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Fear of Coronavirus Disease (COVID-19) among Egyptian Physicians

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Abstract

Background: **The pandemic of coronavirus disease (COVID-19) has affected every aspect of our life. Fear of the corona virus may trigger safety measures. However, when fear is exaggerated, it may result in maladaptive behaviors. Physicians are among the high-risk groups of infection. They may have more psychological burden and behavioral changes.** ***Aim:*** **To assess the fear of COVID-19 among Egyptian physicians.** ***Subjects and Methods:*** **A cross-sectional online survey was developed. A free software google form was used to send the questionnaire and the informed consent. A convenient sample was used to recruit participants. A total of 382 Egyptian clinical physicians completed the questionnaire. The questionnaire included demographic variables and the fear of COVID-19 Scale.** ***Results:*** **Female physicians were found to have significantly higher fear score compared to males (p=0.012). Moreover, physicians who had observed higher number of COVID-19 patients per week had significantly higher fear score (p<0.001). In our sample, there was negative correlation between age and Fear of COVID-19 scores among the studied physicians.** ***Conclusion:*** **The pandemic of COVID-19 is associated with significant fear among Egyptian physicians, especially females. Specific interventions are needed to prevent irrational fear during COVID-19 pandemic among Egyptian physicians.**

Keywords: Fear, Corona Virus Disease (COVID 19), Physicians

Introduction

Coronavirus disease (COVID-19) is a global threat that has disrupted many aspects of life and triggers fear of infection[1]. Due to their close contact with infected patients, healthcare workers may develop more fear to be infected from their patients and potentially spreading infection to their peers, families, and other patients[2]. Anxiety is a natural reaction, when enhances preventive and safeguarding behavior. Overwhelming reports on COVID-19 pandemic may exaggerate fear and anxiety[3]. People with exaggerated fear and persistent anxiety may have maladaptive behavior, therefore may take irrational decisions. Being in the frontline of COVID-19 pandemic defense, physicians are very much expected to develop severe anxiety and fear about the current pandemic situation[4]. According to official reports of the Egyptian government, The Egyptian healthcare workers are more frequently infected compared to the general population[5]. Furthermore, Physicians are ex-

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posed to psychological distress, long working hours, fatigue, occupational stigma and physical violence[6,7]. This results in many changes in medical behaviors. The pandemic can affect direct communication with patients. Physicians may avoid close proximity and prolonged contact when examining patients and be more cautious when examining patients, they may also avoid co-working in closed spaces[8,9]. Although the World Health Organization (WHO) has published guidelines of preventive measures, some physicians may still feel fearful of treating patients in such a situation[10]. Therefore, we conducted a questionnaire-based study to assess anxiety and fear of getting infected with COVID-19 among Egyptian physicians working during the current viral outbreak.

Subjects and Methods

A cross-sectional web-based survey design was adopted. The survey was developed using the free software google forms and shared through a link on social networking sites. Data was collected from September 2020 to November 2020. A total of 382 Egyptian physicians of both sexes who work in different clinical specialties, who work either in hospital or primary health care centers, were recruited using convenience and snow-ball sampling technique. The online questionnaire contained two parts: the first one included question about age, gender, and residence, medical specialty, education level, previous infection with COVID-19 and number of positive / suspected patients for COVID-19 seen per week. The second one was a valid and reliable scale for fear of COVID-19 (FC-19S). It is a 7-items questionnaire with a five-item Likert scale, with a total score ranges from 7-35[11]. The English version was used as all Egyptian physicians can understand and answer in English.

Ethical consideration

This study was approved by the ethics committee of Faculty of Medicine, Suez Canal University with approval number (4300/2020). An informed written consent was enclosed to the online questionnaire after clarifying the aim and methods of the study. Participants' information was kept confidential and anonymous. All procedures were performed in accordance with the 1964 Helsinki declaration and its later amendments.

Statistical Analysis

The data were processed using statistical package for social sciences (SPSS) for windows version 25.0 (SPSS, Armonk, NY, USA). Descriptive statistics was used to explore participants' characteristics. Means differences between the investigated groups were assessed using independent-samples t-test and one way ANOVA test as appropriate. Multivariable linear regression was performed to assess the predictors of fear of COVID-19 score among the physicians. For all tests a probability value of less than 0.05 was considered statistically significant.

