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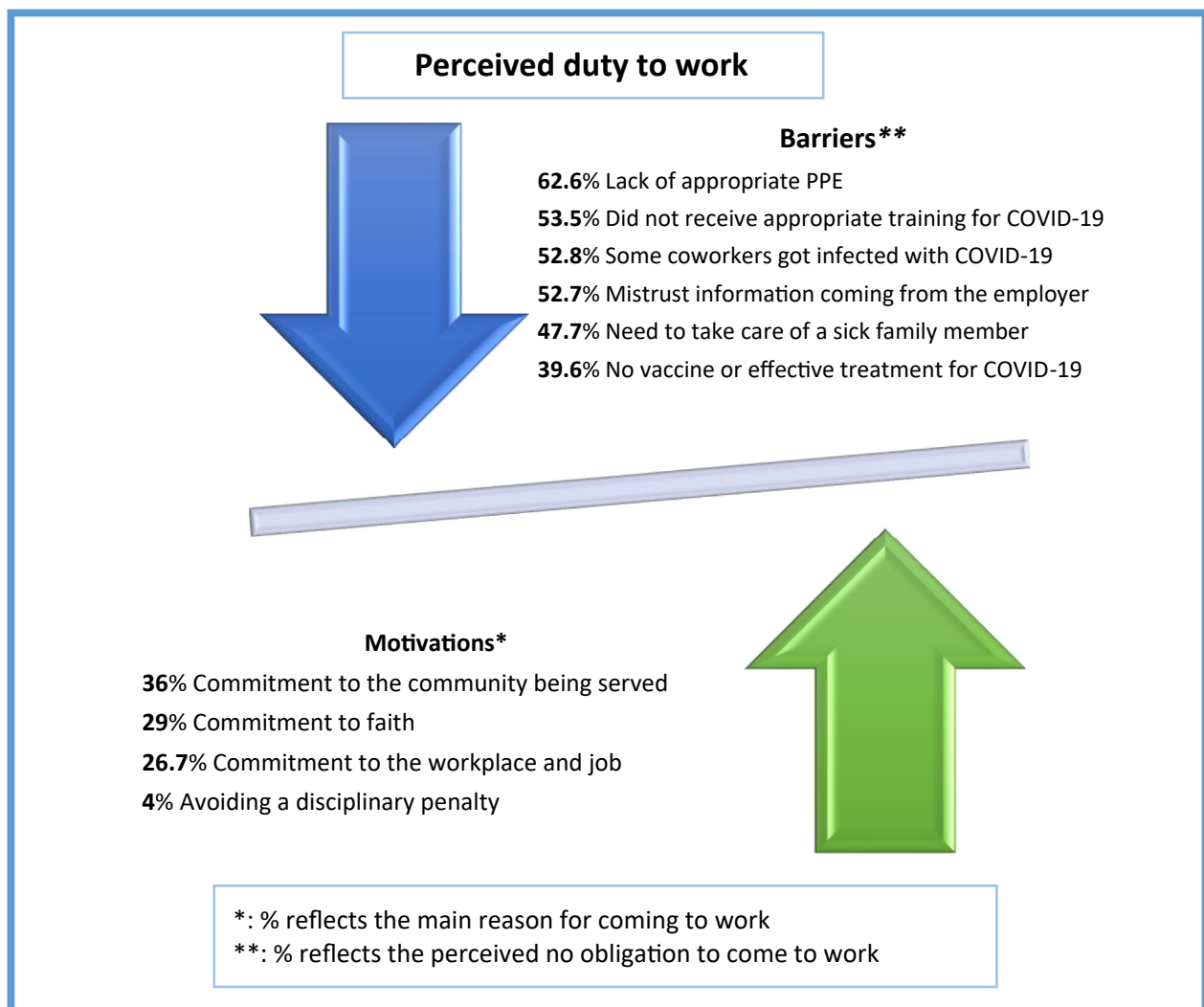
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# DUTY TO WORK DURING THE COVID-19 PANDEMIC: A CROSS-SECTIONAL STUDY OF PERCEPTIONS OF HEALTH CARE PROVIDERS IN JORDAN



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**Section Editors:** Pat Clutter, MEd, BSN, RN, CEN, FAEN, Nancy Mannion, DNP, RN, CEN, FAEN



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## Abstract

**Introduction:** This study aimed to assess perceptions of duty to work among health care providers during the coronavirus disease 2019 response and to identify factors that may influence their perceptions.

