Annals of Psychophysiology

Ann. psychophysiol.
ISSN 2412-3188 (Online) | 2410-1354 (Print)

Original Article

Prevalence of stress, anxiety, depression, and job dissatisfaction in health care professional dealing with covid-19 patients

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Abstract

Background: In Pakistan, Health care professionals already suffer a lot mentally due to work burden and health risks, COVID-19 added more stress to the situation. This study aims to evaluate stress, anxiety, and depression with job satisfaction in health care professionals treating COVID-19 Patients.

Methodology: A cross-sectional study was conducted among health care professionals, working at COVID-19 hospitals (private and public sector hospitals both). Data was collected from special units like isolation wards, and intensive care units. The study questionnaire consists of a socio-demographic section followed by the Depression, Anxiety, and Stress Scale (DASS-21) for measuring stress, anxiety, and depression (SAD). Moreover, War Cook Wall (1979) job satisfaction questionnaire was also used.

Results: Study data reveals moderate to severe levels of anxiety (21.7% to 22.5%) and depression (22.5%, 13.3%) among healthcare providers. An association between age, marital status, organization, and occupation with depression at a p-value < 0.05 was noticed. A moderate degree of job satisfaction is found in overall job satisfaction. The majority of participants showed dissatisfaction in terms of income. Overall average level of satisfaction was found in rest of the items of WCW questionnaire.

Conclusion: The study disclosed that the majority of healthcare professionals were found to have stress, anxiety, and depression.

Keywords

COVID-19, Healthcare professional, Depression, Anxiety, and Stress, Job Satisfaction.

OPEN ACCESS

Citation: Arzoo A, Ali SM. Prevalence of stress, anxiety, depression, and job dissatisfaction in health care professional dealing with covid-19 patients. APP. 2022; 9(1): 28-38

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DOI: 10.29052/2412-3188.v9.i1.2022.28-38

Received 16/03/2022

Accepted 26/05/2022

Published 01/06/2022

Funding: The author(s) received no specific funding for this work.

Conflicts of Interests: The authors have declared that no competing interests exist.

ISSN 2412-3188 (Online) | 2410-1354 (Print)

Introduction

At the end of 2019, In Wuhan, China a new virus was identified which was not previously found in a human is known as Coronavirus (COVID-19)[1]. The infection grows very quickly worldwide that in March 2020, World Health Organization announced it as an epidemic, a global health emergency. End of November 20, COVID 19 spread in 220 countries, infecting 62 million+ people in the world, and 1456k plus deaths occurred due to this infectious disease[2]. Coronavirus is an infectious disease that spread through a droplet of saliva or discharge from the nose and infects other people mainly the lungs and airways by infected person cough and sneezing. This disease affects people in different ways with moderate to severe illness leading to hospitalization and intensive care management[2]. In response to this outbreak, there had been confusion in decision making and insufficient resources to properly allocate the professionals for their protection as well as to treat patients[3]. This situation advanced towards further harm to patient health which may ultimately compromise the quality of healthcare workers[4].

On account of the destructive effects of COVID-19 globally, affected countries in the world have been picking exceptional measures to curb this outbreak like quarantine, complete lockdown in the severely affected areas, and smart lockdown in mild to moderate suffering areas. Closing of intercity transportations, ban on public gatherings, and physical education converted to online education[5]. Psychological symptoms like stress, anxiety, panic, fear and paranoid behaviors in people rose extremely that people avoid all kinds of gatherings and get together even within the home. Reduced levels of autonomy and highly disturbed about their earnings, and employment surety has already been noticed in a population[6]. Not only local people of communities, it is noticed that healthcare workers are also at high risk of developing psychological problems easily due to multiple reasons like late working in COVID units, and high chances of getting infected because of close relationships with the patients in hospitals. This would open to stress, anxiety, burnout, and depressive symptoms, like the fear of getting an infection, which was so common that many healthcare workers took casual or earned leaves, which ultimately compromise the role of the health sector to provide healthcare aid during the catastrophe. All of the above-mentioned risk factors can exaggerate stress, anxiety, and depression along with job dissatisfaction[7].

Occupational stress is a heightened source of job-related illnesses plus burnout, especially in healthcare providers[8]. When COVID-19 came into being it added spice to work-related stress and psychological issues in the battle of saving lives. Additionally late working hours in special units and demand to do more from HCWs during the worldwide reaction to this pandemic. The need for HCWs increases as the disease spread out of our imagination because they represent one of the riskiest individuals in curbing the transmittable disease. Many HCWs working as the forefronts soldiers of the COVID-19 outbreak have become infected and a majority of them had been in quarantine after exposure[9].

