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## Psychological impact of COVID 19 on confirmed positive health care workers of a selected government hospital

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### Abstract

**Background:** The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an emerging infection causing a widely spread pandemic of Coronavirus disease 2019 (COVID-19). The current COVID-2019 pandemic is prompting fear of falling sick, dying, helplessness and stigma, urgent and timely understanding of mental health status of the people who are infected with COVID-19 is needed both from medical and non-medical professionals. Our investigation designed to survey the psychological impact of COVID-19 on confirmed positive health care workers of a selected government hospital, Dubai, UAE

**Methods:** During the later months of the year 2021, we conducted an online-based survey using a purposive sample technique. The surveys collected data about aspects of participant sociodemographic, psychological impact, and mental health status. We assessed the psychological impact and mental health status using the Impact of Event Scale-Revised (IES-R), and the Depression, Anxiety, and Stress Scale (DASS-21).

**Results:** Our survey recruited 117 respondents of the both medical and non-medical professionals. Average score of the participants on the impact of event scale (IES-R) questionnaire was  $29.5 \pm 33$ . More than half of the participants (66.6%) had normal scores on the IES-R, but 12.8% had scores in the mild range, 3.41% in the moderate range and 17.9% classified as severe. On the DASS, 50.9% had normal scores on the stress subscale, 55.2% on the anxiety subscale, and 58.9% on the depression subscale. Severe symptoms of stress were experienced by 4.3%, which is more or less similar to the 5.6% who experienced severe symptoms of depression and 7.9% who experienced severe symptoms of Anxiety.

**Conclusion:** Throughout the different waves of the COVID-19 outbreak in UAE, the results showed that nearly one-fourth of the sampled population experienced moderate to severe psychological impact. Following specific precautionary measures appeared to have a protective effect on the individual's mental health. Our findings can be used to construct psychological interventions directed toward vulnerable populations and to implement public mental health strategies in the early stages of the outbreak.

**Keywords:** Coronavirus, IES, psychological impact, pandemic, depression, anxiety, stress

### 1. Introduction

Since its inception in December 2019 in the Hubei province of China, the novel coronavirus disease (COVID-19) is spreading rapidly both locally and internationally (Li *et al.*, 2020; Zhu *et al.*, 2020) [28, 31]. In only a span of a month, the disease caused by the virus was considered a public health emergency by the World Health Organization and was declared a pandemic by March 2020 (WHO, 2020) [27]. Amidst the development of this infectious disease in 206 countries throughout the world, health care workers remain the main persons involved in the screening and treatment of this condition throughout. Despite remaining the crisis management personnel, the HCW are not themselves immune to the psychological consequences due to COVID-19. Among the healthcare workers also, the front-line workers involved directly in handling these patients are at greater risk than others. The reasons for such adverse psychological outcomes in them range from excessive workload/work hours, inadequate personal protective equipment, over-enthusiastic media news, feeling inadequately supported (Cai *et al.*, 2020; Tam *et al.*, 2004; Lee *et al.*, 2018; Styra *et al.*, 2008) [32, 33, 34, 35].

Another important reason for such psychological impact is the infection rate among medical staff. The sudden reversal of role from HCW to a patient might lead to frustration, helplessness, adjustment issues, stigma, fear of discrimination in the medical staff (Rana *et al.*, 2020) [36].

To the best of our knowledge, there are limited published studies assessing the Health care workers psychological impact to the emerging coronavirus infections in UAE. Therefore, this study aims to measure the degree of psychological impact among the health care workers in selected government hospitals resulted from the COVID-19 pandemic.

## 2. Materials and Methods

### 2.1. Study design and setting

This study followed a cross-sectional design to assess the health care workers psychological impact on the COVID19 pandemic in selected government hospitals of Dubai, UAE. We used an online-based questionnaire distributed through WhatsApp and emails, participants. Physical distribution was not feasible due the ongoing pandemic situation. Participants have received the survey request through WhatsApp's and email links given by the head of the departments and the in charges and supervisors after getting the verbal consent from the participants. After clicking on the link of the survey, a cover page showing the study's title, purpose, and needed time for completion showed up. If they agreed to participate, they were asked to click "start the survey," and then they start answering the survey questions.