**Methods:** This was a cross-sectional study conducted from April 1, 2020, to April 20, 2020, using an online survey distributed to health care providers in Jordan. Descriptive statistics were used, as well as chi-square test for independence to assess relationships between variables.

**Results:** A total of 302 questionnaires were included. Commitment to serve the community was the primary reason for coming

to work (36%), followed by commitment to faith (29.6%). The major perceived barriers for coming to work were lack of appropriate personal protective equipment and appropriate training (62.6% and 53.5%, respectively). Males perceived higher work obligations than females in all potential barriers ( $P < .05$ ), except for the lack of appropriate training. Nurses perceived higher work obligations than other health care providers despite the lack of appropriate training ( $\chi^2 = 11.83, P = .005$ ), lack of effective vaccine or treatment ( $\chi^2 = 21.76, P < .001$ ), or reported infection among coworkers ( $\chi^2 = 10.18, P = .03$ ).

**Discussion:** While the majority of health care providers perceive an obligation to work during the coronavirus disease 2019 pandemic, specific conditions, mainly lack of protective gear and training, may significantly alter their perception of work obligation. Providing training and proper personal protective equipment are among the vital measures that could improve the work environment and work obligation during pandemic conditions.

**Key words:** COVID-19; Health personnel; Health workforce; Ethics-medical

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J Emerg Nurs 2022;48:589-602.  
0099-1767

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<https://doi.org/10.1016/j.jen.2022.04.004>

## Introduction

Countries around the world struggled to respond to the surge of patients with COVID-19 caused by the SARS-CoV-2, which overwhelmed many well-developed health care systems. During disasters and public health emergencies, health care providers (HCPs) were on the front lines, risking their lives to provide care for patients in need. Here, we define HCPs as health professionals who provide direct or indirect care to patients in hospital or prehospital settings. It is expected that HCPs have a clear work obligation during

pandemics and health disasters, which is based on the code of conduct that governs their practice.<sup>1</sup> While HCPs recognize an obligation to work, they also expect to maintain their own health and well-being in order to provide care for patients.<sup>2</sup>

During pandemic disasters, while the need for HCPs is exacerbated because of the dramatic increase in work volume, a significant proportion of HCPs become infected themselves and are unable to provide care, leading to a staff shortage.<sup>3-8</sup> This shortage in staff, along with increasing demand, puts HCPs at a higher risk of infection, making matters worse.<sup>9</sup> As a result, some HCPs may become unwilling to report to work because of the risk of infection to themselves or their families. This can dramatically overwhelm hospitals and stretch staff resources thin, rendering them unable to provide the services that are needed the most during such situations.

The willingness of HCPs to report to work is one of the most important factors in the face of surge capacity limitations in response to the COVID-19 pandemic. HCPs are less willing to report for duty during disease outbreaks.<sup>10,11</sup> There are 2 positions with respect to the ethical obligation to work during disasters.<sup>1</sup> On one hand, some argue that HCPs are obligated to maintain their health in order to be able to care for others and not to be victims. In addition, they believe that it is not reasonable that HCPs threaten their own lives and the lives of their families to care for others.<sup>1</sup> A study performed by Damery et al<sup>1</sup> found that about 30% of nurses, 25% of hospital doctors, and 18% of general practitioners believe that they do not have to report for duty if doing so would risk themselves and/or their families. In contrast, others believe that HCPs should have limited self-regard and should accept potential harm in performing their job.<sup>12</sup> For instance, a study performed by Koh et al<sup>12</sup> assessed the impact of SARS on HCPs in Singapore. While the majority (76%) of participants felt at great risk of exposure to SARS, more than two-thirds (69.5%) accepted the risk of potentially contracting the disease as part of their job.

The COVID-19 pandemic has reintroduced the issue of role conflict and role abandonment among HCPs. The risk of infection to oneself and family has led some workers to abstain from their work. For instance, in an elderly-care home in Australia, after cases of COVID-19 among residents were reported, most of the workers did not report to work as scheduled because they felt in danger of infecting their family members.<sup>13</sup> Another case of role abandonment occurred in a residential home in Spain that resulted in mortality for elderly people amid the COVID-19 response.<sup>14</sup> It is, therefore, of primary importance to understand the perceived duty to work among HCPs during pandemic disasters. This is crucial to maintain staffing, maintain good quality patient care, and keep the health care system functional in such situations.

