Socio-psychological Study of COVID–19 Pandemic among Healthcare Workers in a Medical College of Nepal: A Descriptive Cross-sectional Study

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ABSTRACT

Introduction: Health care workers experienced considerable psychological distress as a result of COVID-19 due to providing direct patient care, quarantine or self-isolation, and lockdown experience. They are front line workers handling the patients and are at greater risk than others. This study aims to determine the socio-psychological impact of COVID-19 pandemic among Nepalese Army Institute of Health Sciences health care workers.

Methods: A descriptive cross-sectional study from different institutions of the Nepalese Army Institute of Health Sciences from May 2020 to July 2020 was conducted. Ethical approval was taken from the Institutional Review Committee, Nepalese Army Institute of Health Sciences. A total of 212 responses were collected through Google form along with the Depression, anxiety, stress and scale-21 to assess the level of Depression, Anxiety, and Stress. Analysis of the data was done using SPSS version 22.

Results: Respondents with extremely severe depression, anxiety, and stress was found to be 16 (7.5%), 24 (11.3%), and 4 (1.95%) respectively. Most of the respondents do not have travel history, but 6 (2.8%) and 28 (13.2%) have direct and indirect contact respectively with the COVID patients. Daily activities such as food intake, the workload at home, and relationships with family members were increased. 208 (98%) have followed preventive measures such as mouth mask, hand washes, and physical distance.

Conclusions: COVID-19 pandemic has imposed a significant level of depression, anxiety, and stress on health care workers caring for infected patients, with their main concern being the risk of transmitting the infection to their families or acquiring it themselves.

Keywords: anxiety; COVID-19; depression; health care workers; stress.

INTRODUCTION

The coronavirus disease- 2019 (COVID-19) is spreading rapidly worldwide which was considered a public health emergency by the World Health Organization and declared a pandemic by March 2020.¹ Infections and deaths due to COVID-19 have been increasing exponentially, and its worldwide impact has been seen among health care workers (HCWs) in relation to psychological pressure.²

As the coronavirus pandemic rapidly sweeps across the world, it is inducing a considerable degree of fear, worry, and concern in the population at large and among certain groups in particular, such as HCWs.¹ It is normal to feel sad, stressed, confused, scared, or angry during this crisis.¹ HCWs experience considerable psychological distress as a result of the COVID-19 pandemic due to providing direct patient care, vicarious trauma, quarantine or self-isolation and lockdown experience.²

Hence, our study aims to determine the socio-psychological impact of COVID-19 pandemic among HCWs in the Nepalese Army Institute of Health Sciences.

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METHODS

A descriptive cross-sectional study was conducted from May 2020 to July 2020 at Shree Birendra Hospital, College of Medicine, College of Nursing, and College of Medical Polytechnic powered by Nepalese Army Institute of Health Sciences.

The sample size for the study was estimated based on the available email address of the HCWs. Total of 472 email address was obtained, and the sample size was determined accordingly. A set of the pre-tested self-administered structured questionnaire including the Depression, anxiety, stress and scale-21 (DASS-21) scale was sent through Google form, and the HCWs answered the questionnaire by clicking the relevant link given. A total number of 212 HCWs (both sex) have responded within the given time.

Calculating sample size,

By formula,
\[ n = \left( \frac{Z}{e} \right)^2 \times p \times (1-p) \]
\[ = \left( \frac{1.96}{0.05} \right)^2 \times 0.5 \times 0.5 \]
\[ = 384.6 \]

where,
\[ Z \approx 1.96 \text{ at 95% Confidence Interval} \]
\[ p = \text{maximum sample size estimated by taking, 50% i.e.} (0.5) \]
\[ q = 1 - p = 0.5 \]
\[ e = \text{margin of error i.e.} 5\% = 0.05 \]
\[ N = 472 \]

Cochrane formula for finite sample,
\[ n' = n / \left[ 1 + (n-1)/N \right] \]

Here \( n \) is Cochran's sample size recommendation, \( N \) is the population size, and \( n' \) is the new adjusted sample size.
\[ = \frac{384.6}{1 + \left( \frac{384.6 - 1}{472} \right)} \]
\[ = 212 \]

The different variables studied and analyzed were; socio-demographic information, factors related to COVID-19, impact in daily activities, preventive measures used, and spending time at home or office.