### 2.2 Study procedure

As mentioned earlier, the survey was distributed during a period pandemic situation, therefore, we followed an online data collection technique. The survey was done online by using a common platform of Dubai health authority (Microsoft forms online). The study protocol was approved by the Dubai Scientific Research Ethics Committee (DSREC), Dubai Health Authority, Reference No (DSREC-08/2021\_07). All participants were informed about study purposes and provided informed consent. Data were kept confidential and were not disclosed unless for study purposes. Data collected was conducted over a period of 3 weeks (November to December 2021) after one and half year of the Covid-19 infection and social distancing measures were still being implemented and strictly guidelines were followed by the health authorities. The calculated sample size was 117 based on the assumption of anticipated% frequency (p) of more than 50 percent of respondents will have psychological impact of the outbreak as moderate or severe in previous studies, 5% margin of error, confidence interval(%) of 95% and a design effect of 3 as we followed non-probability sampling.

### 2.3 Survey

The adopted questionnaire covers several aspects of participant sociodemographic, psychological impact. Sociodemographic variables of participants included age, year of experience, Religion, marital status, designation, nationality, no of children, previous history of medical conditions or comorbidities if any.

The second part of the survey assessed the psychological impact of COVID-19 using the Impact of Event Scale-

Revised (IES-R) and Depression, Anxiety, and Stress Scale (DASS-21), both scales used previously in so many studies in assessing psychological impact related to SARS and COVID-19. The IES-R is an easily self-administered questionnaire to assess the symptoms of posttraumatic stress disorder PTSD after traumatic event experience in the past years. This 22-item scale is composed of three subscales measure the mean avoidance, intrusion, and hyper arousal. Responses to each item were rated from 0 to 4, where 0 indicates Not at all and 4 extremely. The total IES-R score was subdivided into 0-23 (normal), 24-32 (mild), 33-36 (moderate), and > 37 (severe psychological impact) [14].

Furthermore, Mental health status was assessed using the DASS has been shown to be a reliable and valid measure in assessing mental health status. This scale is composed of three subscales, depression, anxiety, and stress. Each subscale is composed of seven items, and each response was rated from 0 to 3, where 0 indicates 'Did not apply to me' and 3 indicated 'Applied to me most of the time'. Depression subscale was assessed in items 3, 5, 10, 13, 16, 17, and 21. The total score depression subscale score was subdivided into normal (0-9), mild (10-12), moderate (13-20), severe (21-27), and extremely severe depression (28-42). Anxiety subscale assessed in items 2, 4, 7, 9, 15, 19, and 20. The total score of anxiety subscale was subdivided into normal (0-6), mild (7-9), moderate (10-14), severe (15-19), and extremely severe anxiety (20-42). Stress subscale is constructed by items 1, 6, 8, 11, 12, 14, and 18. The total score of stress subscale was subdivided into normal (0-10), mild (11-18), moderate (19-26), severe (27-34), and extremely severe stress (35-42).

### 2.4 Statistical analysis

As described in the study methodology, statistical analysis was carried out using Excel data analysis tool Pak., The data were cleaned, sorted, and processed prior to commencement of analyses. The survey's answers fields were designed to be mandatory to be filled before proceeding to the next section, options such as "None" or "I don't know" were provided when necessary in order to proceed and minimize missed data. Descriptive analyses were conducted for sociodemographic characteristics. The results of these analyses were presented using frequencies and percentages for categorical variables and means and standard deviations for continuous variables using the total sample (n = 117) as the base. The psychological impact of the COVID-19 pandemic was measured using scores on the IES-R and the three subscales of the DASS; results presented in means and standard deviation. Univariate analyses to determine the presence and strength of associations between individual variables and scores on each of the four scales (IES-R, DASS-stress, DASS-anxiety, and DASS-depression) were carried out using linear regressions. All tests of associations were carried out at a level of significance of <0.05 and 95% confidence Interval.

## 3. Results

Percentage analysis is one of the statistical measures used to describe the characteristics of the sample or population in totality. Percentage analysis involves computing measures of variables selected of the study and its finding will give easy interpretation for the reader.

