Effect of Coronavirus Disease 2019 Pandemic on Mental Health among Health Care Workers and Others

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ABSTRACT
Background: A pandemic of Coronavirus 2019 (COVID-19)may endanger the mental well-being of health care workers.
Objective: This is to stipulate some mental issues faced by health care workers at the time of COV-SARS.
Patients and Method: A cross-sectional study was conducted upon 5745 participants from the Qalyubiya Governorate (7 centers). Online self-administered questionnaire (Fear of Coronavirus-19 Scale (7 Qs scale) and The Hospital Anxiety and Depression Scale (HADS) (14 items of two subscales: anxiety and depression)) was utilized. Propensity score matching was performed to minimize bias between health care workers (1740) and non-healthcare workers.
Results: After performing propensity score matching, 1740 participants were included for comparison between health care workers and non-healthcare workers. Health care workers expressed more fear, anxiety, and depression scores. Increasing hours of watching media is a predictor of fear, anxiety, and depression among health care workers ((95%CI: 0.555-1.4, p<.001), (0.77-1.22, p<.001) and (0.45-0.85, p<.001) respectively) and ((1.44-2.2, p<.001), (0.94-1.49, p<.001) respectively) among non-healthcare workers.
Conclusions: HCW showed mental disorders scores more than non-healthcare workers. Among health care workers, females, the age group from 26 to 30 years, and more than 4h of watching media about COVID-19 had significantly higher mental scores. Non-married health care workers showed a higher fear score. Among non-healthcare workers, married and low educated levels expressed lower scores.
Keywords: COVID-19, Mental health-Propensity score matching, Pandemic.

INTRODUCTION

In late 2019 COVID-19 was at first rumored by China and had unfolded to thirteen countries by January 24, 2020 [1]. Its impacts haven't nonetheless been determined, as the observations and testing results are square measure dynamical quickly. Among the rife symptoms of this sickness, cough, fever, shortness of breath, and sometimes diarrhea. Older men with medical co-morbidities square measure a lot of doubtless to urge infected, with worse outcomes[2]. Severe cases will result in internal organ injury, respiratory failure, acute respiratory distress syndrome (ARDS), and death [3].

COVID-19 epidemic is thought of as a general health crisis that has caused challenges for mental resilience and has been the most important natural event since the severe acute respiratory syndrome (SARS) outbreak in 2003 [4].

The planet has witnessed several widespread outbreaks of acute respiratory illnesses. For instance, SARS as a communicable infectious disease spread in 2003; however, it had been mostly managed by quarantine measures. However, the results of quarantine haven't been investigated [5]. The implications of the disease outbreaks touching all aspects of humans' lives have continued [6].

Mental health is one of the largest issues that have to be self-addressed currently, and post-pandemic as this crisis has generated tremendous stress publicly [7].

The advent of COV-SARS has confused, modified people's living conditions, as well as commutation restrictions, the worry of disease transmission, and closure of schools and businesses [5]. In addition to specific features like its mode of transmission, rapidity of spread, and lack of definitive treatment protocols or vaccines all are responsible for the mental state issues [8].

Although extensive restrictions, like the prohibition of national and international travel that reflects a replacement variety of quarantine area units effective in controlling and managing the disease, they need negative psychological impacts on individuals. Anxiety concerning food shortages is additional wide. Moreover, spreading rumors has negative psychological impacts [9].

Psychiatric morbidities are found to vary from anxiety, depression, panic attacks, somatic symptoms, posttraumatic stress disorder, delirium, psychosis, and even suicidality [10]. Past tragedies have shown that the psychological state implications will last longer and have a bigger prevalence than the epidemic itself which the psychosocial and economic impacts are determinable if we tend to take into account their resonance in numerous contexts. [11]. Therefore, psychiatric interventions are essential throughout infectious disease outbreaks with a high mortality rate [12].

COV-SARS pandemic might endanger the mental well-being of the healthcare workers, inflicting depression, anxiety, insomnia, or distress. A sustained rise in cases, excessive employment, inevitable media coverage, and inadequate personal protecting instrumentality and medications were among the varied factors for the deterioration of the psychological state. HCW aren't solely petrified of obtaining infected however additionally upset concerning contaminating their families, friends, and colleagues with the virus[13].