According to American Psychiatric Association, Anxiety is a response of the body to a perceived threat that is triggered by an individual's beliefs, feelings, and thoughts and is characterized by worrying thoughts, tension, increased blood pressure, respiratory rate, pulse rate, sweating, the difficulty of swallowing, dizziness, and chest pain[10]. Whereas depression can be defined as "Depression is a common and serious

ISSN 2412-3188 (Online) | 2410-1354 (Print)

medical illness that negatively affects how you feel, the way you think, and how you act". Depression causes feelings of sadness and/or a loss of interest in activities you once enjoyed. It can lead to a variety of emotional and physical problems and can ultimately decrease your ability to function at work and home[11]. Last year's meta-analysis revealed that stress, anxiety, and depression along with other psychological stressors were common outcomes in healthcare providers during the COVID-19 pandemic, and is mostly in females and in those who had direct physical contact with COVID-19 patients[12].

A recent overview of the literature showed that the majority of the study participants (51.6%, mean age 25 -31 years) were presented with having perceived stress for coronavirus disease. Immediate screening and counseling of stress-related issues among frontline healthcare workers based on the findings are suggested[13]. Last year study done in Canada revealed that one-third of the study candidates were disturbed about the current epidemic[14]. Another German research reported a higher number of HCWs were upset about COVID-19[15]. Online poll research done in the USA tells that 56% of candidates were tensed about the spread of COVID-19 infection from person to person[16]. One more related research run in the USA revealed that participants were more disturbed about COVID-19 in contrast to seasonal influenza and routine infections [7,16]. Very few studies have a look into the psychological well-being and the professional domain of HCWs during the COVID-19 pandemic[17].

As there is a run of the third wave of coronavirus and prediction of the fourth wave that is delta variant in Pakistan nowadays which is more lethal than previous waves. Karachi city is on top of the list for COVID Positive patients on daily basis; ultimately it creates pressure on hospitals and medical professionals. According to the economic survey of Pakistan 2019-2020, the health sector in Pakistan already is in the most critical condition having poor infrastructure and very low manpower. In the economic survey, it is mentioned that the health sector showed some improvement, but the improvement is not up to the mark and ultimately health sector still suffering and taking its last breaths. The total population of Pakistan is 227 million by June 2021[18]. The pathetic situation is that only 1979 hospitals for this population (public sector hospital 1279, a private sector hospital 700). The available bed for approx 1700 people is only 1 and 1 physician for approx 950 persons. The ratio of doctor to nurse is also pathetic that only one nurse is to serve two doctor orders as per the economic survey of Pakistan 2019-2020. So, the rationale of this study is to effectively research the domain of health care and processes as this sector is very important and neglected. The common research topics include immediate care and surgery, genetics, vaccine development, plasma antibodies, vaccine trials, and worldwide reaction to the COVID-19 epidemic but there is a lack of psychological health research and only a few studies have talked about the effects of the COVID-19 outbreak in healthcare workers welfare and safety. The main aim of this study is to study the stress, anxiety, and depression with job satisfaction among health care professionals dealing with COVID-19 Patients in hospitals.

Methodology

Participants

A cross-sectional study was conducted from 15th Dec 2020 to 15 March 2021. The subjects for this study were healthcare professionals, working public and private hospitals dealing with COVID-19 patients.

ISSN 2412-3188 (Online) | 2410-1354 (Print)

Health care professional is a broad term, but we included Doctors, nurses, ICU technicians, respiratory therapists/ICU Technologists. The calculated sample size was 140 but as of COVID-19, 3rd and 4th wave, the majority of hospitals refused to participate in the study.

A purposive sampling technique was used in this study and a total 129 healthcare providers participated in this study. While, 9 forms were incomplete, therefore, excluded from the statistical analysis.

Measures

The questionnaire consisted of three sections. The first section focused towards socio-demographics of the study participants that includes gender, age, marital status, living arrangement, organization, and occupation.

The second section was for depression, anxiety, and stress. Which was evaluated by the Depression, Anxiety, and Stress Scale (DASS-21 Lovibond and Lovebird, 1995). The scale is comprised of 21 items measured on a 4- points Likert scale (never, sometimes, often, almost always) which evaluates the three psychological sub-dimensions of psychological distress, namely anxiety, depression, and stress. The score was distributed in normal, mild, moderate, severe, and extremely severe categories for each subscale. Regarding the construct validity, this scale was detected identifying values above the 75° percentile based on normative data[19].

