RESEARCH ARTICLE

Fear of COVID-19 in a sample of students and teachers of the university of technology in Baghdad

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ABSTRACT

Introduction: Coronavirus (COVID-19) is a significant disease that attracts the attention of researchers worldwide investigating its symptoms, threats to human life, and effects on physical, mental, and psychological health. As a result, people's lifestyles have changed, consistent with reducing COVID-19 effects, including outbreaks, quarantines, online communication, and teaching.

Objective: This study aimed to investigate the effect of COVID-19 on a sample of students and employees (faculty members, staff, and others) of the University of Technology—Iraq (UOT) regarding three features: demography, diagnosis with COVID-19, and fear of COVID-19.

Methods: This study tracked the effect of COVID-19 on 1150 students, teachers, and workers at the University of Technology (UOT) in Iraq using an online questionnaire (Google Form). The questionnaire consists of three criteria: demographic features, diagnosis of COVID-19, and fear of COVID-19.

Results: We found that 11.3% of respondents have a severe fear of COVID-19, 43% have a mild fear, and 45.7% have no fear of COVID-19. Furthermore, 28.3% of the participants relied on nasal and/or oral swabs and 21% on the symptoms to diagnose the infection of COVID-19, while 8.3% and 2% relied on rapid blood tests and lung CT scans, respectively.

Conclusion: Fear of COVID-19 is decreasing with time. About two-thirds of the technical university students, teachers and other staff reported no or mild fear of COVID-19. Those with younger age, male, low educational level, and never married are found to be associated with low levels of fear of COVID-19.

Key words: Fear of COVID-19, University of Technology- Iraq.

INTRODUCTION

In Wuhan, China, an infectious respiratory disease known as Coronavirus (COVID-19) was reported for the first time in December 2019. On 11th March 2020, the World Health Organization declared COVID-19 a pandemic. [1] The world has been significantly affected by this disease at different levels, such as financial markets,[2] healthcare,[3] industries,[4] society, agriculture,[5] tourism,[6] labour market,[7] etc. In fact, as in other sectors, education is influenced as well by COVID-19, which is represented by students, teachers, educational facilities, and decision-makers.[8]

Several actions have been taken to control the transmission of COVID-19, such as reducing social distancing, quarantine, and the closure of public places like restaurants, schools, and universities. Electronic learning and remote social connection were a transition to a remote lifestyle instance. The lockdown has impacted the mental and psychological health of students,

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causing an increase in anxiety, depression, domestic violence, and fear.[9,10] This impact has also affected the university's faculty members, administrative and service personnel staff and technicians.

Rafiq stated that many undergraduate and postgraduate students in public universities in Lahore, Pakistan, feared COVID-19.[1] Another study on university students and employees from Pakistan stated that 72.4% of the participants feared COVID-19. Despite having good knowledge and attitudes toward COVID-19, they have insufficient awareness of preventive practices of the disease.[11] In contrast, in China, in a sample of students of Changzhi Medical College, about 75.1% of the students out of 7143 show no symptoms of anxiety in COVID-19, compared with the remaining quarter who show mild, moderate, and severe anxiety.[12]

Fear is a protective, primal emotion that causes a biochemical and emotional response to a perceived threat, whether actual or imagined. It points to the presence of physical or psychological harm causing universal biochemical changes and individual emotional responses. Fear can also be a symptom of some mental health conditions, including social anxiety disorder, panic disorders, phobias, and post-traumatic stress disorder (PTSD). When the reaction of fear is out of proportion to the actual threat, it can be problematic.[13]

When the perceived risk is "dreaded", panic occurs, and under these circumstances, even objective, scientifically-based information can increase fear in the general population. The COVID-19 pandemic has shown that sound scientific advice is essential but insufficient to dispel fear and avoid panic. Authentic news reporting can increase fears because the threat is novel, unseen, and potentially fatal, especially to those most vulnerable groups in society: elderly and sick persons.[14]

Like other countries, Iraq has been affected by the COVID-19 pandemic since 24th February 2020, when the first case of COVID-19 was recorded. After that, the Iraqi government and the Minister of Health started to carry out several steps to control the transmission of this virus.[15] Dentists, on the other hand, expose infected people through their work. Dentists (628 participants) working in specialist dental centres for adults in Al-Resafa Health Directorate demonstrated that about two-thirds of the studied sample had a negative feeling of anxiety.[16]

The study measured the fear from covid 19 in a sample of students, teachers and employees of the University of Technology in Baghdad, with the factors associated with it like age, gender, marital status, job description, and history of getting COVID-19. Also, we measure the impact of COVID-19 on the life of the participants.

