CBS

Chronicles of Biomedical Sciences

journal homepage: https://cbsciences.us/index.php/cbs

Job Stress among Healthcare Professionals During Current Pandemic of Covid-19

Zulfiqar Ahmad*[1], Manal Abdulrazzaq Abulrahim[1], Sana Rehman[2], Mouza Abdulla Alsharhan[1], Muazzam Waheed[3], Hajrz Azhar[4], Sulaman Khan[2]

[1]Dubai Health, Dubai Hospital United Arab Emirates, [2]National Institute of Health Islamabad Pakistan, [3]Lahore General Hospital Lahore Pakistan, [4]King Edward Medical University Lahore Pakistan

ARTICLE INFO

Article Type:
Original Article

Keywords:
Job Stress
Healthcare professionals
Pandemic
COVID-19

**Corresponding author:*
Zulfiqar Ahmad
zhahmed@dubaihealth.ae

Received on: Feb 28, 2024

Revised on: March 21, 2024

Accepted on: March 22, 2024

ABSTRACT

Background: Healthcare professionals are facing critical situation being front line of defense to provide support to the patients and involved in various fields including nursing care, diagnosis, treatment and other related support therefore are at greater risk of emerging psychological agony and other mental health issues during pandemic COVID-19.

Objective: Aim of present study is to measure job stress during current pandemic of COVID-19 among healthcare professionals by using perceived stress scale questionnaire.

Methods: This descriptive study was carried out on the behalf of Department of Management Sciences, Virtual University of Pakistan. After taking an informed consent, demographic characteristics of each respondent including, age, gender, country of residence, job title and working experience etc. were noted on a predesigned questionnaire. A stress scale known to be perceived stress scale containing 10 items was used to observe the level of stress. An accumulated score of 0-13 is considered as low stress, 14-27 as moderate stress, and 28-40 is severe stress.

Results: A total of 106 healthcare professionals participated in this study. Overall Mean age of study participants was remained to be 36.83±6.65. Total mean score of 21.42±8.52 shows that most of the people had moderate severe depression. Level of stress with respect to the job nature was revealed that highest as severe stress in 68.8% of nurses. Moderate stress of 25.7% was shown doctors participated in this study. Severe stress of 18.7% was observed in healthcare professionals working abroad as compared to only 6.5% among people working in home country with a significant difference (p-value <0.05).

Conclusion: Provide Environment of communication with maintaining the social distancing in healthcare organizations. Development of a mechanism for timely identification of stress and steps to resolve the issues must be ensured.

Introduction

The Novel coronavirus (COVID-19) pneumonia is caused by a mutated strain of severe acute respiratory syndrome coronavirus 2 (SARS-CoV 2). Mechanism of transmission is not clear though human-to-human transmission through airborne aerosols is greatly evidenced. Symptoms of COVID-19

appear within 2-14 days after exposure with rapid progression of disease, which may lead to death. [1] More than 5.86 million deaths were reported during 2020. [2] A series of patients presenting pneumonia like symptoms were reported in city of Wuhan in china during December 2019. A detailed investigation based on sequencing analysis of respective specimens and around 800 people comprising healthcare staff acquired infection. [3]

This project is all about measuring job stress during COVID-19 among healthcare professionals. Healthcare professionals are facing critical situation being front line of defense to provide support to the patients and involved in various fields including nursing care, diagnosis, treatment and other related support therefore are at greater risk of emerging psychological agony and other mental health issues. [4]

The number of confirmed and suspected cases of COVID-19 is increasing day by day which is posing threat of acquiring infection even after strict adherence to standard operating procedure contribute in mental stress to the healthcare staff. Severe psychological effects have been reported due to SARS epidemic during 2003 and lead to fear of contagion and source of transmission to friends, family or colleagues led to stigmatization and uncertainty. [5]