During pandemics, it's common for health professionals, scientists, and managers to focus preponderantly on the microorganism and therefore the biological risk in an endeavor to grasp the pathophysiological mechanisms concerned and propose measures for preventing, containing, and treating the illness. In such situations, the psychological and psychiatric implications secondary to the phenomenon, both on an individual and a collective level, tend to be underestimated and neglected, generating gaps in cope ways and increasing the burden of associated diseases[14].

This study aimed to outline some mental issues faced by HCW at the time of COV-SARS. The objectives of this study are to seek out the relationships between operating in medical institutions and mental health issues.

PATIENTS AND METHOD

A comparative cross-sectional study was conducted on 5745 participants in the Qalyubiya Governorate. As COV-SARS is a pandemic disease so detecting its prevalence or incidence is difficult nowadays. The estimated population of the Qaliubeya governorate was 5,745,000, so studying 10% of the population at risk means choosing 5745 participants for the study. The Qaliubeya governorate includes 7 centers Benha (167,029), Qalube (100,495), Touch (67,599), El-khanka (62,434), Shibin El-kanater (56,872), Elkanater Elkhairia (56,302) and Kafr Shokr (638,000). So sample will include 1670 from Benha, 1005 from Qalube, 676 from Touch, 624 from Elkhanka, 569 from ShibinElkanater, 563 from Elkanater Elkhairia, and 638 from Kafr Shokr. The answers of participants were chosen randomly from the total respondents.

Data collection: Data collection was carried out from March 22 to the end of May 2020 using the following Arabic online questionnaire sheet. It consisted of two parts, the first part assessed the socio-demographic characters of the participants. The second included the questions of the Fear of Coronavirus-19 Scale [15] and The Hospital Anxiety and Depression Scale (HADS [16] who translated and validated the items of the Iranian version.

The scale of COVID-19 fear (7 Qs scale) where the participants choose their level of agreement with the statements using a five-item Likert-type scale (strongly disagree, disagree, neither agree nor disagree, agree and strongly agree). The minimum score for each question is 1, and the maximum is 5 (total is ranging from 7 to 35). The higher the score, the greater the fear of COVID-19.

HADS contains 14 items and consists of two subscales (anxiety and depression). Each item is rated on a four-point scale, giving maximum scores for anxiety and depression that equals 21 (Scores of ≥11 = a significant cause of psychological morbidity, 8–10 = borderline, and 0–7 =normal).

Ethical Considerations
This study was approved by the Research Ethics Committee of the Benha University (number of RC 2-6-2020). Finally, informed online consent was obtained from all participants. It included data about the title, objectives, methods, benefits, and expected risks, and confidentiality of data. This work has been carried out following The Code of Ethics of the World Medical Association (Declaration of Helsinki) for studies involving humans.

Data analysis:
The collected data were tabulated and analyzed using the computer programs Statistical Package for Social Science (SPSS) version 25.0 for windows, (SPSS Inc, Chicago, IL). The collected data were summarized after establishing their non -normality by K-S test (One-Sample Kolmogorov-Smirnov Test) of normality, in terms of median, inter-quartile range (IQR) for quantitative data, and frequency and proportion for qualitative data. Statistical comparisons between the different study groups were carried out using univariate tests including the Chi-square test (χ2), Z test of proportion, Kruskal- Wallis, Wilcoxon, and Man-Whitney test as appropriate. Spearman correlation test and multiple linear regression analysis of fear, anxiety, or depression scores were conducted based on the results from the univariate correlation analysis. A P-value < 0.05 was considered statistically significant. A pilot study was performed on 10% of participants and its results weren't included in the study.

Participants were divided according to their occupation into health care workers (HCWs) (physicians, nurses, technicians, and workers) and non-HCW and after comparing them, each group was studied separately to find the relationship between fear, anxiety, and depression scores, and other variables.

To reduce selection bias between both groups, propensity score matching (PSM) was used which matches participants of HCW with participants of non-HCW. Matching on propensity scores is performed through the use of a "greedy matching algorithm that sorts the observations in HCW group by their estimated propensity score and matches each unit separately to a unit in the non-HCW group that has the closest propensity score" The ratio of the propensity score variances in both groups was 0.9[17].

RESULTS
This cross-sectional survey enrolled 5745 participants from the Qalyubia governorate aged from 18 to >40 years. Socio-demographic characteristics outlined that more than half of participants (57.5%) were female, 96.9% were highly educated, 88.2% were from urban areas. Regarding anxiety level, 41.7 % were considered as cases, while 26.6% suffered from depression.