METHODS

Setting and study design: A cross-sectional study conducted with analysis elements at the University of Technology in Baghdad, Iraq, from 1st February to 1st June 2022.

Case definition: Students (undergraduate and postgraduate), teachers of all ranks, and other employees (technical and administrative) who work in all departments and centres of the University of Technology in Baghdad, Iraq, were the target of our study. We approached the targeted population through the official electronic groups, Facebook, and other social media accounts of the departments and centres of the university provided by the university to assist the author in reaching the target. The authors exercised their best to explain to the targeted population, face-to-face and electronically, the importance of the study's aims and the expected results.

Ethical approval: Al-Resafa Health Directorate research committee has approved the study protocol according to the code of ethics in research adopted by the Ministry of Health in Iraq. The university's vice president for scientific affairs and postgraduate studies has given the researchers the agreement to conduct the research among the university's students, teachers, and employees and issued a letter to all the university's departments and centres to

facilitate the mission of the researchers. With the electronic questionnaire, the researchers explained the study's aims and assured the participants that the participation would be voluntary and all data would be confidential.

Sampling: We attempted to reach the targeted population electronically using Google Forms. However, to overcome the potential impact of reaching the target through this technique, we campaigned to raise awareness and encourage participation in the study. The students, teachers, and employees also participated in this campaign by directly reaching as many of their colleagues as possible. The targeted population of the study were 8690 undergraduate students, 1631 postgraduate students, and 1500 teachers and employees. Of them, 1150 (10.3 %) completed the questionnaire and returned it to the researcher.

Tool and questionnaire: a pre-designed electronic self-administered Arabic questionnaire was created. It was modified from the English version of the Fear of COVID-19 Scale (FCV-19S).[17] Pilot study done on 30 students excluded from the study sample, also opinion of 2 family physicians and 2 community medicine taken in consideration.

The questionnaire consists of four parts. ***The first*** included demographic features like age, gender, marital status, job description, and presence of chronic diseases or not. ***The second*** part included data about past personal experience with COVID-19, including being infected with COVID-19, how the infection is diagnosed, and the presence of psychological, social, or financial support and from whom. ***The third*** section included applying the Coronavirus-19 fear scale, which comprises seven questions adapted from the English version of the Fear of COVID-19 Scale (FCV-19S).[17] There are seven questions, "I am most afraid of coronavirus-19"; "It makes me uncomfortable to think about coronavirus-19"; "My hands become clammy when I think about coronavirus-19"; "I am afraid of losing my life because of coronavirus-19"; "Watching news and stories on social media make me nervous or anxious"; "I cannot sleep because I am worried about getting the coronavirus 19"; "My heart races or palpitates when I think about getting the coronavirus 19".

The scoring of fear from Coronavirus-19: The participants indicate their level of agreement with the statements using a five-item Likert-type scale. Answers included "strongly disagree," "disagree," "neither agree nor disagree," "agree," and "strongly agree". Each answer was assigned a mark ranging from 1 for "strongly disagree" to 5 for "strongly agree". Then, the total score was calculated by adding the score of each question, which ranged from 7 to 35. A participant who got 7-16 marks had no fear, 17-26 had a mild fear, and 27-35 had a severe fear. The fourth part included questions asked to rate the participants' general perception of the impact of COVID-19 on their feelings in the three months before participation in the study into " Good feeling", "Neutral and/or coping", or "Bad feeling". Those who selected "bad feelings" were also asked to define their bad feeling as "sadness and depression", "anxiety, stress and fear", or "Borness and tiredness".

Statistical analysis outcomes and procedures: We downloaded the data from the Google form to an Excel file where data has been reviewed and verified to ensure they are complete, organized and not duplicated. Then, we transferred the data into SPSS ver. 26 to be analyzed. The levels of fear were calculated and shown in numbers and percentages. Similarly, the demographic features, past personal experience with COVID-19, and participants' general perception of the impact of COVID-19 on their feelings in the three months before the study were also shown in numbers and percentages. To study the association of age group, gender, marital status, job description, and history of infection with COVID-19 on the level of fear, we used the chi-square test to calculate the p-value which was considered statistically significant if it is less than 0.05.

