

Research Article

A Study to Assess the Occupational Burnout and Level of Stress among Frontline Health Professionals during COVID-19 Pandemic in Selected Hospital of New Delhi

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A B S T R A C T

Introduction: During the fierce pandemic of COVID-19, the entire healthcare workforce has experienced high psycho-social stress and huge loads of work, which is likely to affect their emotional and mental well-being and guide them to a state of burnout.

Objectives: This study aimed to assess the occupational burnout and level of stress among frontline health professionals during the COVID-19 pandemic and to seek the association of occupational burnout and level of stress with selected socio-demographic variables among frontline health professionals, who worked during COVID-19 pandemic respectively.

Method: The descriptive survey included 200 frontline health professionals who worked during COVID-19 pandemic using non-probability purposive sampling technique. Standardised tools were used for data collection i.e. Burnout Assessment Tool for assessing occupational burnout and Perceived Stress Scale for the level of stress. Descriptive and inferential statistics were employed for the analysis of data.

Results: Out of 200 health professionals, most frontline health professionals who worked during COVID-19 pandemic had an average occupational burnout. More than half of the sample had moderate, followed by 43.5% who had low and only 1% who had a high level of stress. There was a significant association of occupational burnout and level of stress with selected socio-demographic variables at a level of significance of 0.05.

Conclusion: A large proportion of frontline health professionals who worked during COVID-19 had average occupational burnout and more than half suffered from moderate to high stress. Awareness must be created about factors causing stress and coping strategies, which can lead to the prevention of occupational burnout.

Keywords: Occupational Burnout, Stress, Frontline Health Professionals, COVID-19

Introduction

Coronaviruses have been named after their appearance of crown-like spikes on their outer surface. The Latin meaning of corona is crown. Alpha and Beta types of coronaviruses infect mammals only, mostly showing respiratory symptoms in human beings and gastric symptoms in other mammals.¹ SARSr-CoV, mainly found in bats is feared to cause a disease outbreak in future as well. The current pneumonia disease outbreak found its origin in Wuhan, Hubei province, central China.²

Transmission of the infection SARSCoV-2 may be through faecal-oral transmission, aerosols and through fomites.³ The common signs and symptoms include shortness of breath, cough, fever, and respiratory problems. In severe cases there may be acute respiratory syndromes, kidney failure and even it may cause the death of patients.⁴

On February 11, 2020, the World Health Organization (WHO) named the disease caused by the SARS-CoV-2 as "COVID-19", and in March 2020 when many countries were involved, the disease was declared a pandemic.⁵

According to the National Institutes of Health, nurses and physicians come across a variety of stressors in their workplaces because they have to provide health and treatment to the sick. Out of 130 jobs surveyed, nursing is ranked 27th due to mental health problems among occupations with high burnout. Other studies report that 7.4% of nurses are absent from work each week due to burnout or disability due to stress, which is 80% more than other occupational groups.⁶

Various studies have been done to investigate the level of stress and job burnout among healthcare professionals at hospitals, including nurses, doctors, and other healthcare workers, with a handful of questionnaires, in varied languages. However, given the pandemic outbreak of COVID-19 and the unpredictable and unforeseen conditions and high workloads experienced by healthcare professionals in relation to this epidemic, the present research was performed, for investigating stress and burnout among healthcare professionals, who worked during the COVID-19 pandemic.

Methodology

A quantitative approach and descriptive survey design were adopted to assess the occupational burnout and level of stress among frontline health professionals during COVID-19 pandemic. In this study, through non-probability purposive sampling technique, 200 frontline health professionals who worked during COVID-19 pandemic namely doctors, nurses, pharmacists and lab technicians in a Super Speciality Hospital in New Delhi were selected. All healthcare professionals including nurses, doctors, lab

technicians and pharmacists who worked during COVID-19 pandemic, who were willing to participate in the study and were available during data collection time were included. Health professionals other than nurses, doctors, lab technicians and pharmacists, and who did not work during COVID-19 pandemic for at least six months in the hospital were excluded from the study. Administrative permission was taken from the Institutional Ethics Committee of Jamia Hamdard, Delhi. Permission from the authority of a super speciality hospital was taken before conducting research. Informed consent was also taken from each study subject.