**Table 1:** Shows Variable, Category, Nos, Percentage, mean and SD

S. No.	Variable	Category	Nos	Percentage	mean	SD
1.	Years of Experience	<5years	62	52	33.25	19.44
		6-10years	26	22		
		11-15years	19	16		
		>15years	26	22		
2.	Age	20-25yrs	2	1	13.3	19.6
		26-30yrs	2	1		
		31-35yrs	36	31		
		>35yrs	77	67		
3.	Marital status	Single	13	11	23.4	43.1
		Married	100	85		
		Divorced	1	0.85		
		Widowed	2	1.7		
		Separated	1	0.85		
4.	Nationality	Indian	69	59	16.7	24.5
		Arab	16	14		
		Emirati	4	0.35		
		Philippine	23	20		
		Pakistan	1	0.85		
		African	2	1.7		
Any other	2	1.7				

Out of 117 staff from both medical and non-medical 52 percentage of staff are having less than 5 years of experience, 22 percentage of staff are having More than 15 years of experience, 16 percentage of staff are having 11 to 15 years of experience and remaining 22 percentage of staff are having 6 to 10 years of experience. Around (77) 67% of staff are above 35 years of age, and 36(31%) of participants are between 31 to 35 years of age. Very less percentage of staff are belonging to the age of 20 to 25 and 26 to 30 which is 1% for both the age groups respectively. Majority 67% of participants falls >35yrs; 31% are 31-35 yrs.; whereas 1% are 26-30yrs and 20-25yrs respectively. 85% of participants are married, 11% are single, 0.85% are divorced and separated respectively, and 1.7% are widower. The study results showed that majority of the participants are Indians,

which is 69%. Arabic population is 14 percent and Philippines are 20 percent respectively. 33 percent of the participants are having 2 children and 30 percent of the participants are having one children and 25 percent of participants are having three children and 2 percentage of participants have no children. Majority of the participants are nurses 73%, remaining participants are 3.4% physicians, Pharmacists 18%, Lab personnel 4.2% and technicians 1.7%. 51% of the participants do not have any preexisting medical conditions. 10% of the participants are suffering with Hypertension, 9 percentage of the participants are having migraine and asthma as a preexisting medical condition, 7 percentage of the participant t are having diabetes.

**Table 2:** Frequency and Percentage of scoring based on Depression, Stress and anxiety scale n-117

Aspects	Never		Sometimes		Often		Almost always	
	No	Percentage	No	Percentage	No	Percentage	No	Percentage
S	59.5	50.9	36.5	31.2	14.7	12.5	5.1	4.3
D	69	58.9	25.2	21.6	15.1	12.9	6.5	5.6
A	64.6	55.2	28.5	24.3	13.6	11.6	9.3	7.9
Mean	64.3	55	30.06	25.7	14.4	12.3	6.96	5.9
SD	4.7	4.00	5.8	4.9	0.7	0.66	2.13	1.8

When assessing the numbers and percentage distribution of DASS scoring shows that more than 50 percentage of the sample never have symptoms of Depression, Anxiety and stress. The Overall score is 55.8%. More than 20 percentage of the sample are having symptoms of depression, anxiety and Stress. Only 4.3% are having stress almost always, 5.6% feeling depressed and 7.9% are having anxiety always.

**Table 3:** Percentage distribution of DASS scoring for assessing the severity related to COVID-19

Categories	Depression	Anxiety	Stress
Normal	59	55.2	51
Mild	21.6	24.3	31.2
Moderate	13	12	12
Severe	6	8	4

Table 3 shows the percentage of DASS scoring for the severity assessment of depression, anxiety and stress level of the participants. More than 50% of the participants do not have depression, anxiety and stress related to COVID-19. Mild levels of Depression, Anxiety and Stress is identified among 21.6%, 24.6% and 31.2% of the participants. Moderate level of Depression (13%), Anxiety (12%) and Stress (12%) are identified among the participants. Less than 10 percentage of the participants are having severe levels of depression, Anxiety and stress which are 6%, 8% and 4% respectively.

Shows the percentage distribution of the IES scoring for the assessment of the severity of PTSD towards COVID-19. About 14.5 percentage of participants score less than 24, and 12.8 percentage of participants scored 24-32, and 3.41% scored 33-36 and 17.9% of participants scored more than 37. With mean + SD of 29.5+33.09.