Results

Our descriptive cross-sectional study included 382 Egyptian physicians who agreed to participate in the study. Characteristics of the study population are listed in table 1. About 43.5% of the physicians were between 31 to 35 years old. Females formed 68.6 % of the participants. Half of the physicians had either master or diploma degree. About one fourth (23.6%) of the participants were family physicians

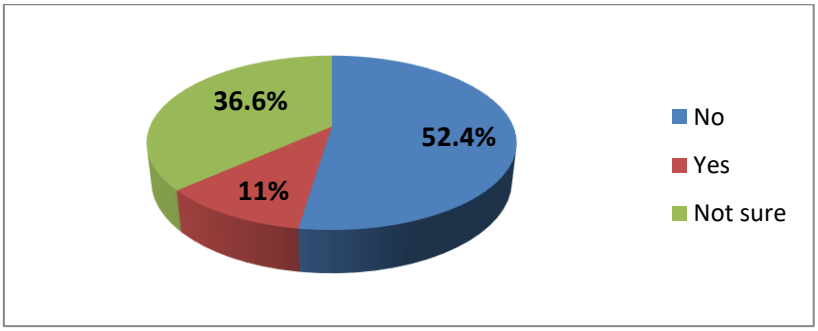

Figure 1. Percentage of COVID-19 infection among the participants

while 38.2% of the participants were internists. Moreover, half of our physicians had provided care to average 5-10 COVID-19 patients per week. only 11% of the participants had confirmed COVID-19 infection while 36.6% were not sure about being infected or not (Figure 1). Table 2 summarizes the descriptive details of the Fear of COVID-19 Scale.

Table 1. Baseline characteristics of studied sample (n=382)

Variables	**No. (%)**
Age categories, mean± SD	33.83 ± 4.9
25 – 30	103 (27)
31 – 35	166 (43.5)
> 35	113 (29.6)
Gender	
Male	120 (31.4)
Female	262 (68.6)
Residence	
Urban	285 (74.6)
Rural	91 (25.4)
Education level	
Bachelor	61 (16)
Diploma/Master	191 (50)
Fellowship	36 (9.4)
Doctorate	94 (24.6)
Specialty	
Family medicine	90 (23.6)
Internal medicine	146 (38.2)
Pediatrics	66 (17.3)
Surgery	31 (8.1)
Obstetrics & gynecology	27 (7.1)
Emergency	22 (5.8)
# patients positive or suspected to be COVID-19 positive seen per week	
< 5 patients	109 (28.5)
5-10 patients	191 (50)
> 10 patients	82 (21.5)

Data are presented as mean ± SD or frequency (%) as required

The mean total score of Fear of COVID-19 Scale among Egyptian physicians was 22.26 ± 5.7 points, with median (range) of 22 (7-35). Table 3 shows the association between the baseline characteristics of studied sample and their fear of COVID-19 scores. It was found that a higher fear of COVID-19 was significantly associated with lower age groups of physicians (p<0.001), female doctors (p=0.012), emergency specialty (p=0.009) and physicians who had observed higher number of COVID-19 patients per week (p<0.001). Multivariable linear regression analysis was used to assess predictors of fear of COVID-19 score among the study sample.

Table 2. Descriptive characteristics of Fear of COVID-19 Scale

Variables	mean ± SD	median (range)
- I am most afraid of corona	3.6 ± 1.02	4 (1 – 5)
- It makes me uncomfortable to think about corona	3.68 ± 0.96	4 (1 – 5)
- My hands become clammy when I think about corona	2.80 ± 1.04	3 (1 – 5)
- I am afraid of losing my life because of corona	3.57 ± 1.01	4 (1 – 5)
- When I watch news and stories about corona on social media, I become nervous or anxious	3.53 ± 0.99	4 (1 – 5)
- I cannot sleep because I am worrying about getting corona	2.54 ± 1.06	2 (1 – 5)
- My heart races or palpitates when I think about getting corona	2.54 ± 1.04	2 (1 – 5)
Total score	22.26 ± 5.7	22 (7 – 35)

We found that there is an increase by 2.036 points in the fear score of the female physicians compared to males (p=0.003). Moreover, physicians who provide care to average 5 to 10 patients per week had an increase by 1.865 points in the fear score compared to physicians who are exposed to less number of patients (p=0.008) (table 4).

Discussion

This study aimed to assess fear of COVID-19 among Egyptian physicians in different specialties, and to examine whether the differences in socio-demographic information may predict fear of COVID-19. In our study, there was an increase in the fear score among female physicians compared to males (p=0.012). Many other studies confirmed that female gender is a predictor of negative psychological impact during COVID-19 outbreak, and they are more vulnerable to stress, depression, and anxiety[12-14]. Many factors may cause this gender difference. Females who care about their families have more fears about the negative impact of the disease on their health or the health of close family and friends. Lockdown of schools and daycare centers may double the psychological burdens on working mothers[15]. Moreover, physicians who had observed higher number of COVID-19 patients per week had significantly higher fear score (p<0.001). This finding is in congruence with other studies that have shown that fear appears to be concentrated in regions with the highest reported COVID-19 numbers[16]. An Indian study found that an increase number of patients or expected patients that the physician exposed on daily work was associated with increase score of fear of COVID19 score[17]. This is congruent with our results as physicians who provide care to average 5 to 10 patients per week had an increase by 1.865

points in the fear score compared to physicians who are exposed to a smaller number of patients (p=0.008). In our study, there was negative correlation between age and fear of COVID-19 scores among the studied physicians (p<0.001).

