

# Understanding employees' responses to the COVID-19 pandemic: The attractiveness of healthcare jobs

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The purpose of this study was to examine the impact of COVID-19 on the attractiveness of work in the Iraqi health sector by looking at the mediating role of employees' attitudes. A questionnaire survey was used to collect data from 218 health sector employees. The results revealed that there is a significant impact of COVID-19 pandemic on employees' attitudes that influence their decision to quit the health sector and look for jobs in other sectors. As health sector employees are prone to suffer the most in the pandemic, this crisis significantly affected the attractiveness of jobs in the health sector, leading to an increase in employees' negative attitudes and their desire to leave work.

## 1 | INTRODUCTION

The COVID-19 epidemic has brought with it some long-term harmful consequences for the health sectors across Iraq; the effect of the upheaval was felt in individual, collective, and organizational life, especially because of the closures imposed by the government. The pressure on this sector increased due to the dangerous conditions within which healthcare workers had to treat patients face to face in these critical times. As COVID-19 caused a global health crisis that continues to threaten public health, the World Health Organization (WHO) declared the epidemic a Public Health Emergency of International Concern (Al-Abrow, Alnoor, & Abbas, 2019; Restubog, Ocampo, & Wang, 2020).

The health sector in Iraq is publicly funded and is regulated by the Iraqi government under the direction of the Iraqi Ministry of Health. At the time of writing, the epidemic in Iraq is accelerating fast, and the number of suspected and confirmed patients is rising steadily, resulting in a magnitude of distribution far exceeding that of the severe acute respiratory syndrome (SARS) in 2003. The capacity of COVID-19 person-to-person

transmission was not detected during the initial spread. As a result, the protection of healthcare workers was sub-optimal, and occupational exposures and infections were frequent (Dai, Hu, Xiong, Qiu, & Yuan, 2020). The long-term impacts of COVID-19 are still unknown, but they are likely to translate into a decrease in job applications in the future due to the lowering of perceived attractiveness of the work because of the high-risk situation in the work environment (Filimonau, Derqui, & Matute, 2020). Healthcare workers are in direct contact with COVID-19 patients, and therefore, they are at a higher risk of being infected. It has been observed that the health sector was not prepared enough for the pandemic as hospitals faced a shortage of personal protection equipment (PPE) and other facilities to combat the COVID-19 challenge. As a result, hospitals failed to protect their staff sufficiently, and medical workers have been reported to be infectious (Godderis, Boone, & Bakusic, 2020).

Besides the need to reduce the organic risk resulting from contracting the virus, the organizations must increase the attractiveness of work by paying attention to improving the positive attitudes of employees. Our literature review linked COVID-19 with psychological well-

being (Greenberg, Docherty, Gnanapragasam, & Wessely, 2020; Li, Wang, Xue, Zhao, & Zhu, 2020), mental distress and anxiety among healthcare workers (Shanafelt, Ripp, & Trockel, 2020), and job and life satisfaction of healthcare workers. However, there have only been limited research efforts to understand healthcare workers' attitude toward the attractiveness of their profession during the epidemic (Alnoor, Al-Abrow, Abdullah, & Abbas, 2020).

*Healthcare workers have an essential role to play not only in the clinical management of patients but also in ensuring appropriate measures for the prevention and control of infection, which they must implement in healthcare facilities.*

One of the long-term adverse effects of COVID-19 on the health sector is likely to be a decrease in organizational attractiveness. The hostile ethos that this epidemic has generated has made the retention of old and experienced staff, and the attraction of new employees, difficult. Healthcare workers have an essential role to play not only in the clinical management of patients but also in ensuring appropriate measures for the prevention and control of infection, which they must implement in healthcare facilities (Alnoor, 2020).

Our study is motivated by the dearth of research work. The importance of this study is that it discusses the essential issue of the attractiveness of the healthcare profession. Its purpose is to determine attitudes of healthcare workers toward the attractiveness of their occupation during the time of the pandemic. It is essential to understand their perspectives because there are instances of evidence of virus spread among healthcare workers, and this can adversely affect their job commitment and make them more anxious (Ran et al., 2020). This study is an attempt to answer whether factors such as the inadequacy of PPE affect the attractiveness of the healthcare profession among healthcare workers in Iraq.