Participants were divided according to their occupation into HCW(1740) and non-HCW (4005). By comparing both groups, Age, marital status, level of education, and residence were different significantly between them (p<0.001) **(Table1).**

After using PMS to minimize bias between the studied groups, HCW were prone to a considerable degree

of mental illness due to the COVID-19 pandemic as they had significantly higher scores than non-HCW (fear median (IQR)(19.0 (15.0-22.0) versus 18.0(14.0-21.0), anxiety 11.0(7.0-12.0) versus 9.0(6.0-11.0)and depression 9.0(7.0-11.0) versus 8.0(6.0-10.0)respectively) (Figure1): Box-plot of fear, anxiety and depression scores of HCW and non HCW.

Table 2 showed that socio demographic factors were associated with mental problems among HCW as female had significantly higher fear score (19.0 (15.0-22.0)), anxiety score (11.0 (8.0-12.0)) and depression score (9.0(8.0-11.0)).HCW at the age group from 26 to 30 years had significantly higher scores of fear (20.0 (16.0-23.0)), anxiety (11.0 (10.0-12.0)) and depression (9.0 (8.0-11.0)) (p <.001). Middle educated HCW participants had significant higher depression score (11.0 (9.25-15.5)) than higher educated persons. Non-married HCW showed higher fear score (20.0 (15.0-21.0)) than non-married which was statistically significant (P= 0.009). More than 4h of watching media about COVID-19 had significant

higher fear (20.0 (15.0-25.0)), anxiety (11.0 (10.0-13.0)) and depression (10.0 (8.0-13.0)).

Regarding non-married groups among non-HCWs, there were statistically significant differences in scores of fear (18.0(15.0-21.0)) and anxiety (9.0 (6.0-11.0)). Low level of education had significant lower scores of fear (12.0 (11.0-12.5))(P= 0.018) More than 4h of watching media about COVID-19 had significant higher fear (20.0 (16.0-23.0)), anxiety (11.0 (5.5-12.0)) and depression (9.0 (7.0-12.0))(Table 1).

Linear regression analysis among HCW showed that increase hours of watching media is a predictor of fear (95%CI: 0.555-1.4, p<.001), anxiety (95%CI: 0.77-1.22, p<.001), and depression (95%CI: 0.45-0.85, p<.001)and also among non-HCW (fear (95%CI: 1.44-2.2, p<.001), anxiety (95%CI: 0.94-1.49, p<.001). Depression core was directly correlated with increasing hours of watching media (rho (P): 0.106 (<0.001)) **(Table 2).**

Table (1): Comparison between health care workers and Non-HCW before and after PSM

	Before PSM							After PSM						
	Total (5745)		HCW (1740)		Non-HCW (4005)		P value	Total (3480)		HCW (1740)		Non-HCW (1740)		P-value
	No	%	No	%	No	%		No	%	No	%	No	%	
Gender														
Male	2439	42.5	730	42.0	1709	42.7	0.61	1477	42.4	730	42.0	747	42.9	0.56
Female	3306	57.5	1010	58.0	2296	57.3		2003	57.6	1010	58.0	993	57.1	
Age														
18y-	1890	32.9	91	5.2	1799	44.9	<0.001	188	5.4	91	5.2	97	5.6	0.75
26y-	1121	19.5	312	17.9	809	20.2	0.043	636	18.3	312	17.9	324	18.6	
31y-	1808	31.5	873	50.2	935	23.3	<0.001	1754	50.4	873	50.2	881	50.6	
>40	926	16.1	464	26.7	462	11.5	<0.001	902	25.9	464	26.7	438	25.2	
Marital status														
Married	2942	51.2	1446	83.1	1496	37.4	<0.001	2862	82.2	1446	83.1	1416	81.4	0.183
Not	2803	48.8	294	16.9	2509	62.6		618	17.8	294	16.9	324	18.6	
Level of education														
Read &write	30	0.5	0	0.0	30	0.7	<0.001	4	0.1	0	0.0	4	0.2	0.101
Middle	147	2.6	20	1.1	127	3.2		45	1.3	20	1.1	25	1.4	
High	5568	96.9	1720	98.9	3848	96.1		3431	98.6	1720	98.9	1711	98.3	
Residence														
Urban	5066	88.2	1391	79.9	3675	91.8	<0.001	2809	80.7	1391	79.9	1418	81.5	0.246
Rural	679	11.8	349	20.1	330	8.2		671	19.3	349	20.1	322	18.5	
Centers of residence														
Benha	1670	29.1	505	29.0	1165	29.1	0.94	880	25.3	505	29.0	375	21.6	<0.001
Qalube	1005	17.5	264	15.2	741	18.5	0.003	497	14.3	264	15.2	233	13.4	
Toukh	676	11.8	247	14.2	429	10.7	<0.001	454	13.0	247	14.2	207	11.9	
El-Khanka	624	10.9	224	12.9	400	10.0	0.001	344	9.9	224	12.9	120	6.9	
Shibin	569	9.9	77	4.4	492	12.3	<0.001	328	9.4	77	4.4	251	14.4	
Elkanater	563	9.8	211	12.1	352	8.8	<0.001	425	12.2	211	12.1	214	12.3	
Elkanater-Elkhairia Kafr Shokr	638	11.1	212	12.2	426	10.6	0.08	552	15.9	212	12.2	340	19.5	
Hours of watching media														
<1h	4006	69.7	958	55.1	3048	76.1	<0.001	2190	62.9	958	55.1	1232	70.8	<0.001
2-4h	1212	21.1	543	31.2	669	16.7	<0.001	915	26.3	543	31.2	372	21.4	
>4h	527	9.2	239	13.7	288	7.2	<0.001	375	10.8	239	13.7	136	7.8	