After outbreak declaration of COVID-19 as an emergency for public health, a drastic increase in hospitalization of patients was observed all around the world further live reporting of new cases and deaths from Centre for Disease Control (CDC) also put a great pressure and chaos in general public. Thus, present health catastrophe has greatly affected the public in almost all fields of life disregard their socioeconomic, age, and health eminence as almost one-third of the global population lived under forced quarantine or self-imprisonment. [6]

A great change in daily activities of public life due to loss of jobs, absence of labor work, home confinement, policies to work from home, closing of recreational and educational facilities was comprehended. [7]

Present pandemic of COVID-19 is much greater than previous epidemics and continues where many countries are facing second wave of infectiousness, an uncertainty continues among healthcare professionals in many ways. Those who are working abroad could not visit their homeland since long, and those who went on vacations before pandemic could not return to their jobs for months. Both situations are stigmatizing for healthcare professionals and may lead to long term psychological implications.

In this situation, it is necessary to take evidence-based stance by finding the incidence, of depression among healthcare professionals at every level. This will not only beneficial to the system but also helpful for stakeholder to lay down prompt action for its management to cover another disaster after COVID-19. Aim of present study is to measure job stress during current pandemic of COVID-19 among healthcare professionals by using perceived stress scale questionnaire.

Methods

This descriptive study was carried out on the behalf of Department of Management Sciences, Virtual University of Pakistan and data was collected from various categories of healthcare professions using convenient sampling technique. After taking an informed consent (Annexure II) from each participant, demographic characteristics of each respondent including, age, gender, country of residence, job title and working experience etc. were noted on a predesigned questionnaire. A stress scale known to be perceived stress scale containing 10 items was used to observe the level of stress. This structured quantitative questionnaire uses 0-4 marks for response of each question, an accumulated score of 0-13 is considered as low stress, 14-27 as moderate stress, and 28-40 is severe stress.

Data was entered and analyzed in statistical package for social sciences (SPSS) software. Qualitative variables like gender, country of residence, job title and working experience etc. were presented as frequency and percentages while quantitative variables like age and PSS-

10 items was presented as mean ± standard deviation. Independent t-test was used to compare in case of any difference among various categories of healthcare professional or amongst domestic and foreigner healthcare professionals where a p value <0.05 is considered significant.

Results

Considering drop out of 20% , 115 questionnaires along written informed consent were presented to various health care professionals working in different hospitals of Dubai and UAE in personal capacity. Of which 9 subjects refused to participate and 106 participated in this study. Male gender remained to be the predominant consisting of 61.3% (n=65) proportion as compared to female as 38.7% (n=41) with a female to male ratio of 1:1.58 in this study as shown in figure 1.

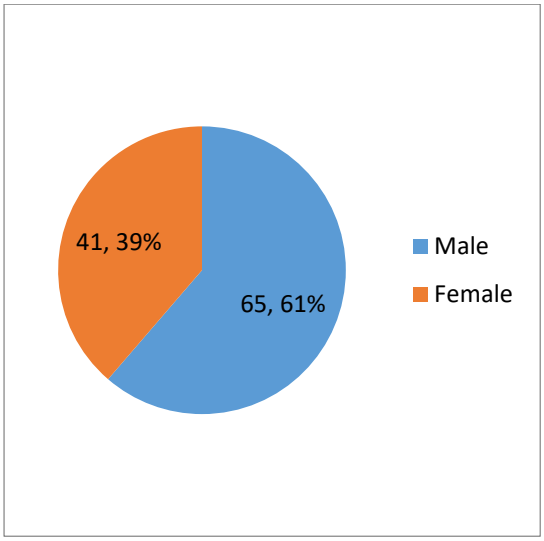

Figure 1: Gender Distribution

Overall Mean age of study participants was remained to be 36.83±6.65 with a minimum age of 24 years to maximum age of 54 years. No much difference in mean ages of male (37.25±6.82) and female (36.17±6.40) gender was observed. Gender-wise distribution of different age groups of study participant was also observed and most of the participants were found in age group of 30-35 years of age and minimum in age group of 50 years and above as shown in figure 2.