## 2 | THEORY AND DEVELOPMENT OF HYPOTHESES

### 2.1 | The COVID-19 pandemic

Human history reveals that pandemics like the Spanish flu in 1917, Honk Kong flu (H3N2) of 1968, and the swine flu (H1N1) in 2009 have always been there, and presently, the world is facing a new pandemic in the form of COVID-19. At the beginning of December 2019, several people who worked or lived around the wholesale local seafood market in Wuhan, China experienced pneumonia due to an unknown cause followed by acute respiratory distress syndrome, respiratory failure, and other serious complications (Hossain, Khan, Rahman, Mullick, & Aktaruzzaman, 2020). It was initially named the new Coronavirus (2019-nCoV). On January 12, 2020, the WHO named the disease COVID-19. COVID-19 has created a health emergency, which is currently a reason for significant concern for the entire world (Chang, Xu, Rebaza, Sharma, & Cruz, 2020). Although the extent of the outcome of the epidemic is not surmisable, it is creating serious health issues with which exiting healthcare infrastructure is incompatible, especially in countries with weak health systems (Emanuel et al., 2020; Eneizan, Mohammed, Alnoor, Alabboodi, & Enaizan, 2019). The COVID-19 outbreak is also threatening the global economy and destabilizing societies across the world (Hadi, Alnoor, & Abdullah, 2018; Pan et al., 2020).

At the time of writing this article, 5.91 million patients have been reported to have contracted COVID-19, and 0.362 million deaths have occurred around the world. Despite the containment measures, there has been no success in restricting the spread of the pandemic. (Shi et al., 2020). For example, the Italian government has implemented extraordinary measures to reduce transmission of the disease, but these measures were not helpful enough to contain the spread. Specifically, the percentage of patients admitted to intensive care units has increased, which cannot be overlooked (Papapicco, 2020). In the Middle East, it seems that the current widespread outbreak has been partly associated with a delay in diagnosis and inadequate infection control procedures (Nemati, Ebrahimi, & Nemati, 2020). However, current treatment of COVID-19 worldwide has mainly focused on infection control, effective vaccines, and treatment cure rate (Ahorsu et al., 2020). The COVID-19 pandemic represents a major global health crisis that continues to threaten public health and safety. The rapid spread of COVID-19 among people led to the collapse of most medical institutions because the distance exceeded their absorptive capacity.

Moreover, healthcare workers, who were the first to deal with this virus, lacked experience, and it led them to a high risk of infection (Godderis et al., 2020). It caused a state of concern about the dangers of infection and preventive measures that lead to psychological distress, thus negatively affecting the level of job satisfaction among medical personnel (Dai et al., 2020). They often reported concerns about the nonavailability of PPE, which led to expressed reluctance to return to work, or had thoughts of quitting their job, which negatively affects the attractiveness of these jobs (Björn, Lindberg, & Rissén, 2016).

## 2.2 | Attitudes of healthcare workers

Healthcare organizations, such as hospitals, are characterized as highly knowledge-intensive institutions. Patients are dealt with by specialist individuals to provide the best possible healthcare services (Slåtten, Lien, & Svenkerud, 2019). Currently, healthcare workers are at risk and are experiencing job-related stress (Ramaci et al., 2020). Healthcare workers are those employees of a healthcare facility who interact closely with patients, such as doctors, nurses, technicians/medics, and ancillary staff (Risko et al., 2020). Health services aim to increase the health level of the society and to protect people from health risks by providing the best health service to those in need (Özdiñç, 2019). The COVID-19 pandemic is likely to put healthcare professionals across the world in a precarious situation, where they must make difficult choices and work under extreme pressures. These decisions may include the allocation of scant resources and balancing their own physical and psychological needs with those of the patients (Greenberg et al., 2020).

## 2.3 | The COVID-19 pandemic and the attitude of healthcare workers

Since the earlier outbreak of COVID-19, healthcare workers, throughout the world, are playing a critical role in combating and preventing COVID-19 and managing COVID-19 patients (Ahmed et al., 2020). They are directly involved in COVID-19 prevention and treatment. They also have direct contact with confirmed or suspected cases through patient intake, screening, inspection, testing, transport, medicine, nursing, specimen collection, pathogen detection, and pathologic examination (Zhou et al., 2020a). Healthcare workers are at a higher risk of getting the infection and becoming a potential

source of virus transmission in the community (Jiang et al., 2019).