Disaster preparedness of health care facilities is paramount to ensure effective and efficient response to public health emergencies such as the COVID-19 pandemic. To achieve optimal disaster preparedness, the training of HCPs should adopt an all-hazards approach that utilizes generic basic principles for disaster scenarios.<sup>15</sup> The work of McCabe et al<sup>16</sup> provides a framework for evaluating the disaster preparedness of health care systems. The “ready, willing, and able” (RWA) framework can be applied to health care delivery systems at the individual, organizational, and governmental levels. Based on the RWA framework, the maximum overlap between the 3 domains, ‘ready,’ ‘willing,’ and ‘able,’ provides the maximum quality preparedness and response to public health emergencies. In this context, “ability” refers to the “actual operational power of an individual to perform a task”; “willingness” refers to the “state of being favorably predisposed in mind toward specific responses”; and “readiness” to respond means that an individual is “available for prompt reaction, service, or duty.”<sup>16</sup> Therefore, the perceived duty to work can be explored within the context of the RWA framework.

In Jordan, the government has implemented 1 of the strictest lockdown policies in the world.<sup>17</sup> This resulted in keeping the number of cases of COVID-19 under control and within the managing capacity of the Jordanian health care system. However, early in June 2020, Jordan, along with many other countries, started to relax the strict measures of social distancing to support its struggling economy. This resulted in a spike of cases of COVID-19, which put HCPs at high risk of contracting the disease and spreading it to their families. During the period from January 2021 until the end of March 2021, the spread of the pandemic was among the highest in the world, stressing the already limited health care resources.<sup>18</sup> In this climate of uncertainty, the following questions are highlighted: (1) Are HCPs obligated to work in conditions that put them and their families at higher risk than day-to-day conditions? (2) Are there conditions where HCPs become no longer obligated to provide care for the sick? This study, therefore, aimed to assess the perceptions of duty to work among HCPs during the COVID-19 response and to explore factors that may influence their perceptions.

## Methods

### DESIGN

This was a cross-sectional descriptive study using an online questionnaire using a convenience sampling method with HCPs in Jordan.

## MEASURES

The questionnaire was developed by an expert panel of HCPs and researchers (4 PhD holders in the fields of nursing and paramedicine) (Supplementary Appendix). The questionnaire items were also based on previous pandemic-related research,<sup>1,19,20</sup> as no standardized tool was found to assess the perception of duty to work during a pandemic. The questionnaire included 14 items addressing 3 domains: demographics (7 items), 1 major reason for coming to work, and potential barriers for coming to work (6 items). The potential barrier statements take into consideration the RWA framework.<sup>16</sup>

The first section included information about sex, age, marital status, presence of children, education, job, and work experience. In the second section, participants were asked about the main reason for reporting to work during the COVID-19 response. Options that participants could select included: commitment to the community being served, commitment to faith, commitment to workplace and job, avoidance of penalties, and choice not to work in such situations. These options assumed that the participant was able to work. The third section included questions using a 6-point Likert-type scale to determine their barriers to work during COVID-19. Participants were asked to choose from 1 (not at all obligated) to 6 (strongly obligated). The questionnaire was pilot tested for readability and understanding of all terminologies by 10 participants and then modified according to participants' feedback. The final version of the questionnaire was then approved by the expert panel. The internal consistency using the Cronbach alpha coefficient was 0.84 for the barrier to work items, indicating good reliability. Google forms (Web application, Google) were used to develop the online questionnaire and the disseminated link.