The occupational burnout of frontline health professionals who worked during COVID-19 pandemic was measured by a standardised tool called Burnout Assessment Tool. The tool was further divided into 2 sections. Section A consists of 4 domains i.e. exhaustion, mental distance, emotional impairment and cognitive impairment. Section B consists of 2 domains i.e. psychological distress and psychosomatic complaints. There were 34 questions in all and the answers were marked on a point Likert scale that is the "5 point scale i.e. "Never", "Sometimes", "Regular", "Often" and "Always" from 1 to 5 respectively. Scoring was done in the category of very high (170-162), high (161-128), average (127-43) and low (42-34).

Perceived Stress Scale was used to assess the level of stress of frontline health professionals who worked during COVID-19 pandemic. It contains about 10 questions, each answer being scored on a scale value of 0 to 4. Questions 4, 5, 7, and 8 are negatively worded for which scores are to be reversed from 4 to 0. Questions i.e. 1, 2, 3, 6, 9 and 10 are positively worded and scored from 0 to 4. Categories were made according to the scores i.e. high (40-27), moderate (26-14) and low (13-0). As regards the reliability of the tools; Cronbach's alpha value for the burnout assessment tool was 0.90 and reliability coefficient for perceived stress scale was 0.83.

Data was collected from 3rd January 2021 till 23rd January 2021 and analysed based on the objectives. The average time taken to fill the questionnaire of the study was 15-20 minutes. The collected data were transferred to a master sheet for analysis by using both descriptive and inferential statistics. To describe the sample characteristics, frequency and percentage distribution were computed. Fisher's exact test was used to determine the association between occupational burnout and level of stress with selected demographic variables (age, gender, marital status, religion, monthly income, occupation, professional work experience, duration of work in COVID duty). The findings were interpreted and presented with the help of tables and bar diagrams. The level of significance was set at the significance level of 0.05 to test the objectives.

Results

Section I: Description related to the Demographic Characteristics of Frontline Health Professionals who worked during COVID-19 Pandemic

Figure 1 depicts that 64% of frontline health professionals were in the age group of 21-30 years, 54% were female, 55% were unmarried, and 80.5% were Hindu. Figure 2 shows that 45% and 51% of frontline health professionals worked more than 1 year and worked more than 1 year during COVID-19 pandemic respectively, and 54.5% had income ranging from Rs. 15,001- Rs. 30,000 per month. Out of 200 frontline health professionals, 40% were nurses, 30% were doctors, 19% were pharmacists and 11% were laboratory technicians who worked during COVID-19 pandemic.

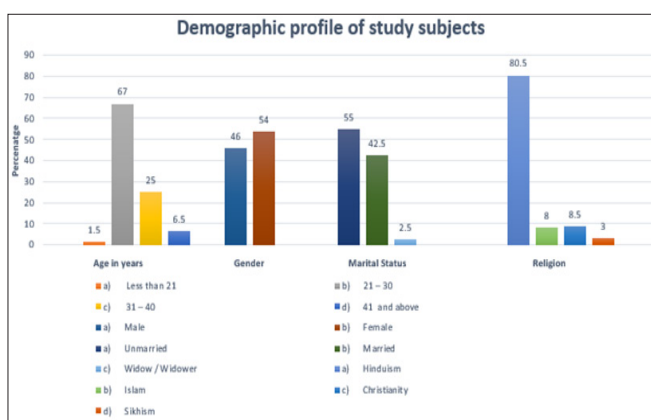


Figure 1. Percentage Distribution of Age (in Years), Gender, Marital Status, and Religion of Frontline Health Professionals who Worked during COVID-19 Pandemic