*Worldwide, healthcare organizations such as hospitals face numerous challenges that are directly or indirectly related to employees' perception of organizational attractiveness.*

There is a general lack of awareness among healthcare workers to adopt precautionary measures. Inadequate training among healthcare workers was noted, with staff incorrectly wearing PPE (Aymen, Alhamzah, & Bilal, 2019; Zhou, Tang, et al., 2020a). It is pertinent to identify and support healthcare workers who are struggling with physical and mental issues because of the pandemic. Experiences with the Ebola virus suggest that healthcare workers suffer from incredibly heightened stress levels. In the case of COVID-19-related stress, one would expect symptoms that include preoccupation with the risks of COVID-19; compulsive attention to COVID-19-related news; insomnia; work-related anxiety, guilt, and bereavement; avoidance of returning to the healthcare setting; irritability; intrusive thoughts; nightmares; and depression (Krystal & McNeil, 2020). In addition, healthcare workers' woes about the shortage of PPE and feelings of incapability when faced with critically ill patients further add to their stress. Many healthcare workers stated that they needed more uninterrupted rest and adequate protective supplies to carry out their duty to patients in the best way (Chen et al., 2020).

## 2.4 | The attractiveness of healthcare occupations

Research indicates that there is a relationship between the actions of human resources and the attractiveness of work, especially at the level of the health sector, where the glamour of the health professions affects employees' attitudes toward their job (Thibodeaux & Kudisch, 2003). Therefore, applicants' impressions of the employer in the health sector are the primary key to attracting applicants for these jobs, particularly considering health crises.

Consequently, it indicates a complementary view of the people of the organization as a place of work (Gomes & Neves, 2011).

*Successful planning is critical to the sustainability of a healthcare system as it encompasses the delivery of the right care in the right place at the right time by the correct number of people to those most in need.*

Worldwide, healthcare organizations such as hospitals face numerous challenges that are directly or indirectly related to employees' perception of organizational attractiveness (Slåtten et al., 2019). Hospitals face tremendous workforce-related challenges, such as high turnover, burnouts, and increasing staff shortages of healthcare workers (Schneider, Oppel, & Winter, 2019). A significant challenge is to secure and retain skilled healthcare workers to avoid staff shortage. Other challenges faced by health systems include demographic changes and increasingly multimorbid population, the differentiation of health professions, structural and financing problems, rising complexity and interdependence, medical under-supply in rural areas, and increasing tensions between involved actors (Zhou, Huang, Xiao, Huang, & Fan, 2020b).

*The COVID-19 pandemic is a tremendous challenge for healthcare workers, causing stress and keeping healthcare organizations under severe pressure.*

To address these challenges and develop healthcare, in the first place, the workforce can be guided by analyzing the current state of the labor market and identifying

existing shortcomings in the system. After that, strategies and actions with the best feasibility and potential costs can be identified, and those with the competencies necessary to implement them can be selected (Dussault, 2019). Many factors affect the healthcare labor market, including changes in staffing requirements based on differences in patient characteristics, changes in reimbursement of service provisions, aging staff, suboptimal planning of professional training and career pathways, exacerbating working conditions, and changes in employee work values and preferences (Winter, Schreyögg, & Thiel, 2020). Successful planning is critical to the sustainability of a healthcare system as it encompasses the delivery of the right care in the right place at the right time by the correct number of people to those most in need (Ahern, Woods, Kalmus, Birch, & Listl, 2019).

## **2.5 | The mediating role of the attributes of healthcare workers and the attractiveness of healthcare occupations**

The healthcare service is one of the fastest-growing industries in both developed and developing countries, required to meet the health needs of people. Healthcare workers are central to any health system, and their activities are aimed at enhancing the health level of the community (George et al., 2014). The COVID-19 pandemic is a tremendous challenge for healthcare workers, causing stress and keeping healthcare organizations under severe pressure. Most of these institutions are struggling to cope with the care needs of so many critically ill patients (Burdorf, Porru, & Rugulies, 2020). Because of the extra work, the demand for healthcare workers is growing. There is a shortage of healthcare workers because some of them have also been quarantined after getting the virus. The pressure on the global healthcare workforce continues to intensify. This pressure is due to the burden of illnesses that stresses the health system's capacity and adversely affects the healthcare workers, including the risk of infection (Adams & Walls, 2020). Despite these pressures on the health systems in the world, these systems seek to attract and secure a skilled workforce and avoid the negative consequences of staff shortages that may threaten the safety of societies in the future (Winter et al., 2020).