**Table 4:** Percentage distribution of IES scoring for assessing the severity of PTSD by using the sub scales

Sub scales	0	1	2	3	4
Intrusion (1, 2, 3, 6, 9, 14, 16, 20)	13.7	6.84	11.1	7.69	5.13
Avoidance (5, 7, 8, 11, 12, 13, 17, 22)	22.2	3.42	7.69	3.42	7.69
Hyperpersual (4, 10, 15, 18, 19, 21)	23.9	11.1	8.5	7.6	2.5
Mean	19.9	7.1	9.0	6.2	5.1
SD	5.4	3.8	1.7	2.4	2.5

**Table 5:** Participants data on the Impact of Event scale (IES-R), and the three subscales of the Depression, Anxiety and Stress scale -21 Items (DASS-21)

S. No.	Variable	Category	N (%)	IES-R	DASS-Depression	DASS-Anxiety	DASS-Stress	R Value
				B (95% CI)	B (95% CI)	B (95% CI)	B (95% CI)	
1	AGE	≥30 yrs.	43 (47%)	1.67 (1.4-1.9)	0.06 (0.4-0.12)	-0.05 (-0.2 -0.12)	-0.14 (0.19-0.3)	0.44(NS)
		≤30 yrs.	49 (54%)	3.6 (3.4 -3.8)	0.004 (-0.14 -0.15)	0.06 (-0.10 -0.23)	-0.004 (-0.17 -0.16)	0.2(NS)
2	Years of experience	≥10	39 (43%)	-0.006* (-0.01 to 0.0)	0.02 (-0.15-0.21)	-0.08 (-0.2 -0.09)	-0.18 (-0.4- 0.03)	0.46(NS)
		≤10	49 (54%)	0.006 (0.00 -0.014)	0.004 (-0.14-0.15)	0.06 (-0.1 -0.2)	-0.004* (-0.16 -0.16)	0.2(NS)
3	Marital Status	Married	77 (85%)	-	-	-	-	-
		Single and others	12 (13%)	1.8 (1.3 - 2.2)	0.2 (-0.3 -0.8)	0.5 (-0.03 - 1.17)	0.3 (-0.2- 0.9)	0.87(NS)
4	Nationality	Indians	59 (65%)	-	-	-	-	-
		Philippines	20 (22%)	-	-	-	-	-
		Arabs and Emiratis	8 (8%)	-0.05 (-0.3 to 0.2)	-0.04 (-0.3 to 0.2)	-0.06 (-0.3 to 0.5)	0.0009** (-0.05 to 0.06)	0.5(NS)
		Other nationalities	2 (2%)	--	-	-	-	-
5	Comorbidities	Nil	10 (1%)	-0.001 (-0.02 - 0.02)	-0.006 (-0.08 -0.06)	0.018 (-0.03 - 0.07)	-0.000 (-0.04 - 0.04)	0.6(NS)
		Hypertension	45 (50%)	-	-	-	-	-
		Diabetes	6 (.6%)	-	-	-	-	-
		Asthma	8 (8%)	-	-	-	-	-
		Migraine	7 (7%)	-	-	-	-	-
		Hyperlipidemia	2 (2%)	-	-	-	-	-
6	No of children	Nil	1 (0.01%)	-	-	-	-	-
		1-2	61 (67%)	0.00 (-0.01 -0.01)	0.02 (-0.04 -0.10)	0.04 (-0.01 -0.10)	-0.05 (-0.12 0.01)	0.2 (NS)
		3-4 and above	26 (28%)	-0.001 (-0.02 - 0.02)	0.00 (-0.10 -0.12)	0.03 (-0.09 -0.16)	-0.06 (-0.16 - 0.03)	0.4(NS)

Table 5 shows the average score of the participants on the impact of event scale (IES-R) questionnaire was 29.5±33. More than half of the participants (66.6%) had normal scores on the IES-R, but 12.8% had scores in the mild range, 3.41% in the moderate range and 17.9% classified as severe. On the DASS, 50.9% had normal scores on the stress subscale, 55.2% on the anxiety subscale, and 58.9% on the depression subscale. Severe symptoms of stress were experienced by 4.3%, which is more or less similar to the 5.6% who experienced severe symptoms of depression and 7.9% who experienced severe symptoms of Anxiety.