And the third section was for Job satisfaction and it was measured with the previously validated version of the 10-item Warr–Cook–Wall (WCW) job satisfaction scale developed by Warr et al[4]. The WCW instrument measures extrinsic satisfaction from items 1,3,6, and 8 and intrinsic satisfaction from items 5 and item 10 asks for overall job satisfaction. For scoring each item rated on a 7-point Likert scale (1 = extremely dissatisfied to 7 = extremely satisfied). The ranks of low satisfaction, moderate satisfaction, and high satisfaction of individual items were set to score of the individual item as mentioned in the research. For each item, 1 to 3 score was categorized as low satisfaction, score 4 to score 5 was marked as moderate satisfaction, and score 6 to score 7 was marked as high satisfaction[20].

Procedure

The data was collected in two folds. The first method was to collect data electronically. The second method was the in-person data collection method. Health care providers were approached, and participants were explained the objective of this study, the study participants were asked to fill out the questionnaire and return the filled one on the spot. The area for approaching subjects in hospitals was their sitting room and SOPs for the COVID-19 prevention were completely followed by subjects and researcher.

Statistical Analysis

The data were statistically analyzed using SPSS (Statistical package for social science version 26.0). Descriptive statistical tests were conducted to observe the frequencies of socio-demographic variables of the sample. Overall percentages for the DASS-21 subscale Scoring are also seen in percentages. One-way ANOVA was used to test all hypotheses for this study. To see the association between two variables Chi-Square test was applied. The significance level was set at α=0.05.

Result

Table one represents the total of 120 subjects who took part in this study of which the majority were male participants 71 (59.2%).

ISSN 2412-3188 (Online) | 2410-1354 (Print)

While the majority of the respondents 54 (45.0%) age were between 26-30 years. Majority of subjects were married that is 58 (48.3%). Of the total participants who were serving in a Private organization 75 (62.5%), and the majority were living in a joint family system 80 (66.7%). Maximum no of participants was nurses that are 42 (35.0%) (Table 1).

Table 1: Frequency distribution along with percentages of socio-demographic variables.

Study Variables		n (120)	%
Gender	*Male*	71	59.2
	Female	49	40.8
Age	*21-25*	33	27.5
	26-30	54	45.0
	31-35	22	18.3
	36-40	9	7.5
	>45	2	1.7
Marital Status	*Married*	57	50
	Unmarried	58	48.3
	Divorced	3	2.5
	Widow	2	1.7
Organization	*Public Sector*	45	37.5
	Private Sector	75	62.5
Living Arrangement	*Joint Family*	80	66.7
	Nuclear Family	30	25.0
	Alone	10	8.3
Occupation	*Doctor*	37	30.2
	Nurses	42	35.0
	ICU Technician	9	7.5
	Respiratory therapist/ICU Technologist	32	26.7

Table 2 shows the overall distribution of DASS-21 Scoring in overall (N=120) members. In which moderate levels of depression, anxiety, and stress were seen in participants that are 22.5%, 21.7%, and 25.0%. While the extremely severe level of anxiety is also seen. It shows the overall presence of depression, anxiety, and stress up to some extent (Table 2).

Table 2: Severity percentages of DASS-21 (N=120).

Severity	Depression n (%)	Anxiety n (%)	Stress n (%)
Normal	48 (40.0)	29 (24.2)	53 (44.2)
Mild	16 (13.3)	6 (5.0)	18 (15.0)
Moderate	27 (22.5)	26 (21.7)	30 (25.0)
Severe	16 (13.3)	27 (22.5)	14 (11.7)
Extremely severe	11 (9.2)	30.0 (25.0)	4 (3.3)
Total			120

Table 3 represent the normal spread of DASS-21 with occupational variables.

ISSN 2412-3188 (Online) | 2410-1354 (Print)

Table 3: Frequency distribution of health care professionals with DASS-21 Scoring (N=120).

Occupation	DASS-21 Scoring.					Total
	Normal	Mild	Moderate	Severe	Extremely Severe	
Doctor	10	4	7	6	10	37
Nurse	9	2	8	4	17	40
ICU technician	1	0	2	5	1	9
RT/ICU Technologist	9	0	9	12	2	32
Total	29	6	26	27	30	118

The frequency distribution of the health care professionals with association of DASS-21 Scoring is shown in Table 4.