Consequently, this study investigates the role of the attitude of healthcare workers as a mediator in the relationship between COVID-19 and the attractiveness of healthcare occupations. It is argued that the COVID-19 pandemic will reduce the attractiveness of health professions. This is related to changing employees' attitudes in the negative direction due to the tremendous pressure

**EXHIBIT 1** Results of measurement model

Constructs	Items	Loading	AVE	CR	Cronbach's alpha
COVID-19 pandemic			0.808	0.881	0.856
Individual mental health condition	I am most afraid of Coronavirus recent outbreak in Iraq	0.708	0.692	0.884	0.777
	I am afraid of getting Coronavirus	0.795			
	I am afraid of losing my life or my relatives' experience due to this outbreak	0.785			
Health system in Iraq	Health system of Iraq is fragile to deal with the recent outbreak of COVID-19	0.753	0.644	0.819	0.876
	A vast population is a pressure to the existing health system to deal with COVID-19	0.778			
	There is a lack of awareness of fundamental health issues in most of the citizens of Iraq	0.733			
Governance and political issues	Iraq government can deal with this outbreak	0.717	0.715	0.801	0.801
	Government is taking this outbreak seriously to deal with	0.741			
	Government is taking proper decisions at the right time	0.787			
Socioeconomic issues	Shut down or lockdown of regular activities is a right decision to reduce the chance of infection of Shut down or lockdown or social distancing will have an economic and social impact in future	0.726	0.608	0.813	0.856
	The formal and informal business will be hampered	0.716			
	There is a chance of community transmission of COVID19 in Iraq	0.799			
Enduring emerging issues	A huge number of people will be infected	0.703	0.577	0.858	0.724
	There is a chance of not detecting most of the infected patients due to lack of health facilities leads to undermining the actual infected case	0.733			
	There is a chance of severe food scarcity due to these events (COVID-19 + Disasters) in the country	0.728			
	High possibility of substantial economic loss	0.764			
	High possibility of increasing the poverty level	0.786			
Attitude of employees			0.544	0.896	0.876
Social value	Having a good relationship with your colleagues	0.775	0.514	0.874	0.765
	Having a good relationship with your superiors	0.728			
	Supportive and encouraging colleagues	0.764			
Interest value	Working in an exciting environment	0.745	0.504	0.871	0.754
	Innovative employer – novel work practices/forward-thinking	0.757			
	The organization both values and uses your creativity	0.845			
Application value	The organization produces high-quality products and services	0.817	0.576	0.834	0.727
	Humanitarian organization – gives back to society	0.838			
	Opportunity to apply what was learned at a tertiary institution	0.840			
Development value	Opportunity to teach others what you have learned	0.859	0.616	0.881	0.788
	The organization is customer-orientated	0.761			
		0.744			

(Continues)

## EXHIBIT 1 (Continued)

Constructs	Items	Loading	AVE	CR	Cronbach's alpha
	Feeling more self-confident because of working for an organization				
Economic value	Feeling good about yourself because of working for an organization	0.706	0.564	0.803	0.715
	Gaining career-enhancing experience	0.704			
	Excellent promotion opportunities within the organization	0.721			
	An above-average basic salary	0.729			
	An attractive overall compensation package	0.725			
Attractiveness of hospitality jobs	After COVID-19 I find a very attractive hospital	0.821	0.693	0.882	0.756
	After the effects of COVID-19 pandemic for me, this Hospital would be a great place to work	0.856			
	This Hospital is attractive to me as a place for employment especially after-effects of COVID-19 pandemic	0.860			

Abbreviation: AVE, average variance extracted; CR, composite reliability.

facing these organizations, which generates a lack of organizational flexibility to respond to the requirements of this situation. Consequently, this significantly affects the perceived job security, leading to a reduction in their commitment to remaining in the organization (Fanelli & Piazza, 2020).

Based on the above discussion, we propose the following four hypotheses:

- H1: COVID-19 is related to the attributes of healthcare workers.
- H2: COVID-19 is related to the attractiveness of healthcare occupations.
- H3: Attitudes of healthcare workers are related to the attractiveness of healthcare occupations.
- H4: The attitude of healthcare workers mediates the effects of COVID-19 and attractiveness of healthcare occupations.

### 3 | METHODOLOGY

This study has used an online survey questionnaire to collect data from healthcare employees of hospitals in Iraq. Due to the problem of access, online contact was the only choice available to reach out to them. The online questionnaire was sent to health departments in hospitals, which in turn reached out to their staff through social media. It was delivered to a total of 322 healthcare workers of 244,215 (doctors, nurses, and others).