RESULTS

We received 1150 responses, with the highest being from the department of chemical

engineering (297, 25.8%), aged group 20-29 years (518, 45.0%), male (607, 52.8%), never married (750, 65.2%), and undergraduate (703, 61.1%), as shown in Table 1.

The study revealed that 490 (42.6%) participants had a proven COVID-19 infection, and 325 (28.3%) were diagnosed with a nasal and/or oral swab. Lung CT scan was only used for diagnosis in 23 participants (2%). For other data, see Table 2.

We found that mild or no fear was present in 758 (65.9%), moderate in 323(28.1%), and severe fear in 69 (6.0%), Figure 1.

Nearly a quarter of the participants did not answer the question about the general perception of the impact of COVID-19 on their feelings in the three months before participation in the study (287, 25.0%). The other three quarters were distributed evenly among good, neutral and bad feelings. Sadness and depression were the commonest bad feelings reported in 120 participants (42.9 %), Table 3.

Table 4 shows a statistically significant association between the severity of fear from COVID-19 and age, gender, marital status, and job description with p-values of 0.000, 0.000, 0.000, 0.023, respectively.

Table 1 | Distribution of participants according to department, age, gender, marital status, and Job description:

	Features	No.	%
Department	Chemical Engineering	297	25.8
	Applied Sciences	112	9.7
	Biotechnology	103	9.0
	research centres & administration	94	8.2
	Electrical Engineering	93	8.1
	Civil & Architecture Engineering	89	7.7
	Computer Science & Engineering	82	7.1
	Electromechanical Engineering	61	5.3
	Materials Engineering	53	4.6
	Control and Systems Engineering	51	4.4
	Industrial and Metallurgy Engineering	32	2.8
	Laser Engineering & Nanotechnology	48	4.2
	Mechanical Engineering	35	3.0
Age (Years)	less than 20	214	18.6
Avr= 24±3.61	20-29	518	45.0
	30-39	141	12.3
	40-49	170	14.8
	50 and above	107	9.3
	Male	607	52.8
Gender	Female	543	47.2
	Currently Married	384	33.4
Marital status	Never Married	750	65.2
	Previous Married	16	1.4
Job description	Undergraduate	703	61.1
	Postgraduate	59	5.1
	Professor	38	3.3
	Assistant Professor	81	7.0
	Teacher	101	8.8
	Assistant Teacher	67	5.8
	Engineer & Tech.	71	6.2
	Administer or Associate	30	2.6
Total		1150	100

Table 2 | The ways of diagnosis of COVID-19 for those who were infected.

		No.	%
Innfected with COVID-19	No	479	41.7
	Maybe	181	15.7
	Yes	490	42.6
Diagnostic method	Nasal / oral swab	325	28.3
	Rapid blood test	95	8.3
	Lung CT scan	23	2.0
	On the symptoms	251	21.8
	No answer	456	39.7

Table 3 | Distribution of participants' perception of their feelings in the last three months.

		No.	%
In general, describe your situation in the three months ago			
	No Answer	282	24.5
	Good feeling	287	25.0
	Neutral and/or coping	301	26.2
	Bad feeling	280	24.3
		1150	100.0
Description of the bad feeling			
Bad feeling	Sadness and depression	120	42.9
N= 280	anxiety, stress & fear	96	34.3
	poring &/or tired	64	22.8

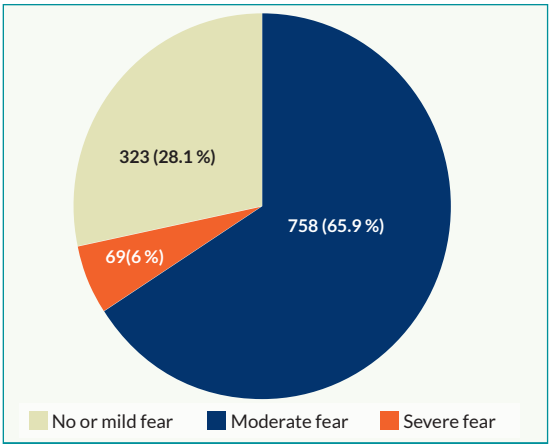

Figure 1 | Fear level of Covid-19 among the participants (Total: 1150)

Table 4 | Association between participants' fear of COVID-19 and some of their demographic variables.