Table 4: Frequency distribution of health care professionals with DASS-21 Scoring (N=120).

Items	Job Satisfaction Scale		
	Mild n %	Moderate n %	High n %
1. Physical working condition (EX)	30 (25.0)	64 (53.3)	26 (21.7)
2. Freedom of working method	30 (25.0)	61 (50.8)	27 (22.5)
3. Colleagues and fellow workers (EX)	24 (20)	64 (53.3)	32 (26.7)
4. Recognition for your work	24 (20.0)	63 (52.5)	33 (27.5)
5. Amount of responsibility (INT)	29 (24.2)	60 (50.0)	31 (25.8)
6. **Income (EX)**	51 (42.5)	60 (50.8)	8 (6.7)
7. Opportunity to use your ability	27 (22.5)	62 (51.7)	30 (25.0)
8. Hours of work (EX)	31 (25.8)	61 (50.8)	27 (22.5)
9. Amount of variety in your job	28 (23.3)	61 (50.8)	30 (25.0)
10. Overall job satisfaction	24 (20.0)	63 (52.5)	33 (27.5)
Total			120

The significance of organizations associated with stress, anxiety and depression through DASS-21 is shown in Table 5 (α = <0.05).

Table 5: Association of Stress, anxiety, and depression through DASS-21 to Organization.

		ANOVA				
		Df	**SS**	**MS**	**F**	**P**
DASS stress scoring	Between Groups	1	.801	.801	.546	.461
	Within Groups	117	171.770	1.468		
DASS anxiety scoring	Between Groups	1	1.603	1.603	.707	.402
	Within Groups	117	262.914	2.267		
DASS depression scoring	Between Groups	1	11.810	11.810	6.531	**.012**
	Within Groups	117	209.783	1.808		
Total (N)						118

ISSN 2412-3188 (Online) | 2410-1354 (Print)

Table 6 shows the significance of age with stress, anxiety and depression through DASS-21 at (α = <0.05).

Table 6: Association of Stress, anxiety, and depression through DASS-21 to Age:

		ANOVA				
		Df	**SS**	**MS**	**F**	**P-value**
DASS stress scoring	Between Groups	4	5.886	1.472	1.006	.407
	Within Groups	114	166.685	1.462		
DASS anxiety scoring	Between Groups	4	10.760	2.690	1.198	.316
	Within Groups	114	253.757	2.246		
DASS depression scoring	Between Groups	4	21.481	5.370	3.033	**.020**
	Within Groups	114	200.112	1.771		
Total (N)						118

Table 7 shows the significance of occupation with stress, anxiety and depression through DASS-21 (α = <0.05).

Table 7: Association of Stress, anxiety, and depression through DASS-21 to Occupation:

		ANOVA				
		Df	**SS**	**MS**	**F**	**P**
DASS stress scoring	Between Groups	3	4.399	1.466	1.003	.394
	Within Groups	115	168.172	1.462		
DASS anxiety scoring	Between Groups	3	6.628	2.209	.977	.406
	Within Groups	115	257.889	2.262		
DASS depression scoring	Between Groups	3	15.244	5.081	2.807	**.043**
	Within Groups	115	206.349	1.810		

The significance of marital status with stress, anxiety and depression through DASS-21 is shown in Table 8 (α = <0.05).

Table 8: Association of Stress, anxiety, and depression through DASS-21 to Marital Status:

		ANOVA				
		Df	**SS**	**MS**	**F**	**P**
DASS stress scoring	Between Groups	3	3.835	1.278	.871	.458
	Within Groups	115	168.736	1.467		
DASS anxiety scoring	Between Groups	3	10.944	3.648	1.640	.184
	Within Groups	115	253.573	2.224		
DASS depression scoring	Between Groups	3	23.071	7.690	4.416	**.006**
	Within Groups	115	198.523	1.741		
Total (N)						118

ISSN 2412-3188 (Online) | 2410-1354 (Print)

There is a significant relationship between occupation and overall job satisfaction (25.27, N=120) df = 4, p = .000 (Table 9).