## SETTING

The survey took place in the country of Jordan. The majority of the health care workforce in Jordanian hospitals are nurses (44%) and physicians (25%).<sup>21</sup> The majority of nurses are females whereas the majority of physicians are males.<sup>22</sup> In the prehospital setting, emergency medical service (EMS) providers number approximately 2000, with males being the majority.<sup>23</sup> During the time of data collection, the number of cases of COVID-19 increased incrementally, as patients were in hospital isolation, and exposed people were quarantined. On the last day of data collection, there was a cumulative total of 425 cases and 7 deaths,<sup>18</sup> and the health care system in the country was

not overwhelmed with patients with COVID-19 (Figure 1). However, there were reported cases of infection among HCPs working at the 3 hospitals in Jordan that were designated as primary inpatient centers for patients with COVID-19. These hospitals were excluded from sampling. The Raosoft online software (Raosoft, Inc., 2004) was used to estimate the required sample size with a confidence level of 95% and 5% margin of error. This requires 323 participants to carry out this study, given that the targeted HCPs are about 2000.<sup>24</sup>

## PARTICIPANTS

HCPs in Jordan were invited to voluntarily participate in the study. Potential participants included physicians, nurses, and allied health professionals (ie, laboratory and radiology technicians). EMS providers encompassing emergency medical technicians, intermediates, and paramedics from the prehospital setting were also invited to be part of the study.

## DATA COLLECTION PROCESS

The online questionnaire link was shared with potential participants over social media, mainly through closed WhatsApp groups of HCPs. Responses were collected from April 1, 2020, to April 20, 2020. On April 10, 2020, the questionnaire link was reshared with the groups as a reminder for potential participants. No internet protocol (IP) addresses were collected.

## DATA ANALYSIS

The online data were exported into the Statistical Package for the Social Sciences (SPSS), version 25, (Chicago, IL) for analysis. Continuous variables were reported as means and SDs, whereas categorical variables were reported as frequencies and percentages. Missing data were excluded, and valid percentages were used. The 6-point Likert-type questions were dichotomized for simplicity and ease of interpretation.<sup>25</sup> To score the responses, the first 3 choices were merged and labeled as "not obligated," whereas the last 3 choices were labeled as "obligated." A chi-square test for independence was used to assess relationships between demographics and potential barriers for duty to work with a  $P$  value  $< .05$  to determine statistical significance. Bonferroni correction was used to adjust  $P$  value. An adjusted standardized residuals test was performed to identify between-group differences with 1.96 as a cut point for significance.