PSM: propensity score matching P: probability
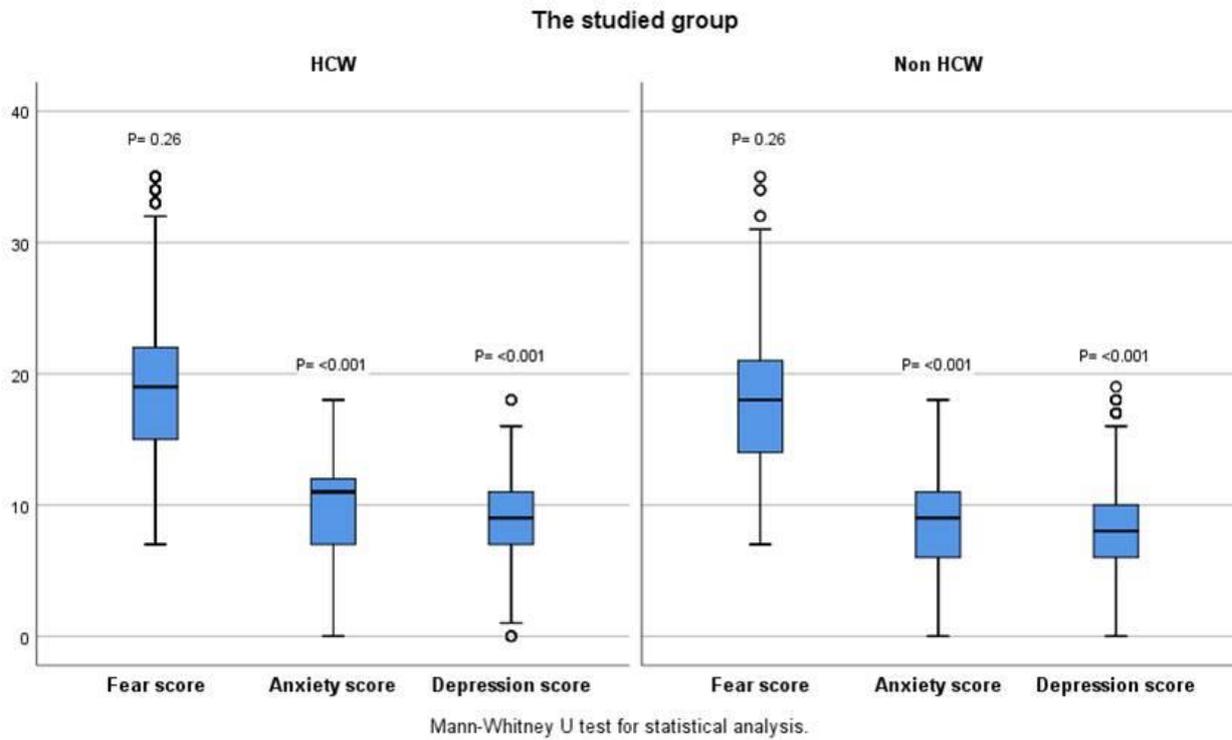
Figure (1): Box-plot of fear, anxiety, and depression scores of HCW and non HCW.