Table 9: Correlation of Occupation and overall job satisfaction:

	Chi-Square Tests		
	χ 2	Df	P value
Pearson Chi-Square	25.27	4	.000
Total (N)			120

Discussion

Our study focuses to see the psychological outcome of the COVID-19 pandemic on health care workers and also how much they are satisfied with their jobs during this pandemic. In this study, the overall prevalence of psychological issues in health care providers shows that depression was seen and ranged from moderate to severe and extremely severe 22.5% to 13.3% and 9.2%, while anxiety shows more significant and ranged from moderate to severe and extremely severe that is 21.7%, 22.5%, 25.0 %. Whereas, stress is also seen at a moderate level of 25.0%. This finding is consistent with many other previous findings[21-23].

Generally, Nurses are subject to numerous aggravations from the biological, emotional, and societal working atmosphere which are noticeably high among the front-line nurses working in COVID-19 tertiary care hospitals. Significant moderate level of anxiety measured by DASS-21, the overall impact is seen in nurses which is a notable finding in this study that is 31 nurses out of 40 in this study have psychologically affected in this outbreak. These findings were supported by other findings in which occupational stress was significantly seen in paramedics[24]. This is also consistent with another study that revealed that the unexpected emergencies originated from the COVID-19, the high number of reported cases validated or suspicious, and work overload indulging nurses under intense pressure. [17], Another study expresses that this virus emerged panic emotions in people and if paramedics are not planned to face these emotions they may ultimately go into significant tension[25]. Well, it was also observed that doctors also expressed notable levels of anxieties treating patients during this pandemic. In this study 27 out of 37 doctors reported anxiety at different levels from mild to extremely severe. Usually, physicians don't report any stressors or anxiety feeling in their normal practice but this outbreak also upset doctors' mental health very seriously[26]. Whereas, anxiety and stress were reported by doctors in many studies[27,28].

We have also seen the job satisfaction in health care providers to see how satisfied they are with their jobs so we saw a moderate level of satisfaction in all items of the scale shown in table 4. But the health care providers showed low satisfaction with their income as 42.5% of participants are not happy with their income. The annual income of HCW is not satisfactory at all[29]. Health care providers are not happy with their salaries not only in Pakistan but also worldwide[24,30-32]. When job satisfaction compare with occupation to evaluate the association between job satisfaction and different occupation of healthcare providers so the result was significant as shown in table 9 and showed an association between them at α=0.05. This finding is contrary to the previous finding in which COVID 19

ISSN 2412-3188 (Online) | 2410-1354 (Print)

associated stressors in HCW had high-stress levels, workload, and the average level of job dissatisfaction presented[33,34]. But one study supports our findings of a significant association between job satisfaction and occupational stress among professionals with other socio-demographic variables seen in health care professionals[24]. We can comment on this finding. After all, the literature and our hypothesis are contrary to our findings because the literature is not from the COVID-19 era. There are several factors in which we get this result significant as the sample size was small enough that we can't comment on these findings. If the sample size increases maybe there would be a chance of change in results. Secondly in Pakistan, the impact of COVID-19 posed no such serious impact on people and the Healthcare sector as in the rest of the world and neighboring countries[35,36]. This might be due to the government having precautionary measures on time, especially the smart lockdown strategy, which ultimately leads to less burden on disease and the economy even in lethal variants[37].

When DASS subscale scoring compared with a socio-demographic variable by one-way ANOVA in tables 5,6,7 and 8 shows significance at $\alpha=0.05$, we see a good significant level for age, marital status, organization, and occupation. It indicates there is a strong relationship between age group with depression, marital status with depression, organization with depression, and occupation with depression at a P value of 0.020, 0.006, 0.012, and 0.043 respectively. This finding of our study is strongly supported by other literature results as occupational stress in healthcare workers with a variety of socio-demographic variables depends dynamically[13,24,27,34].

Limitations of the study

The study was limited to those health care professionals who are dealing with COVID-19 Patients in special COVID Units. Sample size was small because of multiple reasons like the refusal of hospital management. Duration of this study was short, and the lockdown measures for safety also limit our study. Due to the small sample size, the statistical finding was also limited.

Conclusion

In conclusion, the study disclosed that the majority of healthcare professionals showed stress, anxiety, and depression during the COVID-19 era. The other socio-demographic variables like age, organization, and occupation have a strong association with depression. We saw a significant relationship between occupation and job satisfaction of health care professionals.

Acknowledgment

Authors would like to acknowledge and thank to Sindh Infectious Disease Hospital and Research Centre, Nepa, Karachi, and Dow University Hospital COVID-19 Units for the support and help in data collection.

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