According to Zikmund, Babin, Carr, and Griffin (2010), a study of a population of more than 100,000 is doable with a smaller sample size. Of 322, we received 218 filled-in questionnaires. A relatively larger sample was not enrolled due to access issues and the busy schedule of healthcare workers. Demographic variables of the study sample in terms of age and job title were reported. The results showed that 20.29% of the study samples were filled in by individuals ranging from 18 to 24 years old, 41.45% were aged 25–34 years, 28.99% were aged 35–44 years, 8.70% were aged 45–54, and only 0.58% ranged from 55 to 64 years old. Of the 218 respondents, 8.70% were nurses, 6.38% were maintenance worker, 57.68% were doctors, and 27.25% were support staff. Non-response bias occurs when those individuals completing the survey differ systematically from the ones who do not. To address the problem of nonresponse bias in this study, different strategies were used, such as the healthcare staff being followed up through phone calls and SMS messages. To minimize the issue of nonresponse bias further, the authors also used different scales like age and job title, as well as the Likert scale, in this study.

One limitation to our sample size was the professional engagement of medical personnel during pandemic situation. This hindered our access to more medical workers. Participants were instructed to use a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree) to answer 37 questions that addressed three variables: COVID-19 (independent variable), healthcare

**EXHIBIT 2** Discriminant validity of constructs

	1	2	3	4	5	6	7	8	9	10	11	12	13
Individual mental health condition	0.832												
Health system in Iraq	0.229	<b>0.586</b>											
Governance and political issues	0.215	0.200	<b>0.846</b>										
Socioeconomic issues	0.024	0.229	0.284	<b>0.555</b>									
Enduring emerging issues	0.223	0.231	0.302	0.159	<b>0.760</b>								
COVID-19 pandemic	0.483	0.198	0.523	0.286	0.562	<b>0.717</b>							
Social value	0.116	0.266	0.238	0.127	0.170	0.312	<b>0.710</b>						
Interest value	0.026	0.161	0.354	0.592	0.125	0.171	0.298	<b>0.759</b>					
Application value	0.114	0.064	0.119	0.395	0.074	0.081	0.525	0.447	<b>0.785</b>				
Development value	0.023	0.116	0.172	0.211	0.084	0.194	0.481	0.283	0.494	<b>0.751</b>			
Economic value	0.110	0.276	0.155	0.110	0.615	0.406	0.136	0.077	0.041	0.021	<b>0.702</b>		
Attitudes of employees	0.463	0.255	0.193	0.292	0.467	0.366	0.256	0.237	0.211	0.059	0.204	<b>0.756</b>	
Attractiveness of hospitality jobs	0.017	0.184	0.173	0.125	0.101	0.242	0.478	0.333	0.484	0.436	0.097	0.293	<b>0.759</b>

**EXHIBIT 3** Descriptive statistics and correlation

Variables	Mean	S.D	1	2	3	4	5	6	7	8	9	10	11	12	13
1. IC	2.834	1.380	1.000												
2. HI	3.007	1.391	0.829	1.000											
3. GP	2.751	1.307	0.215	0.400	1.000										
4. SI	2.812	1.427	0.024	0.229	0.284	1.000									
5. EI	2.802	1.286	0.623	0.831	0.302	0.159	1.000								
6. C19	2.841	1.358	0.483	0.798	0.523	0.286	0.562	1.000							
7. SV	2.851	1.525	0.116	0.266	0.238	0.827	0.170	0.312	1.000						
8. IV	2.797	1.349	0.026	0.161	0.354	0.592	0.125	0.171	0.298	1.000					
9. AV	2.699	1.296	-0.114	0.064	0.119	0.795	0.074	0.081	0.525	0.447	1.000				
10. DV	2.754	1.301	0.023	0.116	0.172	0.711	0.084	0.194	0.481	0.283	0.494	1.000			
11. EV	2.621	1.388	0.710	0.776	0.155	0.110	0.615	0.406	0.136	0.077	0.041	0.021	1.000		
12. AE	2.744	1.371	0.463	0.655	0.193	0.292	0.467	0.366	0.256	0.237	0.211	0.059	0.504	1.000	
13. AHJ	2.577	1.270	-0.017	0.184	0.173	0.725	0.101	0.242	0.478	0.333	0.484	0.436	0.097	0.293	1.000

Note: P < .05 (2-tailed).