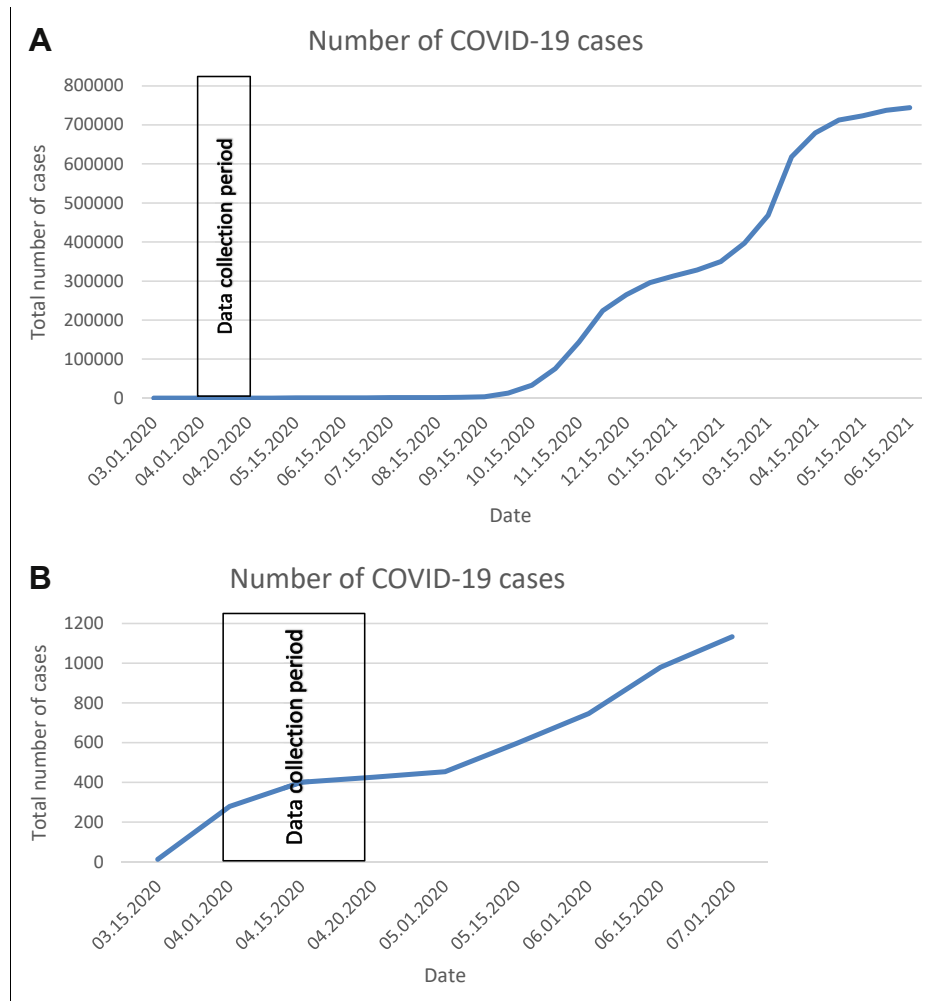


FIGURE 1

A: Total number of cases reported in Jordan, B: Total number of cases reported during the lockdown period.

## ETHICAL APPROVAL

This study was approved by the Institutional Review Board at Jordan University of Science and Technology (204/2020).

## Results

### DEMOGRAPHICS

Of the 306 questionnaires received online, 302 (98.6%) were complete and eligible for further analyses. [Table 1](#) shows that the majority of participants are males (55.0%), married (69.8%), have children (65.3%), have a bachelor's degree or higher (74.8%), and work

as nurses (51.9%). Participants have a mean age of 34.3 (SD = 8.1) years and a mean experience of 11.1 (SD = 7.9) years.

### MAIN REASONS FOR REPORTING TO WORK

Participants were asked about the main reasons they reported to work during the COVID-19 pandemic. [Table 2](#) demonstrates that 'commitment to the community being served' was the main factor for reporting to work (36.0%), whereas 'commitment to faith' was the second, and 'commitment to the workplace and job' was the third (29.7% and 26.7%, respectively). The least important reason for reporting to work was 'avoiding a disciplinary penalty,' which was represented by only 4.0% of

TABLE 1  
Demographics of the study participants (N = 302)

Variable	n*	%
Sex		
Male	164	55.0
Female	134	45.0
Age		
Mean (SD)	34.3	8.1
Median	33	
25% and 75% quartile	28-40	
Marital status		
Single	78	26.2
Married	208	69.8
Others (not specified)	12	4.0
Have children		
Yes	194	65.3
No	103	34.7
Education		
High school	7	2.3
Diploma	68	22.8
Bachelors or higher	223	74.8
Job title		
Physician	28	9.4
Nurse	154	51.9
EMS providers	51	17.2
Other allied (not specified)	64	21.5
Work experience		
Mean (SD)	11.1	7.9
Median	10	
25% and 75% quartile	4-17	

EMS, emergency medical services.

\* Missing participants were not included, and valid percentages were used.

participants. Only 3.7% of participants indicated that they 'would not report to work under such conditions.' The Table also demonstrates that commitment to the served community was selected most frequently for all types of jobs, whereas avoiding penalty and not reporting to work were selected most frequently by the other allied health group (9.5% and 11.1%, respectively,  $\chi^2 = 28.68$ ,  $P = .004$ )

#### WORK OBLIGATION BARRIERS

Participants were asked about their perceived work obligation during the COVID-19 crisis under certain conditions as potential barriers for reporting to work. Table 3 demonstrates

the dichotomized responses to perceived work obligation under such conditions. The lack of availability of appropriate personal protective equipment (PPE) is the greatest barrier for the obligation to report to work (62.6%), followed by the lack of appropriate training (53.5%). While the lack of vaccine or treatment for the COVID-19 infection was the weakest barrier for the obligation to work, it was selected by more than one-third (39.6%) of participants. In a situation where coworkers become infected with COVID-19, just under half of the study sample (47.2%) perceived an obligation to report to work. Similarly, if the participant mistrusted information supplied by the employer, just under half of the participants (47.3%) perceived a work obligation. However, if there was a need to take care of a sick family member, over half of the participants (52.3%) still perceived an obligation to report to work.