**Table:** Association between sociodemographic variables and the psychological impact/adverse mental health status during the epidemic (n = 90) among the medical health care providers.

**IES-R:** Impact of Event Scale (IES-R); DASS-21: Depression, Anxiety and Stress Scale - 21 Items; B (95% CI): beta coefficient (95% confidence interval); ^ No "as reference \*  $p < .05$ ; \*  $p < .01$ ; \*\*\*  $p < 0.001$ .

With respect to age, those less than 30 years are more susceptible to adverse mental health outcomes with 3.6 times odds of having higher scores on the IES-R (95% CI: 3.4 to 3.8) and all the subscales depression and anxiety of the DASS. Participants with less experience were more likely to have higher scores on all scales: IES-R and the three subscales of the DASS. Marital status does not show any significance in the scoring except for Single/Divorced/Separated with the IES scoring of (B-1.8, 95% CI: 1.3 - 2.2) 0.2 (-0.3 -0.8), 0.5(-0.03 - 1.17), 0.3(-0.2- 0.9) and the subscales of DASS.

Arab or Emirati nationality was significantly associated with Stress subscale of the DASS (B = 0.009, 95% CI: -0.05 to 0.06). However, Participants who don't have any comorbidities was significantly associated with Anxiety (B = 0.018, 95% CI: -0.03 to 0.07) sub scales of DASS. When participants have children of 1 or 2 they were more likely to have higher scores on the IES (B = 0.00, 95% CI -0.01 to 0.01) and subscales of the DASS comparatively with the number of children of 3 or more.

**Table 6:** Association between sociodemographic variables and the psychological impact/adverse mental health status during the epidemic (n = 27) among the Non- Medical health care providers

S. N	Variable	Category	N (%)	IES-R	DASS-Depression	DASS-Anxiety	DASS-Stress	R Value
				B (95% CI)	B (95% CI)	B (95% CI)	B (95% CI)	
1	AGE	≤30 yrs.	3 (11.2%)	-	-	-	-	-
		≥30 yrs.	24 (88.8%)	-0.004 (-0.03 - 0.02)	-0.02 (-0.14-0.10)	0.12 (-0.02 - 0.26)	-0.07 (-0.16-0.01)	0.5(NS)
2	Years of experience	≤10	17 (62.2%)	0.00 (-0.02- 0.02)	0.01 (-0.15-0.17)	-0.02 (-0.18 - 0.12)	-0.000 (-0.09 - 0.08)	0.4(NS)
		≥10	10 (37.8%)	0.01 (-0.07 - 0.09)	0.07 (-0.12-0.27)	0.15 (-0.2 -0.56)	-0.32 (-0.62- 0.02)	0.82(NS)
3	Marital Status	Married	22 (73.3%)	-	-	-	-	-
		Single and others	5 (16.7%)	-	-	-	-	-
4	Nationality	Indians	10 (37.3%)	-	-	-	-	-
		Philippines	3 (11.1%)	-	-	-	-	-
		Arabs and Emiratis	12 (44.4%)	-	-	-	-	-
		Other nationalities	3 (11.1%)	--	-	-	-	-
5	Comorbidities	Nil	14 (51.8%)	-0.001 (-0.02 - 0.02)	-0.006 (-0.08 -0.06)	0.018 (-0.03- 0.07)	-0.000(-0.04 - 0.04)	0.6(NS)
		Hypertension Diabetes, asthma	8(29.6%)	0.08 (-0.22 - 0.39)	--0.2(-1.2 -0.7)	-0.6(-1.8 -0.6)	0.45(-0.3 -1.2)	0.7(NS)
		Migraine Hyperlipidemia	1 (3.7%)	-	-	-	-	-
		Nil	1 (0.1%)	-	-	-	-	-
6	No of children	1-2	12 (44.4%)	-0.01 (-0.08 - 0.06)	0.007 (-0.4 - 0.46)	0.06 (-0.3 - 0.4)	-0.04 (-0.3 - 0.2)	0.3 (NS)
		3-4 and above	15 (55.5%)	-0.007 (-0.05 - 0.03)	0.04 (-0.1 - 0.2)	-0.04 (-0.30 - 0.21)	0.034 (-0.11 - 0.18)	0.34(NS)
		Nil	1 (0.1%)	-	-	-	-	-

IES-R: Impact of Event Scale (IES-R); DASS-21: Depression, Anxiety and Stress Scale - 21 Items; B (95% CI): beta coefficient (95% confidence interval); ^ No "as reference \*  $p < .05$ ; \*  $p < .01$ ; \*\*\*  $p < .001$ .