Abbreviations: IC, individual mental health condition; HI, health system in Iraq; GP, governance and political issues; SI, socioeconomic issues; EI, enduring emerging issues; C19, COVID-19 pandemic; SV, social value; IV, interest value; AV, application value; DV, development value; EV, economic value; AE, attitudes of employees; AHJ, attractiveness of hospitality jobs.



**EXHIBIT 4** Testing the hypotheses

Paths	$\beta$ value	Standard deviation	t value	p values	Result	
Individual mental health condition - > attitudes of employees	0.101	0.174	0.552	.581	Unsupported	
Health system in Iraq - > attitudes of employees	0.211	0.364	0.554	.580	Unsupported	
Governance and political issues - > attitudes of employees	0.130	0.223	0.550	.582	Unsupported	
Socioeconomic issues - > attitudes of employees	0.011	0.019	0.567	.571	Unsupported	
Enduring emerging issues - > attitudes of employees	0.083	0.142	0.544	.586	Unsupported	
COVID-19 pandemic - > attitudes of employees	0.075	0.129	0.550	.582	Unsupported	
Social value - > attractiveness of hospitality jobs	0.064	0.013	4.994	.000	Supported	
Interest value - > attractiveness of hospitality jobs	0.064	0.012	5.133	.000	Supported	
Application value - > attractiveness of hospitality jobs	0.098	0.019	5.276	.000	Supported	
Development value - > attractiveness of hospitality jobs	0.087	0.018	4.856	.000	Supported	
Economic value - > attractiveness of hospitality jobs	0.137	0.031	4.477	.000	Supported	
Attitudes of employees - > attractiveness of hospitality jobs	0.354	0.070	5.066	.000	Supported	
COVID-19 pandemic - > attractiveness of hospitality jobs	0.203	0.075	2.720	.007	Supported	
Individual mental health condition - > attractiveness of hospitality jobs	0.045	0.018	2.570	.010	Supported	
Health system in Iraq - > attractiveness of hospitality jobs	0.053	0.020	2.706	.007	Supported	
Governance and political issues - > attractiveness of hospitality jobs	0.043	0.018	2.354	.019	Supported	
Socioeconomic issues - > attractiveness of hospitality jobs	0.048	0.017	2.852	.005	Supported	
Enduring emerging issues - > attractiveness of hospitality jobs	0.082	0.030	2.765	.006	Supported	
	Indirect effect	SE	t-value	95% LL	95% UL	Indirect effect
Mediating effect 1 - > attractiveness of hospitality jobs	0.001	0.071	0.018	-0.138	0.140	Unsupported
Mediating effect 2 - > attractiveness of hospitality jobs	0.003	0.071	0.036	-0.137	0.142	Unsupported
Mediating effect 3 - > attractiveness of hospitality jobs	0.002	0.071	0.035	-0.137	0.142	Unsupported
Mediating effect 4 - > attractiveness of hospitality jobs	0.000	0.071	0.003	-0.139	0.139	Unsupported
Mediating effect 5 - > attractiveness of hospitality jobs	0.003	0.071	0.036	-0.137	0.142	Unsupported
Mediating effect 6 - > attractiveness of hospitality jobs	0.005	0.071	0.074	-0.134	0.144	Unsupported

workers' attitude (mediator), and attractiveness of the healthcare occupation (dependent variable). The questionnaire was developed based on previous studies. At the same time, COVID-19 was measured based on the study by Shammi, Bodrud-Doza, Islam, and Rahman (2020), including variables such as mental health condition, the health system in Iraq, governance and political issues, socioeconomic issues, immediate emerging issues, and enduring emerging issues, with a

total of 17 items for measurement. Employees' attitudes were measured using 17 items (Reis, Braga, & Trullen, 2017) classified as social value, interest value, application value, development value, and economic value. The attractiveness of healthcare occupations was determined through the three-item scale of Gomes and Neves (2011).

Modeling of a partial structural formula equation (PLS) was carried out to test the study model using

SmartPLS 3.0 because it deals with data regardless of sample size and nature (natural or not). It also has an added advantage of predicting and exploring cause-and-effect relationships between variables (Ringle, Wende, & Will, 2005). Before examining the study model hypotheses, researchers examined convergent and discriminatory validity. For closer suitability, researchers initially tested the elements using specific criteria. Later, the details were grouped by metrics that represented the main variables and their dimensions for the dependent variable (Hair Jr, Sarstedt, Hopkins, & Kuppelwieser, 2014). The specific criteria used to examine closer suitability include factor loading, which should exceed 0.7; average extracted variance (AVE), which should exceed 0.5; and combined reliability (CR) and Cronbach's alpha for internal consistency reliability, which should exceed 0.7 (Hair Jr et al., 2014). The results (Exhibit 1) show that the load factor values exceed the specified costs.