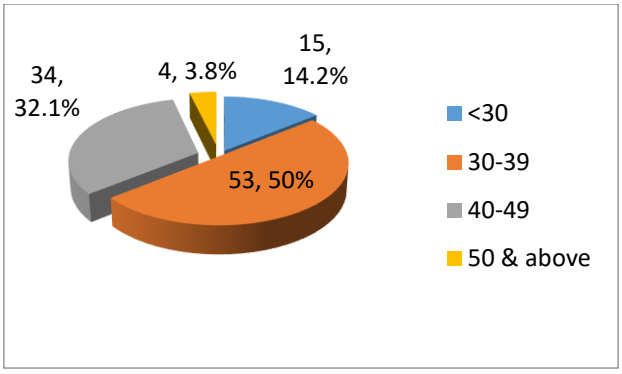

Figure 2: Distribution of Age (Years) Groups

Demographic characteristics of participants were also noted and as many as 88 (83%) had a Job experience of >5 years, most of them 44 (41.5%) had Masters or above level of qualification. Similarly, most of 51(48.1%) were allied health/paramedical professionals, 50 (47.2%) belong to Pakistan and 75 (70.8%) were working abroad away from their love ones. Further gender-wise distribution of all demographic characteristics of study participants is shown in Table 1.

Highest mean score of 2.51±1.32 was gained by the question of perceived stress scale as “how often have you felt confident about your ability to handle your personal problems?” while the lowest score of 1.69±1.28 was gained by the question “how often have you felt difficulties were piling up so high that you could not overcome them?” in present study. Male gender attained high scores in positive sense questions while female gender attained high score in negative sense questions as is shown in Table 2. Total mean score of 21.42±8.52 shows that most of the people had moderate severe depression, while an insignificant difference (p-value = 0.842) about having depression was observed among male and female genders.

Qualitative analysis of perceived stress scale was also calculated and frequency and percentages of responses against each question are also shown in front of each question for better understanding as depicted in Table 3.

Table 1: Demographic Characteristics of Study Subjects

Characteristics		Gender				Total	
		Male		Female			
		n	%	n	%	n	%
Job Experience	<1 Year	1	1.5	0	0.0	1	0.9
	1-5 Years	8	12.3	9	22.0	17	16.0
	> 5 Years	56	86.2	32	78.0	88	83.0
Qualification	Diploma	8	12.3	11	26.8	19	17.9
	Graduate	26	40.0	17	41.5	43	40.6
	Masters/Above	31	47.7	13	31.7	44	41.5
Job Nature	Doctor	10	15.4	10	24.4	20	18.9
	Nurse	19	29.2	9	22.0	28	26.4
	Allied Health/Paramedical	33	50.8	18	43.9	51	48.1
	Supporting Staff	2	3.1	3	7.3	5	4.7
	Others	1	1.5	1	2.4	2	1.9
Nationally	Pakistanis	33	50.8	17	41.5	50	47.2
	Indians	17	26.2	8	19.5	25	23.6
	Filipinos	5	7.7	4	9.8	9	8.5
	Sudanese	4	6.2	3	7.3	7	6.6
	Other	6	9.3	9	21.9	15	14.2
Working Country	Abroad	47	72.3	28	68.3	75	70.8
	Home	18	27.7	13	31.7	31	29.2