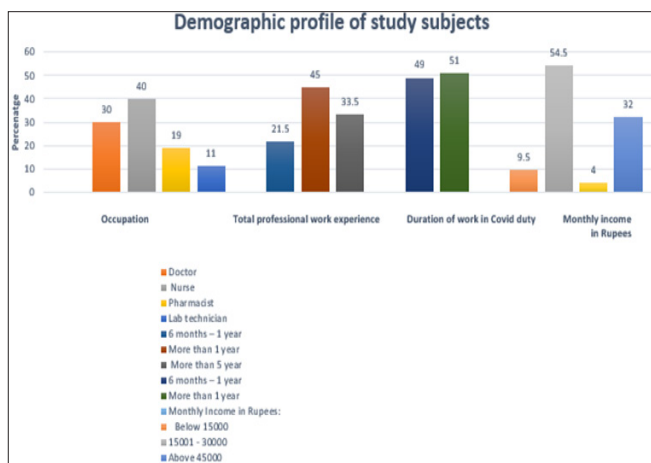


Figure 2. Percentage Distribution of Occupation, Total Professional Work Experience, Duration of Work in COVID Duty, and Monthly Income (in Rupees) of Frontline Health Professionals who Worked during COVID-19 Pandemic

Section II: Findings related to Occupational Burnout among Frontline Health Professionals who Worked during COVID-19 Pandemic

Results showed that the mean score of occupational burnout in frontline health professionals who worked during COVID-19 pandemic was 61.92 and standard deviation was 16.47. It indicates wide dispersion of burnout among them.

Table 1. Frequency and Percentage of Occupational Burnout among Frontline Health Professionals who Worked during COVID-19 Pandemic (n = 200)

S. No.	Occupational Burnout	Frequency	Percentage
1.	Very high (170-162)	00	00
2.	High (128-161)	00	00
3.	Average (43-127)	183	91.5
4.	Low (34-42)	17	8.5

Table 1 depicts that out of 200 frontline health professionals, majority i.e. 91.5% had average occupational burnout and only 8.5% had low occupational burnout.

The ranking of occupational burnout among health professionals showed that it was highest in nurses with a mean occupational burnout score of 67.56, followed by pharmacists (60.45), and doctors (57.22) and the least rank of occupational burnout with a mean occupational burnout score of 56.73 was of lab technicians.

Section III: Findings related to Assessment of Level of Stress among Frontline Health Professionals who Worked during COVID-19 Pandemic

Findings revealed that the mean score of level of stress among frontline health professionals who worked during the COVID-19 pandemic was 13.93 and standard deviation was 6.82. It indicates that perceived stress scores are close to the mean and are not dispersed.

Table 2. Frequency and Percentage Distribution of Level of Stress among Frontline Health Professionals who Worked during COVID-19 Pandemic (n = 200)

S. No.	Level of Stress	Frequency	Percentage
1	Low (0-13)	87	43.5
2	Moderate (14-26)	111	55.5
3	High (27-40)	2	1

Table 2 depicts that out of 200, 55.5% of frontline health professionals had a moderate level of stress, followed by 43.5% who had a low level of stress and only 1% had a high level of stress.

The level of stress among health professionals was highest in doctors with mean stress score of 16.33, followed by pharmacists (14.13), and nurses (13.36) and the lowest level of stress with a mean stress score of 8.23 was among lab technicians.

Table 3. Association between Occupational Burnout among Frontline Health Professionals who Worked during COVID-19 Pandemic with Selected Socio-Demographic Variables (n = 200)