Similar to the medical professionals, with respect to age, those less than 30 years are more susceptible to adverse mental health outcomes with 3.6 times odds of having higher scores on the IES-R (95% CI: 3.4 to 3.8) and all the subscales depression and anxiety of the DASS. Participants with less experience were more likely to have lower scores on all scales: IES-R and the three subscales of the DASS than the participants with more experience. Marital status and Nationality do not show any significance in the scoring with the IES scoring and the subscales of DASS.

When participants have children of 1 or 2 they were more likely to have higher scores on the IES (B = -0.01, 95% CI - 0.08 to 0.06) and subscales of the DASS comparatively with the number of children of 3 or more.

#### 4. Discussion

This survey was conducted in the middle of COVID-19 pandemic and enhanced community quarantine was implemented in the selected setting.

The adopted questionnaire covers several aspects of participant sociodemographic, psychological impact, and mental health status. Sociodemographic variables of participants included age, education, marital status, Years of experience, Designation, no of children and the previous comorbidities or any history of chronic medical or psychiatric illnesses if they existed.

The second part of the survey covered the psychological impact of COVID-19 using the Impact of Event Scale-Revised (IES-R) and Depression, Anxiety, and Stress Scale (DASS-21), both scales used previously in assessing psychological impact related to SARS and COVID-19. The IES-R is an easily self-administered questionnaire to assess the symptoms of posttraumatic stress disorder PTSD after traumatic event experience. This 22-item scale is composed

of three subscales measure the mean avoidance, intrusion, and hyperarousal. Responses to each item were rated from 0 to 4, where 0 indicates Not at all and 4 Extremely. The total IES-R score was subdivided into 0–23 (normal), 24–32 (mild), 33–36 (moderate), and > 37 (severe psychological impact).

Mental health status was assessed using the DASS-21. DASS has been shown to be a reliable and valid measure in assessing mental health status among the selected population. This scale is composed of three subscales, depression, anxiety, and stress. Each subscale is composed of seven items, and each response was rated from 0 to 3, where 0 indicates 'Did not apply to me' and 3 indicated 'Applied to me most of the time' Depression subscale was assessed in items 3, 5, 10, 13, 16, 17, and 21. The total score depression subscale score was subdivided into normal (0-9), mild (10-12), moderate (13-20), severe (21-27), and extremely severe depression (28-42). Anxiety subscale assessed in items 2, 4, 7, 9, 15, 19, and 20. The total score of anxiety subscale was subdivided into normal (0-6), mild (7-9), moderate (10-14), severe (15-19), and extremely severe anxiety (20–42) [17]. Stress subscale is constructed by items 1, 6, 8, 11, 12, 14, and 18. The total score of stress subscale was subdivided into normal (0-10), mild (11-18), moderate (19-26), severe (27-34), and extremely severe stress (35-42). Statistical analysis was carried out using Microsoft excels. The data were cleaned, sorted, and processed prior to commencement of analyses. The survey's answers fields were designed to be mandatory to be filled before proceeding to the next section, options such as "None" or "I don't know" were provided when necessary in order to proceed and minimize missed data. Descriptive analyses were conducted for sociodemographic characteristics.

The results of these analyses were presented using frequencies and percentages for categorical variables and means and standard deviations for continuous variables using the total sample (n=117) as the base. The psychological burden of the COVID-19 pandemic was measured using scores on the IES-R and the three subscales of the DASS; results presented in means and standard deviation. Univariate analyses to determine the presence and strength of associations between individual variables and scores on each of the four scales (IES-R, DASS-stress, DASS-anxiety, and DASS-depression) were carried out using linear regressions. All tests of associations were carried out at a level of significance of <0.05 and 95% confidence interval.