Table 2: Outcome of Perceived Stress Scale Questions

Questions	Gender				Total	
	Male		Female			
	Mean	SD	Mean	SD	Mean	SD
In the last month, how often have you been upset because of something that happened unexpectedly?	2.11	1.28	2.37	1.18	2.21	1.24
In the last month, how often have you felt that you were unable to control the important things in your life?	1.98	1.23	2.20	1.27	2.07	1.24
In the last month, how often have you felt nervous and stressed?	2.20	1.12	2.37	1.17	2.27	1.14
In the last month, how often have you felt confident about your ability to handle your personal problems?	2.69	1.31	2.22	1.29	2.51	1.32
In the last month, how often have you felt that things were going your way?	2.22	1.02	2.10	1.07	2.17	1.04
In the last month, how often have you found that you could not cope with all the things that you had to do?	1.98	1.30	2.12	1.27	2.04	1.29
In the last month, how often have you been able to control irritations in your life?	2.14	1.29	2.32	1.19	2.21	1.25
In the last month, how often have you felt that you were on top of things?	2.34	1.14	2.00	1.18	2.21	1.16
In the last month, how often have you been angered because of things that happened that were outside of your control?	2.09	1.10	2.07	1.15	2.08	1.11
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	1.54	1.25	1.93	1.31	1.69	1.28
Total	**21.29**	**8.34**	**21.63**	**8.88**	**21.42**	**8.52**

Table 3: Frequencies of Responses to Perceived Stress Scale.

Questions	Never		Almost Never		Some-times		Fairly Of-ten		Very Often	
	n	%	n	%	n	%	n	%	n	%
In the last month, how often have you been upset because of something that happened unexpectedly?	12	11.3	15	14.2	39	36.8	19	17.9	21	19.8
In the last month, how often have you felt that you were unable to control the im-portant things in your life?	14	13.2	20	18.9	33	31.1	23	21.7	16	15.1
In the last month, how often have you felt nervous and stressed?	20	18.9	33	31.1	23	21.7	16	15.1	13	12.4
In the last month, how often have you felt confident about your ability to handle your personal problems?	14	13.2	7	6.6	25	23.6	31	29.2	29	27.4
In the last month, how often have you felt that things were going your way?	12	11.3	10	9.4	35	33.0	46	43.4	3	2.8
In the last month, how often have you found that you could not cope with all the things that you had to do?	16	15.1	21	19.8	28	26.4	25	23.6	16	15.1
In the last month, how often have you been able to control irritations in your life?	13	12.3	16	15.1	31	29.2	28	26.4	18	17.0
In the last month, how often have you felt that you were on top of things?	11	10.4	15	14.2	35	33.0	31	29.2	14	13.2
In the last month, how often have you been angered because of things that happened that were outside of your control?	12	11.3	14	13.2	44	41.5	25	23.6	11	10.4
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	25	23.6	21	19.8	34	32.1	14	13.2	12	11.3

Semi quantitative analysis showed using the perceived stress score range of 0-13, 14-27 and 28-40 to present low stress, moderate stress and sever stress respectively. Moderate stress was shown to be more prevalent in male gender while severe stress is shown to be more prevalent in female gender as shown in Figure 3.

Level of stress was observed with respect to the job nature and it was revealed that highest degree of severe stress as 68.8% was present among nurses whereas highest degree of moderate stress was shown by allied health/paramedical staff. Moderate stress of 25.7% was shown doctors participated in this study as shown in Table VI and figure 4.