Ethical approval was taken from the Institutional Review Committee, Nepalese Army Institute of Health Sciences, (Code no: IRC/297). Likewise, formal permission from each institution’s functioning under the NAIHS took informed consent from respondents. The data obtained were entered and analyzed via the Statistical Package for the Social Sciences (SPSS, version 22). Variables were defined by the frequency in numbers and percentages.

RESULTS

Out of 212 HCWs, 100 (47.2%) were 20 - 30 years with mean age 34.06±10.09 years. The sex of the respondents was unevenly distributed. Female respondents were higher than male, i.e. 120 (56.6%). More than half of the respondents, 124 (58.5%) were married. Most of the respondents 186 (87.75%) were Hindu by religion, and most of the respondents, 164 (77.35%) belong to a nuclear family. Likewise, 134 (63.2%) were medical workers by profession (Table 1).

Medical workers have more participated in this study because they are directly related to the treatment and prevention of COVID-19.

| Characteristics       | Categories      | Frequency (n) |
|-----------------------|-----------------|---------------|
| Age                   | 21-30           | 100 (47.2)    |
|                       | 31-40           | 66 (31.1)     |
|                       | 41-50           | 30 (14.2)     |
|                       | 51-60           | 10 (4.7)      |
|                       | 61 and above    | 6 (2.8)       |
| Sex                   | Male            | 92 (43.4)     |
|                       | Female          | 120 (56.6)    |
| Marital status        | Married         | 124 (58.5)    |
|                       | Unmarried       | 88 (41.5)     |
|                       | Buddhist        | 22 (10.4)     |
| Religion              | Hindu           | 186 (87.75)   |
|                       | Christian       | 4 (1.85)      |
| Family type           | Nuclear family  | 164 (77.35)   |
|                       | Joint family    | 48 (22.65)    |
|                       | Medical         | 134 (63.2)    |
| Professional designation | Non-medical    | 30 (14.2)    |
|                       | Paramedical     | 48 (22.6)     |

This COVID-19 has affected many activities of the health care worker’s daily life. Towards this, 36 (17.9%) respondents had decreased their food intake, 116 (54.7%) respondents had decreased entertainment, and 64 (30.1%) had decreased work efficiency at...
home/office as they were in lockdown (Table 2). The lockdown caused by this COVID-19 has established a good relationship with the members of the household. About half of the respondents, 102 (48.1%) had increased and strengthened their familial relationships.

The finding showed that a large number of participants are at a normal stage for depression rating scales i.e. 162 (76.4%). The percentage of extremely severe depressed participants was found to be 16 (7.5%) whereas 10 (4.7%) of them were found to have severe depression.

It has shown that 144 (67.9%) of participants were found to be normal for Anxiety status. Findings showed that the percentage for extremely severe anxiety status of the participants is more in comparison to depression. It is seen that 24 (11.3%) of the participant were extremely severe for anxiety.

Likewise, 156 (73.6%) of participants were found to be normal for Stress status. Findings showed that the percentage for extremely severe stress status of the participants is very low compared to that of depression and anxiety. It is seen that only 4 (1.9%) of the participant was extremely severe for stress (Table 3).

Health care workers have also taken a variety of preventive measures in their daily life. Most of the HCWs, 208 (98%), used a mouth mask, proper hand washes, and physical distance. The HCWs also adopt other preventive measures such as; consumption of nutritious food, exercise, and enough sleeping.

We also found that more than half 111 (52.35%) respondents were talking on the phone. Because of the lockdown, they were engaged in using the phone. Very few 14 (6.6%) respondents were involved in creative writings. Besides, they used to watching television, reading books, and communicating with friends and relatives. One remarkable thing in this regard was that most of the respondents, 91 (42.92%) had cooked different food items at home. In this way, the respondents spent time at home.

Similarly, almost half of the respondents, 107 (50.47%) reported that they worked at their workplaces with regular work. But, 77 (36.32%) of respondents reported that they were directly or indirectly involved in the work related to COVID-19 (Table 4).

The first studies on the impact of the coronavirus pandemic on health professionals were developed in China but, as the pandemic spread, other countries started to publish cross-sectional studies analyzing the psychological response of healthcare workers to the
The current COVID-19 pandemic has affected the psychological wellbeing of health care workers. This has imposed a significant level of depression, anxiety, and stress on health care workers caring for infected patients, with their main concern being the risk of transmitting the infection to their families or acquiring it themselves. To conclude, this study highlighted that the HCWs who are an integral part of the front line warriors to fight against the pandemic are suffering from psychiatric morbidity.

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Conflict of Interest: None.

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