict of Interest: None.

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