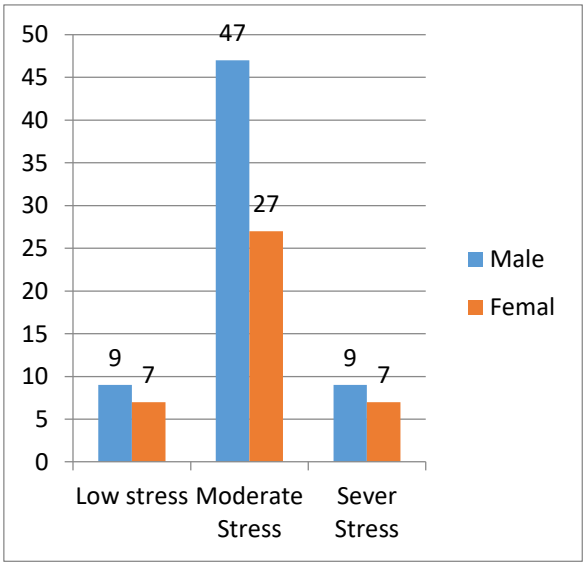

Figure 3: Level of Stress in Male and Female Genders

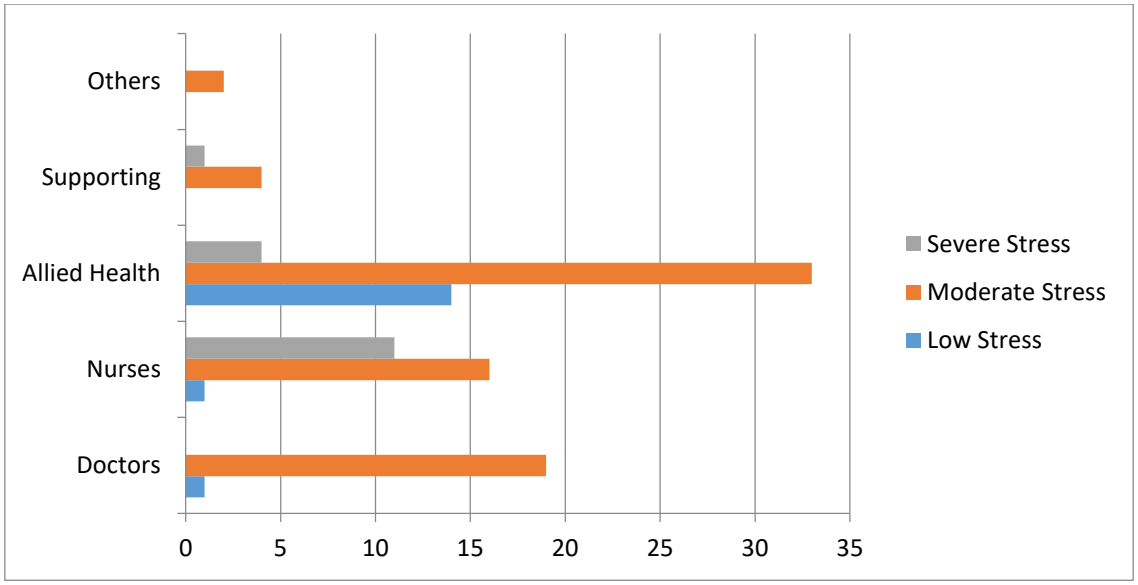

Figure 4: Level of stress Versus Job Nature

Severe stress of 18.7% was observed in healthcare professionals working abroad as compared to only 6.5% among people working in home country who had highest level of moderate stress and a significant difference was observed with p-value <0.05 as shown in table 4.

Table 4: Level of Stress with Reference to Home Country and Abroad

Level of Stress	Working Country			
	Abroad		Home	
	n	%	n	%
Low Stress	15	20.0	1	3.2
Moderate Stress	46	61.3	28	90.3
Severe Stress	14	18.7	2	6.5

Chi-Square = 8.897 **p-value = 0.012**

Discussion

Job stress is a detrimental condition that results in harmful emotional or physical responses and mostly, this condition is related unmatched abilities, resources and demands of employer. Job stress on the other hand not only affects the work but also deteriorates one's health as a result of elevation of stress hormones in blood circulation (UMASS LOWELL, 2020). Working conditions of almost all the fields of life and business have been greatly changed by current pandemic of COVID-19 started in December, 2019. Few people had to go on the jobs with adaptation of certain standard operating procedures (SOPs) whereas others have to work remotely since March last year. This situation has certainly added some stress to daily lives of people. Dealing with this stress can affect one's well-being negatively or positively. One of the indications of stress related to COVID-19 includes apprehension of being exposed to virus as accorded by CDC. Once exposed may spread the disease to other households and loved ones who are not working or working from home. On the other hand management of workload, job uncertainty due to poor economic conditions and future strategies adds on the stress. [8]

Mean perceived stress scale in present study was shown to be 21.42±8.52 is not in agreement with a study undertaken in March 2020 but the results are comparable with mean of 16.6±7.3. [9] Considering the level of stress presently low stress, moderate stress and high stress was presented to be 13.9%, 72.2% and 13.9% is in accordance to the study which presented a low stress as 24.48%, moderate stress as 67.49% and severe stress as 8.02% among normal individuals. [10] Similarly, later study showed a higher rate of stress among female gender and single people [10] also in concomitant with present study where prevalence of severe stress was found to be high among females.