Table 3 also shows the comparisons between participants' perceived work obligation based on their sex differences. As shown in the Table, except for the lack of appropriate COVID-19 training, male participants showed significantly higher perceived work obligation than female participants in all potential barriers including lack of appropriate PPE (males 47.6% and females 24.6%,  $\chi^2 = 16.59$ ,  $P < .001$ ); presence of COVID-19 infection among coworkers (males 54.6% and females 39.6%,  $\chi^2 = 6.67$ ,  $P = .02$ ); mistrust of information from employer (males 54.3% and females 40.2%,  $\chi^2 = 5.83$ ,  $P = .03$ ); lack of vaccine or effective treatment (males 67.3% and females 52.3%,  $\chi^2 = 6.86$ ,  $P = .02$ ); and a need to take care of a sick family member (males 59.5% and females 43.5%,  $\chi^2 = 7.45$ ,  $P = .01$ ).

Table 4 shows the relationships between participants' perceived work obligation and their profession. Chi-square test with an adjusted standardized residuals test was performed to identify between-group differences. If some coworkers become infected, nurses are more likely to perceive an obligation to work, whereas other allied HCPs are less likely to perceive an obligation to work (physician 51.9%, nurses 54.5%, EMS providers 39.2%, and others 32.8%,  $\chi^2 = 10.18$ ,  $P = .03$ ). In addition, if there is a lack of an effective vaccine or treatment for COVID-19, nurses are more likely to perceive an obligation to work, whereas other allied HCPs are less likely to perceive an obligation to work (physician 57.1%, nurses 71.7%, EMS providers 56.0%, and others 38.1%,  $\chi^2 = 21.76$ ,  $P < .001$ ). In the case of a lack of appropriate training on COVID-19, nurses are more likely to perceive an obligation to work, whereas EMS providers are less likely to perceive an obligation to work (physician 42.9%, nurses 55.6%, EMS providers 30.0%, and others 39.7%,  $\chi^2 = 11.83$ ,  $P = .005$ ). There was no significant relationship between job type

TABLE 2  
Participant responses regarding main reason for coming to work

Participant response	All groups		Physician		Nurse		EMS provider		Other allied	
	n	%*	n	%	n	%	n	%	n	%
Commitment to served community	106	36.0	14	50.0	56	36.4	16	31.4	21	33.3
Commitment to faith	89	29.7	7	25.0	54	35.1	15	29.4	12	19.0
Commitment to workplace and job	80	26.7	6	21.4	40	26.0	16	31.4	17	27.0
Avoid penalty	12	4.0	1	3.6	3	1.9	2	3.9	6	9.5
Will not report to work in such situations	11	3.7	0	0.0	1	0.6	2	3.9	7	11.1

EMS, emergency medical services.

\* Missing participants were not included, and valid percentages were used.

and other potential barriers, including lack of appropriate PPE, mistrusting information from the employer, and the need to take care of a sick family member. We found no

significant relationship between perceived work obligation and marital status or between perceived work obligation and having children.

TABLE 3  
Participants' responses for work obligation variables with comparison by male versus female sex

Potential barrier	Total		Male		Female		Chi-square	df	Adjusted P value <sup>†</sup>
	n	%*	n	%	n	%			
Lack of appropriate PPE									
Not obligated	189	62.6	86	52.4	101	75.4	16.59	1	< .001
Obligated	113	37.4	78	47.6	33	24.6			
Some coworkers became infected with COVID-19									
Not obligated	159	52.8	74	45.4	81	60.4	6.67	1	.02
Obligated	142	47.2	89	54.6	53	39.6			
Mistrust information coming from the employer									
Not obligated	158	52.7	75	45.7	79	59.8	5.83	1	.03
Obligated	142	47.3	89	54.3	53	40.2			
Did not receive appropriate training for COVID-19									
Not obligated	160	53.5	77	47.2	79	59.8	4.65	1	.06
Obligated	139	46.5	86	52.8	53	40.2			
No vaccine or effective treatment for COVID-19									
Not obligated	118	39.6	53	32.7	63	47.7	6.86	1	.02
Obligated	180	60.4	109	67.3	69	52.3			
Need to take care of a sick family member									
Not obligated	142	47.7	66	40.5	74	56.5	7.45	1	.01
Obligated	156	52.3	97	59.5	57	43.5			

PPE, personal protective equipment.

\* Missing participants were not included, and valid percentages were used.

† Chi-square test was used with Bonferroni correction to adjust *P*-value.