## 4 | RESULTS AND ANALYSIS

The first stage of the partial least squares structural equation modeling (PLS-SEM) was performed by estimating the measurement model. The results show that indicator loadings for all items exceeded the recommended value of 0.7 (Hair Jr et al., 2014). The benefits for AVE ranged between 0.504 and 0.715, hence exceeding the benchmark value of 0.5, and CR values ranged between 0.801 and 0.884, exceeding the benchmark value of 0.7 (Hair Jr et al., 2014); see Exhibit 1. The measurement items' discriminant validity was examined following the criteria of Fornell & Larcker (1981); see Exhibit 2. The exhibit shows the discriminant validity of the construct used in the model. It shows that all values of AVEs present in the diagonal are higher than the off-diagonal values of interconstruct squared correlations.

*If the pandemic continues for an extended period, many healthcare workers may leave work given the enormity of the pressures they face at the individual, family, and organizational levels.*

The bold values in diagonal are the square root of AVE, while the off-diagonal benefits are the inter-construct squared correlations.

Exhibit 3 presents the results of descriptive statistics and correlations. Results show that the effect of COVID-19 on the attractiveness of work in the health sector is significant. Similarly, the values of the standard deviation are smaller. The results indicate a weak positive relationship between COVID-19 and the attractiveness of work in the healthcare sector ( $p < .05$ ). In addition, there is a positive correlation between the effect of COVID-19 and the dimensions of employees' attitudes. ( $p < .05$ ). These results suggest that more needs to be done to reduce the impact of COVID-19 on the health sector. Especially if the pandemic continues for an extended period, many healthcare workers may leave work given the enormity of the pressures they face at the individual, family, and organizational levels.

### 4.1 | Testing the hypotheses

The second stage of PLS-SEM (Path Analysis) was performed to estimate the structural model. For this purpose, R2 values and the significance of the path model (Hair Jr et al., 2014) were explored. R2 for employees' attitude and attractiveness of work in the health sector was 1.260 and 0.276, respectively. The study hypothesizes the relationship between the five dimensions of COVID-19 with the attractiveness of work in the health sector directly and through the mediation of attitude. The results show that all the dimensions of COVID-19 were significantly and negatively related to the attractiveness of work in the health sector (see Exhibit 4) for direct effects.

*If healthcare workers increase their self-efficacy, this will reduce the negative impacts and increase the attractiveness of the work.*

The mediation effect of work attitude on the attractiveness of work in the health sector was examined; see Exhibit 4. Using the Preacher and Hayes (2008) method to test the effect of mediation, the results are shown by rejecting all hypotheses between the impact of COVID-19 and its dimensions on the attractiveness of work in the health sector by employees' attitude.

The results confirm the significant impact that the Coronavirus has had on the world in general, and on the health sector in particular, as it has begun to change the core values of employees, which in turn will negatively affect the attractiveness of this sector.

## 5 | DISCUSSION

In the context of epidemic diseases such as SARS and COVID-19, healthcare workers suffered from a perturbed state of mind in their work, which required a considerable sacrifice, leading to the decline of healthcare workers' attention to themselves. Therefore, some of them were exposed to infection and others to collapse due to work pressures. This prolonging of the disease may negatively affect the attractiveness of the health professions over time. Throughout this study, efforts are made to determine the effect of COVID-19 on the attitudes of healthcare workers and its impact on the attractiveness of work in the health sector. More efforts are needed for solutions to reduce the negative impact in this relationship by focusing on developing employees attitudes by providing the necessary preventive measures and equipment to safeguard workers from exposure to infection, organizing working hours by adopting shifts method for rest and better care for infected patients, and providing financial rewards for overtime working hours and incentives at work so that employees can modify their malicious behavior.

*Managers influence employees in several ways, for instance, giving them support in various ways, which is critical, and it paves the way for changing employees' opinions regarding willingness to work.*

This study tries to report the health conditions and job satisfaction of healthcare workers during the height of the COVID-19 pandemic in Iraq. The fallout of COVID-19 made staff expect the worst, and it adversely affected their satisfaction with their work and led to less

attractiveness of the work. Healthcare workers have diverging opinions of fear and pride regarding their work in the health sector. The satisfaction seems to stem from their core values. Anxiety may cause healthcare workers to quit their job. Employees who intend to leave have less perceived support and recognition of their work. This is in line with the assumption that individuals' negative perceptions adversely affect business outcomes when the employee believes the environment is not suitable for work.