Proportion of severe levels of perceived stress were remained to be the highest among nurses as 68.8% followed by paramedical staff (25.0%) and in supportive staff as 6.2% whereas no severe stress was found among doctors. Results of present study are comparable to the recent Ethiopian study on perceived stress which presented a highest stress among nurses while a moderate to low stress among doctors further perceived stress among nurses remained to be 8 times higher as compared to the other studies. Therefore, this particular study was in the view that possible reason of this high proportion of nurses perceiving stress may be due to their presence at first line and ad to spend a lot more time with patients as compared to other profession.[11] Present findings also endorse and in agreement with this study.

Conclusion

Results of present study show that more than half of the healthcare professionals had moderate or severe levels of COVID-19 related perceived stress. Nurses, being on the frontline are more exposed as compared to other health professionals and also showing highest level of severe stress followed by allied health professionals. A strong association of perceived severe stress was observed among healthcare professionals working abroad and a significance difference was observed as compared to the healthcare staff working in home country.

Conflict of Interest: The authors have no competing interests.

Funding Source: No funding was received from any agency for this study.

References

1. Kuo FL, Yang PH, Hsu HT, Su CY, Chen CH, Yeh IJ, et al. Survey on perceived work stress and its influencing factors among hospital staff during the covid-19 pandemic in taiwan. Kaohsiung J Med Sci. 2020;36(11):944-52.
2. Rehman S, Munir MK, Saeed S, Aftab A, Hanif A. Frequency of re-infection and severity of symptoms among covid-19 pcr confirmed patients. Pak J Med Res. 2023;62(4):142-7.
3. Rehman S, Munir MK, Iqbal R. Novel coronavirus 2019 (ncov). Pak J Med Res. 2020;59(1):1-2.
4. 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 network open. 2020;3(3):e203976-e.
5. Bai Y, Lin C-C, Lin C-Y, Chen J-Y, Chue C-M, Chou P. Survey of stress reactions among health care workers involved with the sars outbreak. Psychiatric services. 2004;55(9):1055-7.
6. Khan YH, Mallhi TH, Alotaibi NH, Alzarea AI. Work related stress factors among healthcare professionals during covid-19 pandemic; a call for immediate action. Taylor & Francis; 2020. p. 244-5.
7. Hellewell J, Abbott S, Gimma A, Bosse NI, Jarvis CI, Russell TW, et al. Feasibility of controlling covid-19 outbreaks by isolation of cases and contacts. The Lancet Global Health. 2020;8(4):e488-e96.
8. Family safety & health. Job-related stress amide the covid-19 pandemic. [updated 202, cited, january 11, 2021]. Availble from website: [https://www.Safetyandhealthmagazine.Com/articles/20517-job-related-stress-amid-the-covid-19-pandemic].
9. Campo-Arias A, Pedrozo-Cortés MJ, Pedrozo-Pupo JC. Pandemic-related perceived stress scale of covid-19: An exploration of online psychometric performance. Revista Colombiana de psiquiatria (English ed). 2020;49(4):229.
10. Torales J, Ríos-González C, Barrios I, O'Higgins M, González I, García O, et al. Self-perceived stress during the quarantine of covid-19 pandemic in paraguay: An exploratory survey. Frontiers in psychiatry. 2020;11:558691.
11. Chekole YA, Yimer Minaye S, Mekonnen Abate S, Mekuriaw B. Perceived stress and its associated factors during covid-19 among healthcare providers in ethiopia: A cross-sectional study. Advances in Public Health. 2020;2020:1-7.