Table (2): Differences of fear, anxiety, and depression scores regarding other variables among HCW and non-HCW groups.

	No	Fear score		P-value	Anxiety score		P-value	Dep score		P-value
		Median	IQR		Median	IQR		Median	IQR	
HCW (1740)										
Gender				0.014			<0.001			0.002
Male	730	18.0	14.0-22.0		10.0	6.75-12.0		9.0	7.0-11.0	
Female	1010	19.0	15.0-22.0		11.0	8.0-12.0		9.0	8.0-11.0	
Age				<0.001			<0.001			0.003
18y-	91	18.0	15.0-21.0		11.0	8.0-11.0		8.0	7.0-11.0	
26y-	312	20.0	16.0-23.0		11.0	10.0-12.0		9.0	8.0-12.0	
31y-	873	19.0	14.0-21.0		10.0	8.0-12.0		9.0	7.0-11.0	
>40	464	18.0	15.0-21.0		10.0	7.0-12.0		9.0	7.0-10.0	
Marital status				0.009			0.122			0.218
Married	1446	19.0	15.0-23.0		10.0	7.0-12.0		9.0	7.0-11.0	
Not	294	20.0	15.0-24.0		10.0	7.0-12.0		9.0	8.0-11.0	
Level of education				0.28			0.088			0.003
Middle	20	20.0	15.0-21.0		9.0	5.0-10.0		11.0	9.25-15.5	
High	1720	19.0	15.0-22.0		11.0	7.0-12.0		9.0	7.0-11.0	
Residence				0.058			0.003			0.021
Urban	1391	18.0	15.0-22.0		11.0	7.0-12.0		9.0	7.0-11.0	
Rural	349	20.0	15.0-22.0		11.0	8.0-12.0		9.0	8.0-11.0	
Hours of watching media				<0.001			<0.001			<0.001
<1h	958	18.0	14.0-21.0		10.0	7.0-12.0		9.0	7.0-11.0	
2-4h	543	19.0	17.0-21.0		11.0	7.0-12.0		9.0	8.0-11.0	
>4h	239	20.0	15.0-25.0		11.0	10.0-13.0		10.0	8.0-13.0	
Non-HCW (1740)										
Gender				0.053			0.25			0.80
Male	747	18.0	15.0-21.0		9.0	6.0-11.0		8.0	6.0-10.0	
Female	993	17.0	14.0-21.0		9.0	6.0-11.0		8.0	6.0-10.0	
Age				0.47			0.72			0.80
18y-	97	18.0	15.0-21.0		8.0	6.0-10.5		8.0	6.0-10.0	
26y-	324	18.0	15.0-21.0		9.0	6.0-11.0		8.0	6.0-10.0	
31y-	881	18.0	14.0-21.0		9.0	6.0-11.0		8.0	6.0-10.0	
>40	438	18.0	14.0-22.0		9.0	6.0-11.0		8.0	6.0-10.0	

	No	Fear score Median	IQR	P-value	Anxiety score Median	IQR	P-value	Dep score Median	IQR	P-value
HCW (1740)										
Gender				0.014			<0.001			0.002
Male	730	18.0	14.0-22.0		10.0	6.75-12.0		9.0	7.0-11.0	
Female	1010	19.0	15.0-22.0		11.0	8.0-12.0		9.0	8.0-11.0	
Age				<0.001			<0.001			0.003
18y-	91	18.0	15.0-21.0		11.0	8.0-11.0		8.0	7.0-11.0	
26y-	312	20.0	16.0-23.0		11.0	10.0-12.0		9.0	8.0-12.0	
31y-	873	19.0	14.0-21.0		10.0	8.0-12.0		9.0	7.0-11.0	
>40	464	18.0	15.0-21.0		10.0	7.0-12.0		9.0	7.0-10.0	
Marital status				0.009			0.122			0.218
Married	1446	19.0	15.0-23.0		10.0	7.0-12.0		9.0	7.0-11.0	
Not	294	20.0	15.0-24.0		10.0	7.0-12.0		9.0	8.0-11.0	
Marital status				0.006			0.003			0.535
Married	1416	17.0	13.0-21.0		8.0	5.0-11.0		8.0	6.0-10.0	
Not	324	18.0	15.0-21.0		9.0	6.0-11.0		8.0	6.0-10.0	
Level of education				0.018			0.50			0.10
Read &write	4	12.0	11.0-12.5		7.0	5.0-9.0		6.0	6.0-6.0	
Middle	25	20.0	15.0-22.5		8.0	5.5-10.5		9.0	7.0-11.5	
High	1711	18.0	15.0-21.0		9.0	6.0-11.0		8.0	6.0-10.0	
Residence				0.098			0.37			0.57
Urban	1418	18.0	15.0-21.0		9.0	6.0-11.0		8.0	6.0-10.0	
Rural	322	18.0	13.0-21.0		9.0	6.0-11.0		8.0	6.0-11.0	
Hours of watching media				<0.001			<0.001			<0.001
<1h	1232	17.0	14.0-20.0		8.0	6.0-11.0		8.0	6.0-10.0	
2-4h	372	18.5	15.0-23.0		10.0	8.0-12.0		8.5	7.0-11.0	
>4h	136	20.0	16.0-23.0		11.0	5.25-12.0		9.0	7.0-12.0	