Table 3. Association between baseline characteristics of studied sample and their Fear of COVID-19 scores

Variables	Fear of COVID-19 scores mean ± SD	p-value
Age categories		
25 – 30 yrs.	22.12 ± 5.9[#]	**<0.001*[b]**
31 – 35 yrs.	23.38 ± 5.3[#]	
> 35 yrs.	20.74 ± 5.7	
Gender, n (%)		
Male	21.18 ± 5.6	**0.012*[a]**
Female	22.71 ± 5.7	
Residence		
Urban	22.52 ± 5.8	0.118[a]
Rural	21.49 ± 5.4	
Education level, n (%)		
Bachelor	21.70 ± 6.4	0.323[b]
Diploma/Master	22.63 ± 5.6	
Fellowship	23.06 ± 6.3	
Doctorate	21.55 ± 5.2	
Specialty		
Family medicine	21.03 ± 6.18[β]	**0.009*[b]**
Internal medicine	22.19 ± 5.20	
Surgery	21.87 ± 6.15	
Pediatrics	23.42 ± 5.63	
Obstetrics & gynecology	21.5 ± 4.85	
Emergency	25.68 ± 6.66	
Previous COVID-19 infection, n (%)		
No/ Not sure	22.07 ± 5.6	0.064[b]
Yes	23.81 ± 6.7	
Number of patient positive/ suspected to be positive for COVID-19 seen per week, n (%)		
< 5 patients	20.42 ± 5.7	**<0.001*[b]**
5-10 patients	22.93 ± 5.3[α]	
> 10 patients	23.15 ± 6.1[α]	

[a] P values are based on as independent t- test. Statistical significance at P < 0.05
[b] P values are based on as one way ANOVA test. Statistical significance at P < 0.05
Values with superscript [#]are different from > 35 yrs.
Values with superscript [α]are different from < 5 patients.
Values with superscript [β]are different from Emergency specialty.

This agrees with another study in Egypt, which reported that burnout syndrome was less likely to be developed with physician with older ages[18]. This could be explained as older aged physician are dealing with smaller number of patients than younger ones that cause younger physicians exposed to higher levels of stress, anxiety, and depression. Multivariable linear regression analysis of determinants of

fear of COVID-19 score was done. It found that some specialties have higher Fear of COVID-19 score than other ones. This is consistent with another study in Egypt that found that frontline physicians have higher fear score than second line physicians[19]. Here it was found that emergency and family medicine specialty had the higher score of fear than other specialties (p=0.0003 and 0.007 respectively).

Table 4: Multivariable linear regression analysis of determinants of Fear of COVID-19 score

Predictors	Unstandardized Coefficients		Standardized Coefficients Beta	(95% CI)	p-value
	B	Std. Error			
(Constant)	23.290	2.778		(17.827-28.752)	**<0.001***
Age	-0.070	.061	-0.060	(- 0.189-0.050)	0.252
Gender					
Male				Reference	**0.003***
Female	2.036	0.680	0.165	(0.699-3.374)	
Specialty					
Emergency				Reference	
Family medicine	- 4.905	1.400	- 0.363	(-7.658-- 2.153)	**0.001***
Internal medicine	- 3.631	1.333	- 0.307	(- 6.253-- 1.009)	**0.007***
Surgery	- 2.784	1.625	- 0.133	(- 5.979-0.411)	0.087
Pediatrics	- 3.166	1.447	- 0.209	(- 6.011 - 0.321)	**0.029***
Obstetrics/Gynecology	- 3.640	1.672	- 0.163	(- 6.927 - 0.353)	**0.030***
Previous COVID-19 infection					
Not sure/No				Reference	0.059
Yes	1.804	0.914	0.098	(0.007-3.601)	
Number of patients +ve or suspected to be +ve for COVID-19 seen/ week					
< 5 patients				Reference	
5-10 patients	1.865	0.701	0.162	(0.487-3.242)	**0.008***
> 10 patients	1.584	0.873	0.113	(- 0.133-3.301)	0.070

*ANOVA<0.001, * Statistical significance at P < 0.05*

This could be explained as the family physician dealing with patients in early stage of disease, when diagnosis is uncertain, and the patient is infectious to others. Sometimes, the emergency team may need to intervene urgently to save lives without waiting to wear full protective devices or taking full history, and this may increase their fears of getting the infection. In this study it was found that previous exposure to COVID-19 infection was not associated with increase of fear score (p=0.059). Another study in Egypt found that positive history of medical colleague affection with COVID-19 virus infection is associated with increase fear score[19].

Conclusion

The pandemic of COVID-19 is associated with significant fear among Egyptian physicians, especially females. Specific interventions are needed to prevent irrational fear during the COVID-19 pandemic among Egyptian physicians.

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