Healthcare institutions are frontline institutions during any disaster or disease outbreak. A good-planned workplace protocol should be in place, including sets of actions relevant to disaster or disease outbreak to prevent the withdrawal of workers under these circumstances and to motivate them to work efficiently and effectively. Our study indicated some positive aspects that, if highlighted and improved, such as the value and meaning of work in the health sector, may help healthcare workers to perform their job effectively. Our results show negative consequences inconsistent with the objectives of the organization. So, if healthcare workers increase their self-efficacy, this will reduce the negative impacts and increase the attractiveness of the work. It will also enhance the feeling of power and ability of healthcare workers to improve organization image and be motivated for work (Remuzzi & Remuzzi, 2020). There is also a positive effect of healthcare workers' attitudes on the relationship between COVID-19 and the attractiveness of work in the health sector. This indicates that the availability of positive attitudes will enhance positivity, and the ability to communicate with members of the organization will thus reduce the negative aspects of COVID-19. Besides, employees will gain the confidence to deliver high-quality work, which increases the attractiveness of work in the health sector and relieves work pressure. In conclusion, employees' perceptions of COVID-19 have a direct impact on the attractiveness of work in the health sector, as well as the mediator role of organizational attitudes in mediating this relationship and mitigating the effect of COVID-19.

### 5.1 | Managerial implication of the research

Our study suggests that there is a greater need for managerial interventions, for example, support, appreciation, and recognition, to help healthcare workers feel attracted toward their work. Managers should address the issue of employees' withdrawal from the health sector. This will make the remaining employees feel safe at work and increase their commitment to work. They also

lack relevant knowledge that causes neglect and exit from employment. Managers can introduce a financial incentive to make healthcare workers stay. Organizations are integral units and need close co-ordination, and the managers must ensure this by redefining organizational structures and making decision processes transparent and fair. This will develop positive perceptions of a fair and stable work environment where employees can take responsibility for work through increased work attractiveness.

Organizations that care more for employees' values can attract and retain employees. Hospitals must develop comprehensive and all-inclusive strategies to keep their employees. Although it is important to understand employees' attitudes, understanding managers attitudes and the way they perceive employees' attitudes are equally important. Managers influence employees in several ways, for instance, giving them support in various ways, which is critical, and it paves the way for changing employees' opinions regarding willingness to work. Thus, the essential role of hospitals' management—by increasing transparency in all procedures and organizational activities, following up complaints and serious grievances submitted by the employees accurately, and establishing open communication channels between managers and employees—can develop attractiveness for work among healthcare workers.

## 5.2 | Limitations and future research

This study has some limitations. This study has been conducted in the health sector of a developing country, so care must be taken while generalizing the results across other countries. Similarly, access issues and a specific period to collect data constitute limitations of this study. Using different data in different sectors and other contexts will help generalize more reliable results. Given these results, future research should assess the moderate role of other variables, such as labor stress. Besides, longitudinal studies with more experimental subjects should support the results obtained in the study. Moreover, as the variables in this study are complex, future research may benefit from a qualitative approach to provide more genuine insights into the antecedents and outcomes associated with COVID-19.

## 6 | CONCLUSIONS

The results of this study revealed that negative attitudes of healthcare workers toward COVID-19 pandemic have

a significant impact on their behavior in the progress of the healthcare process for patients who are infected with the virus. The study found that the reason for this malicious behavior on the part of healthcare workers is due to a set of challenges, difficulties, and circumstances that they must face and live with, which are: limited social support, increased work requirements, irregular working hours, failure to provide the necessary protection and equipment, and failure to meet the financial entitlements for overtime. Thus, these problematic working conditions often lead to the collapse and fall of some workers due to fatigue or because some of them are exposed to the risk of infection with the virus. This situation can affect the global regulatory environment, which in turn determines the employees' attitudes toward their employing organizations. Finally, despite the limitations, this study provides academics and managers with an essential understanding and interpretation of how to tackle the problems emanating from the impact of COVID-19 on the attractiveness of work in the health sector. This is evident from the results obtained by testing the employees' reaction regarding perceived organizational support.

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