Demographic Variables	Occupational Burnout				Fisher-Exact Test	P-value
	Very high (>162)	High (128-161)	Average (43-127)	Low (<42)		
1. Age (in Years)						
a) < 21	0	0	3	0	10.17	0.012*
b) 21-30	0	0	126	8		
c) 31-40	0	0	46	4		
d) ≥ 41	0	0	8	5		
2. Gender						
a) Male	0	0	80	12	0	0.083
b) Female	0	0	103	5		
c) Transgender	0	0	0	0		
3. Marital Status						
a) Unmarried	0	0	103	7	1.23	0.580
b) Married	0	0	75	10		
c) Widow/widower	0	0	5	0		
d) Separated	0	0	0	0		
e) Divorced	0	0	0	0		
4. Religion						
a) Hinduism	0	0	150	11	7.61	0.035*
b) Islam	0	0	11	5		
c) Christianity	0	0	16	1		
d) Sikhism	0	0	6	0		
e) Others	0	0	0	0		
5. Occupation						
a) Doctor	0	0	58		19.53	0.010*
b) Nurse	0	0	78	2		
c) Pharmacist	0	0	30	285		
d) Lab technician	0	0	17			
6. Total Professional Work Experience						
a) 6 months-1 year	0	0	39	4	10.62	0.004*
b) > 1 year & < 5 years	0	0	88	2		
c) ≥ 5 years	0	0	56	11		
7. Duration of Work in COVID Duty						
a) 6 months-1 year	0	0	88	10	0	0.329
b) > 1 year	0	0	95	7		
8. Monthly Income (in Rupees):						
a) < 15000	0	0	18	1	1.66	0.613
b) 15001-30000	0	0	98	11		
c) 30001-45000	0	0	7	1		
d) > 45000	0	0	60	4		

*Significant at 0.05 level

Section IV: Findings related to Association between Occupational Burnout with Selected Socio-demographic Variables among Frontline Health Professionals who worked during COVID-19 Pandemic

The result in Table 3 depicts that there was a significant association of occupational burnout with selected socio-

demographic variables among frontline health professionals worked during COVID-19 pandemic i.e. age, religion, occupation, total professional work experience at a level of significance of $p < 0.05$. No significant association is found with gender, marital status, duration of work in COVID duty and monthly income.

Table 4. Association between Level of Stress among Frontline Health Professionals who Worked during COVID-19 Pandemic with Selected Socio-Demographic Variables (n = 200)

Demographic Variables	Level of Stress			Fisher-exact Test	P-value
	Low (0-13)	Moderate (14-26)	High (27-40)		
1. Age (in years)					
a) < 21	0	3	0	13.09	0.035*
b) 21-30	57	76	1		
c) 31-40	28	21	1		
d) ≥ 41	2	11	0		
2. Gender					
a) Male	40	61	1	0.27	1.000
b) Female	47	60	1		
c) Transgender	0	0	0		
3. Marital Status					
a) Unmarried	48	61	1	1.74	1.000
b) Married	37	47	1		
c) Widow/widower	2	3	0		
d) Separated	0	0	0		
e) Divorced	0	0	0		
4. Religion					
a) Hinduism	62	97	2	13.28	0.038*
b) Islam	10	6	0		
c) Christianity	13	4	0		
d) Sikhism	2	4	0		
e) Others	0	0	0		
5. Occupation					
a) Doctor	17	42	1	23.50	0.010*
b) Nurse	40	39	1		
c) Pharmacist	12	26	0		
d) Lab technician	18	4	0		
6. Total Professional Work Experience					
a) 6 months - 1 year	22	21	0	2.53	0.669
b) > 1 year & < 5 years	35	54	1		
c) ≥ 5 years	30	36	1		
7. Duration of Work in COVID Duty					
a) 6 months-1 year	46	51	1	1.18	0.694
b) > 1 year	41	60	1		
8. Monthly Income (in Rupees)					
a) < 15000	11	8	0	7.27	0.291
b) 15001-30000	52	56	1		
c) 30001-45000	2	6	0		
d) > 45000	22	41	1		

*Significant at 0.05 level

Section V: Findings Related to Association between Level of Stress with Selected Socio-Demographic Variables among Frontline Health Professionals Worked during COVID-19 Pandemic.

The result in Table 4 depicts that there was a significant association of the level of stress with selected socio-demographic variables among frontline health professionals who worked during COVID-19 pandemic with age, religion, occupation at a level of significance of $p < 0.05$. No significant association is found with gender, marital status, total professional work experience, duration of work in COVID duty and monthly income.

Discussion

The main objectives of the present study were to assess the occupational burnout and level of stress among frontline health professionals and to assess the association between occupational burnout and level of stress with socio-demographic variables of frontline health professionals who worked during COVID-19 pandemic respectively.