Features		COVID-19 FEAR			Total	P value
		No or mild fear	Moderate fear	Severe fear		
age	less than 20	**167**	**41**	**6**	**214**	**0.000**
	20-29	361	124	33	518	
	30-39	82	52	7	141	
	40-49	95	60	15	170	
	50 and above	53	46	8	107	
gender	male	437	136	34	607	0.000
	female	**321**	**187**	**35**	**543**	
Marital status	currently married	211	143	30	384	0.000
	never married	537	175	38	750	
	previous married	10	5	1	16	
Job description	Undergraduate	508	158	37	703	0.000
	Postgraduate	36	20	3	59	
	Professor	22	15	1	38	
	Assistant Professor	43	35	3	81	
	Teacher	59	35	7	101	
	Assistant Teacher	40	21	6	67	
	Engineer & Tech.	32	28	11	71	
	Administer or Associate	18	11	1	30	
COVID-19 Infection	No	332	130	17	479	0.023
	maybe	115	55	11	181	
	Yes	311	138	41	490	

DISCUSSION

In the current study, approximately 66% of participants reported mild or no fear of COVID-19 and 51 % were feeling good or coping well with the general state of the outbreak. This finding contrasts with a meta-analysis that indicated a high level of fear among people during the pandemic.[18] Availability of an effective vaccine[19] that significantly influenced the spread of infection and the overall outbreak[20] decrease in COVID-19 mortality rates [21] and the increased awareness of the disease likely contributed to the reduced fear levels observed at the time of our data collection compared to the studies conducted in the early stages of the pandemic.

In this sample, age and fear of COVID-19 were significantly associated. Younger individuals were less concerned about the risk of death from COVID-19 compared to older adults, likely due to their lower likelihood of having comorbidities.[22] Younger people may not feel as afraid of COVID-19 because they believe they are less likely to develop severe symptoms or complications than older adults. However, it is important for everyone, regardless of age, to take precautions against infection.

In this study, fear and gender were significantly associated, with a higher percentage of females reporting moderate to severe fear compared to males. Women tend to be more compassionate and emotionally responsive to threats to themselves or their family members, and the COVID-19 threat was seen as a serious danger that warranted their concern.[23]

Marital status was also related to fear of COVID-19 in our sample, with a significantly higher percentage of individuals who were never married reporting no or mild fear. Single individuals tended to have less fear of COVID-19 than others, likely because they are less concerned about family members getting infected due to decreased social interaction and a focus on other life priorities.

There is a statistically significant association between job description and severity of fear of COVID-19. The mental state of people with higher levels of education tended to feel worse.[24] Fear has a negative relationship

with knowledge about COVID-19, education level and ageing.[25] 61% of our sample are undergraduates; they have shown mild or no fear regarding the pandemic, considering that fear from COVID-19 among those with lower levels of education is less than those with higher levels; we find the results more reasonable. Besides the increased level of knowledge of COVID-19 and how to deal with the preventive measures imposed by the government, the strict quarantine rules that decreased, the availability of vaccine and back to school all may have influenced the mental state of the participant to be less and anxious with less fear.

Previous infection with COVID-19 and fear are significantly related. People who previously contracted COVID-19 may be less afraid for several reasons: Perceived Immunity: Those who have recovered from COVID-19 might feel they have some level of immunity, reducing their fear of reinfection. While reinfection is possible, it is often perceived as less likely or less severe. Familiarity with the Disease: Having experienced the illness, they may feel more knowledgeable about what to expect, reducing fear of the unknown. Coping Experience: Surviving the infection can boost their confidence in coping with the virus if they contract it again.

CONCLUSION

Fear of COVID-19 is decreasing with time. About two-thirds of the technical university students, teachers and other staff reported no or mild fear of COVID-19. Those with younger age, male, low educational level, and never married are found to be associated with low levels of fear of COVID-19.

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Abbreviations list: Coronavirus Disease (**COVID-19**), Post-traumatic stress disorder (**PTSD**), Statistical Package for the Social Sciences (**SPSS**).

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