P: probability

Table (3): Multivariate linear regression of different scores among HCW and non-HCW groups.

	Fear scores Univariate rho	p	Multivariate B	P	95%CI	Anxiety scores Univariate rho	p	Multivariate B	P	95%CI	Depression scores Univariate rho	p	Multivariate B	P	95%CI
HCW															
Gender (male:0)	0.059	0.014	0.117	0.712	-0.5-0.74	0.115	<0.001	0.838	<0.001	0.51-1.17	0.074	0.002	0.26	0.08	(-0.03)-(0.55)
Age	-0.086	<0.001	-0.989	<0.001	(-1.4)-(-0.58)	-0.147	<0.001	-0.591	<0.001	(-0.80)-(-0.39)	-0.068	0.005	-0.301	0.001	(-0.48)-(-0.12)
Marital status (unmarried: 0)	0.063	0.009	1.66	<0.001	0.768-2.5	-0.037	0.122								
Residence (rural:0)	-0.045	0.058				-0.07	0.003	-0.568	0.006	(-0.98)-(-0.16)	-0.055	0.021	-1.42	0.62	(-0.62)-(0.098)
Education level	-0.026	0.282	-1.08	0.451	-3.87-1.72	0.041	0.088				-0.072	0.003	-2.16	0.001	(-3.47)-(-0.85)
Hours of watching media	0.118	<0.001	0.979	<0.001	0.555-1.4	0.18	<0.001	0.993	<0.001	0.77-1.22	0.131	<0.001	0.65	<0.001	0.45-0.85
r²(adj r²)			0.024(0.022)					0.077(0.074)					0.04(0.037)		
F (p)			8.7(<0.001)					35.94(<0.001)					14.41(<0.001)		
Non-HCW															
Marital status (unmarried: 0)	0.063	0.004	0.79	0.011	0.18-1.3	0.075	0.001	0.70	0.002	0.25-1.1					
Education level	0.007	0.38	0.19	0.81	-1.36-1.73										
Hours of watching media	0.222	<0.001	1.82	<0.001	1.44-2.2	0.20	<0.001	1.21	<0.001	0.94-1.4	0.106	<0.001			
r²(adjr²)			0.053(0.051)					0.046(0.045)							
F (p)			32.37(<0.001)					41.76(<0.001)							

CI: confidence interval rho: spearman correlation test p: probability

DISCUSSION

This cross-sectional survey listed 5745 participants from the seven cities of the Qalyubia governorate. Egypt. Socio-demographic characteristics unconcealed that more than half of participants (57.5%) were female, the majority were highly educated(96.9%) and from urban areas(88.2%) belonged to age groups ranging from 18 to >40 years. these findings correspond with a systematic review of studies conducted on Mental health problems faced by HCW due to the COVID-19 pandemic. In which 6 original articles were included and showed that the predominant participants in 4 studies were females (68.7%-85.5%)[18]and nearly all participants (97.1%) lived in urban areas[13].

Regarding anxiety level, 41.7 % of all the study participants were thought about as cases. While 26.6% suffered from depression. These results square measure more than a study of psychological responses and associated factors during the Initial Stage of COVID-19. The epidemic among the general population in China wherever[4] this distinction could also be because of cultural and awareness variability across countries.