Langade et al.⁷ assessed the burnout among medical practitioners and the result revealed that burnout level was high in the entire population which was indicated through different components such as overload, lack of development and neglect subtype and these findings are contrary to the findings of current study as high and very high level of burnout is not present among frontline health professionals, although 91.5% were found to fall in average occupational burnout category. This may be because of developing solutions to tackle burnout or by adopting effective coping strategies.

However, some findings of the current study were not consistent with the study conducted in Accra⁸ to measure level of burnout as it exhibited that the total burnout score among health worker groups ranged from good (71.50%), alarming (12.60%), acute crisis (6.02%), and burnout (9.90%). While the present study showed the majority of frontline health professionals had average occupational burnout, only 8.5% had low occupational burnout and no frontline health professional was assessed to have very high and high occupational burnout. There may be some effective ways to decrease burnout like reduction in their workload and equipping them with better coping strategies to deal with stress.

Srikrishna et al.⁹ did a cross-sectional study to assess burnout and its impact on the mental health of 188 physicians during the COVID-19 pandemic working at COVID-19 hospitals in South India in the month of May 2020. The study found burnout in 54.3% of physicians. These findings are in partial agreement with the current study findings as 100% of frontline health professionals including physicians were found to present with low and moderate burnout.

Jalili et al.¹⁰ studied the prevalence of burnout in healthcare workers dealing with COVID-19 patients and the associated factors. In this survey, healthcare workers at six hospitals, who were taking care of COVID-19 patients, were studied. Age, gender, marital status, having children, hospital, job category, experience, and workload, as well as the level of burnout were measured. 326 persons (53.0%) experienced high levels of burnout. These findings are not consistent with the current study findings as no one was found to have high levels of burnout, although 91.5% were found to fall in the average occupational burnout category.

The results of the study conducted by Grover et al.¹¹ fall in line with the present study as they revealed that about two-thirds of the subjects had a moderate level of stress (67.2%) while 13% of subjects reported a high level of stress. Results of the current study also showed that 55.5% of frontline health professionals had a moderate level of stress, followed by 43.5% had a low level of stress and only 1% had a high level of stress.

The findings of the present study were consistent with another study conducted by Sidhu et al.¹² conducted in a tertiary hospital in Punjab, whose findings revealed that majority of the participants (79.8%) had moderate stress levels, which in the current study was 55.5% of the samples.

Wu et al.¹³ investigated to understand the job stress among young pharmacists working in the hospital during the COVID-19 period. About 60% of 289 subjects i.e. 178 reported job stress. These results are in congruence with the current study findings as all the subjects were found to be suffering from perceived stress although 99% had stress from mild to moderate levels.

The findings of the present study revealed that there was a significant association between occupational burnout with selected socio-demographic variables like age ($p < 0.005$), religion ($p < 0.005$), occupation ($p < 0.005$) and total professional work experience ($p < 0.005$). These findings were partially in agreement with a cross-sectional study conducted by Odonkor and Frimpong⁸ in Accra, Ghana which showed that there was an association between burnout and these background variables.

Conclusion

Majority of frontline health professionals had an average level of occupational burnout. Almost half of the sample had a moderate level of stress on frontline health professionals who worked during COVID-19 pandemic. There was a significant association of occupational burnout with selected socio-demographic variables among frontline health professionals who worked during COVID-19 pandemic i.e. age, religion, occupation, total professional work experience at level of significance of 0.05. There was a significant association of the level of stress with selected

socio-demographic variables among frontline health professionals who worked during COVID-19 pandemic with age, religion, and occupation at a level of significance of 0.05. There may be some good ways to deal with burnout like reducing the volume of work and equipping them with better coping strategies to deal with stress. Hospital administrators must ensure an environment in the hospital which reduces the stress and burnout levels among their employees, especially frontline health professionals. Rotation of health professionals, especially nurses must be done between high-stress and low-stress areas. During and after working hours, health professionals must be given breaks and should be encouraged to indulge in relaxation exercises like meditation, breathing etc. Adequate leave and financial compensation should be done for health professionals working in high-stress areas.

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