With a range of 0 to 88, the average score of the participants on the revised impact of event scale (IES-R) questionnaire was 29.5±33. More than half of the participants (66.6%) had normal scores on the IES-R, but 12.8% had scores in the mild range, 3.41% in the moderate range and 17.9% classified as severe. On the DASS, 50.9% had normal scores on the stress subscale, 55.2% on the anxiety subscale, and 58.9% on the depression subscale. Severe symptoms of stress were experienced by 4.3%, which is more or less similar to the 5.6% who experienced severe symptoms of depression and 7.9% who experienced severe symptoms of Anxiety.

During this time, Moderate level of Depression (13%), Anxiety (12%) and Stress (12%) are identified among the participants. Less than 10 percentage of the participants are having severe levels of depression, Anxiety and stress which are 6%, 8% and 4% respectively.

However, these levels were lower than the rates reported by Salari *et al.* (2020) [21] which were 33.7%, 31.9% and 29.6% for depression, anxiety, and stress respectively. In China, the majority reported worse psychological impact with overall mean IES-R scores more than 24 points, indicating the presence of post-traumatic stress disorder symptoms (Wang *et al.*, 2020a; Wang *et al.*, 2020b) [26]. Different populations in the world have been experiencing pandemic fear which can worsen feelings of anxiety that can lead to mental health disorders. Previous experiences of outbreaks like those caused by SARS, Ebola, and MERS-CoV contribute to heightening the impact of the present pandemic.

During pandemics, healthcare workers are at the front lines. They are subjected to long working hours, risk of infection, shortages of protective equipment, loneliness, exhaustion and separation from families (Kang *et al.*, 2020) [9]. They are at a significant risk of adverse mental health outcomes. However, our study shows that medical staff had lower levels of psychological impact, and symptoms of stress and depression than non-medical comparable to the survey done among health care workers in Singapore (Tan *et al.*, 2020) [24]. This can be due to their strong sense of duty and ability to adapt to crisis. It can also be because the survey was done during later part of the COVID-19 pandemic when cases were still low and the health care system was in place and the number of deaths and hospital admissions were reduced. As the pandemic ensues, mental health policies are needed to support our medical professionals and other front-line workers who are in direct contact with the patient.

In this study, most respondents rated their current health status as good. And found to be more than 50 percentage of the participants didn't have any comorbidities. More than 60% of respondents who had medical health coverage and

insurance coverage so anxiety symptoms are less, which assured to cover the full cost of COVID-19 hospitalization to its members. Moreover, the most reported comorbidities were hypertension (10%), diabetes and asthma (7%). This may be explained by the fact that the novel coronavirus found to be more aggressive on people with comorbidities and below-optimal health status, which may result in more psychological burden and excessive worry.

The overwhelming majority of respondent's nationality is strongly associated with DASS and IES scoring. However, those with lesser degrees of confidence (low, moderate) were likely to be associated with a higher level of depression, anxiety, stress, and psychological impact, as reported by Wang *et al.*

The restriction in social mobility during the initial phase of COVID-19 pandemic to is stressful as it prevents face-to-face connections and traditional social interactions (Zhang *et al.*, 2020) [28]. Medical staff exhibited less symptoms of anxiety and depression compared to non-medical staff. While isolation may be a necessary preventive measure, adequate information, opening lines of communication and provision of essential supplies to those confined may improve psychosocial outcomes (Brooks *et al.*, 2020) [2].

The present study has some limitations.

First, the survey was done online and administered in the English language. Majority of respondents were well educated with access to the internet.

Second, the purposive sampling strategy was initiated within the social network of selected government hospital healthcare professionals and may not be representative of the general population.

Third, the survey was rolled in the later phase of the pandemic and the psychological outcomes may change over the course of the public health crisis.

## 5. Conclusion

During the COVID-19 pandemic in Dubai, UAE, less than 20 percent respondents reported moderate-to-severe anxiety, less than 10% reported moderate-to-severe stress levels and one-sixth reported moderate-to-severe depression and psychological impact of the outbreak. Age, Years of experience, Nationality and being single were associated with a greater psychological impact of the pandemic and higher levels of stress, anxiety and depression. Timely and accurate health information, having children, good health status was associated with lesser psychological impact of the pandemic and lower levels of stress, anxiety and depression. The findings of this study can be used to frame appropriate psychological interventions to avert occurrence of mental health problems preventing psychological crisis in future.

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The authors declare that there is no conflict of interest regarding the publication of this paper.

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