The current study suggests that HCW square measures are susceptible to a substantial degree of psychopathy because of the COVID-19 pandemic. the results showed that the median (IQR) scores of fear, anxiety, and depression were statistically considerably higher among HCW than non-HCW((19.0(15.0-22.0) vs 18.0(14.0-21.0), 11.0(7.0-12.0)versus 9.0(6.0-11.0)and9.0(7.0-11.0)versus 8.0(6.0-10.0)respectively).it could be explained by Work-related stress with multiple clinical activities, depression in the face of the coexistence of countless deaths, long work shifts with the most diverse unknowns, and demands in the treatment with patients with COVID-19 [19].

These findings are supported by another study [20] that stated that HCW is at significant risk of adverse mental health outcomes during the COVID-19 outbreak. And the rate of distress among healthcare staff is higher compared with the general population because they are more at risk for infection and transmission[21].

Other previous studies reported that HCW especially those working in emergency units, intensive care units, and infectious disease wards are at higher risk of developing adverse psychiatric impact [22].

Also, and it was established that the Corona virus generates a lot of uncertainty, and this has a particular resonance with health professionals who suffer or have suffered from anxiety, obsessive-compulsive disorder, and OCD in the treatment of patients in hospitals. Panic attacks can also be a response to the stress load linked to the demands of the Corona virus outbreak [19].

Regarding socio-demographic factors associated with mental problems among HCW in this study female had higher scores (median (IQR)) than male regarding (fear (19.0 (15.0-22.0)) P =.014, anxiety (11.0 (8.0-12.0)) P<.001 and depression (9.0(8.0-11.0)) p = .002). Linear regression analysis showed that being female is a predictor for anxiety (95%CI, 0.51-1.17; P <.001) this is similar to [23] where the score of depression in female medical staff (27.08±4.6 vs. 25.33±4.3, P=0.011) was higher than that in the male). Also, **Lai et al.**[3] showed that being a woman and possessing an intermediate professional title was associated with higher anxiety, depression, and distress.

This study showed that HCW at the age group from 26 to 30 years had significantly higher scores of fear (20.0 (16.0-23.0)), anxiety (11.0 (10.0-12.0)) and depression (9.0 (8.0-11.0)) (p <.001). This corresponds to another study [24] where medical staff at a younger age (<30 years) had higher self-rated depression scores than those with older age (30 years).

Regarding educational level, this study found that Middle educated HCW participants had significantly higher depression scores (11.0 (9.25-15.5) than higher educated persons(9.0 (7.0-11.0)) p =.003 which is in line with the results that explained this as a higher level of education will improve one's understanding of issues associated with psychological distress, and increasing confidence in mental health recovery[25].

In terms of marital status, Non- Married HCW showed a higher fear score median (IQR) (20.0 (15.0-21.0) p .009) than married ., also the unmarried non-HCWs participants had significantly higher fear score median (IQR)(18.0(15.0-21.0) P= 0.006) and anxiety score median (IQR)(9.0(6.0-11.0)p= 0.003)than married this was supported by results which stated that Married physicians reported less stress than non-married ones, it could be explained by family financial loss, a lack of support against negative emotions or depression symptoms[26].

Linear regression analysis among HCW showed that increase hours of watching media is a predictor of fear (95%CI: 0.555-1.4, p<.001), anxiety (95%CI: 0.77-1.22, p<.001), and depression (95%CI: 0.45-0.85, p<.001) and also among non-HCW (fear (95%CI: 1.44-2.2, p<.001), anxiety (95%CI: 0.94-1.49, p<.001). Depression core was directly correlated with increasing hours of watching media (rho (P): 0.106 (<0.001)).so Minimizing watching, reading, or listening to news about COVID-19 that causes anxiety or distress is important for mental health [27].

It was also evidenced by a cross-sectional study among Chinese citizens to assess the prevalence of mental health problems and examine their association with social media exposure which showed there are high prevalence of mental health problems, which positively associated with frequently SME during the COVID-19 outbreak .reasons explaining the association between frequently social media exposure and mental health. During the COVID-19 outbreak, disinformation and false reports about the COVID-19 have bombarded social media and stoked unfounded fears among many citizens [28].

CONCLUSION

HCWs showed mental disorders (fear, anxiety, and depression) scores more than non-HCW. Among HCW, females, the age group from 26 to 30 years, and more than 4h of watching media regarding COVID-19 had significantly higher scores of fear, anxiety, and depression. Middle-educated participants had a significantly higher depression score. Non-married HCW showed a higher fear score. Among non-HCW, married and low educated levels expressed lower scores. Increasing hours of watching media was a significant predictor among HCW and non-HCW in predicting mental disorders scores.

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