TABLE 4  
**Participants' responses to work obligation variables with type of job comparison**

Potential barrier	Physician		Nurse		EMS provider		Other allied		Chi-square	df	Adjusted P value <sup>†</sup>
	n	%*	n	%	n	%	n	%			
Lack of appropriate PPE											
Not obligated	18	64.3	91	59.1	36	70.6	41	64.1	2.29	3	.76
Obligated	10	35.7	63	40.9	15	29.4	23	35.9			
Some coworkers became infected with COVID-19											
Not obligated	13	48.1	70	45.5	31	60.8	43	67.2	10.18	3	.03
Obligated	14	51.9	84	54.5	20	39.2	21	32.8			
Mistrust information coming from employer											
Not obligated	14	50.0	70	45.8	32	62.7	39	61.9	7.24	3	.06
Obligated	14	50.0	83	54.2	19	37.3	24	38.1			
Did not receive appropriate training for COVID-19											
Not obligated	16	57.1	68	44.4	35	70.0	38	60.3	11.83	3	.005
Obligated	12	42.9	85	55.6	15	30.0	25	39.7			
No vaccine or effective treatment for COVID-19											
Not obligated	12	42.9	43	28.3	22	44.0	39	61.9	21.76	3	< .001
Obligated	16	57.1	109	71.7	28	56.0	24	38.1			
Need to take care of a sick family member											
Not obligated	14	50.0	67	44.1	23	46.0	35	55.6	2.46	3	.57
Obligated	14	50.0	85	55.9	27	54.0	28	44.4			

EMS, emergency medical services; PPE, personal protective equipment.

\* Missing participants were not included, and valid percentages were used.

† Chi-square test was used with Bonferroni correction to adjust *P*-value.

## Discussion

Our study findings show that commitment to the served community was the main reason for reporting to work in the early phase of the COVID-19 pandemic in Jordan. The study also indicated that the lack of availability of appropriate PPE and the lack of appropriate training were the greatest barriers to the perceived obligation to report to work, whereas lack of vaccine or treatment for COVID-19 was found to be the weakest barrier. Males perceived higher work obligation than females, and nurses perceived a higher work obligation than other HCPs.

We found that commitment to the served community was the major stimulus for all types of HCPs to report to work despite the increased risk. To explain this, there is a need to put the findings in context. During the data collection period, the media was very active in highlighting the crucial role of the frontline HCPs in serving the community

and saving lives in the pandemic. This was clear when the country was on strict lockdown and under curfew except for those HCPs who could move freely through check-points with high respect. These situations may have helped make the commitment to serve the community the optimal reason for coming to work. In addition, the finding that those who were not willing to report to work or would report only to avoid penalties were mainly among the other allied health group of professionals, is in congruence with the previous studies indicating that physicians and nurses have a higher willingness to work than others.<sup>26,27</sup> It should be noted here that HCPs in Jordanian hospitals are full-time workers. Those who do not report to work as scheduled are subject to some form of penalty. In the prehospital setting, EMS providers work in a quasi-military system (under the umbrella of the Civil Defense) and may therefore be subject to more severe forms of penalty in cases of work absenteeism.

The findings of our study also showed a high willingness of HCPs to work during the COVID-19 pandemic, which is in congruence with the recent studies in this field.<sup>26,28,29</sup> Willingness of HCPs to work during influenza pandemics was examined in previous studies, and results were varied. A systematic review found that willingness to work during influenza pandemics ranged from 23.1% to 95.8%, depending on the context and scenario of the study.<sup>27</sup> The review also found that being male, a physician, or a nurse was associated with willingness to work. Recent studies on the COVID-19 pandemic found varied results as well. For instance, a recent study in Jordan found that while 96.4% of participants (physicians, nurses, and EMS providers) were willing to report to work during the pandemic, fewer than two-thirds (64.7%) were willing to provide direct care to patients with COVID-19.<sup>28</sup> Other studies found that the willingness of HCPs was 77.1% in China,<sup>30</sup> 69% in Bangladesh,<sup>29</sup> and 75% in Palestine.<sup>26</sup> Being male, working in the emergency department, having received appropriate training, and having low work-related stress levels and long experience were associated with willingness to work,<sup>26,28,29</sup> whereas concern for family and lack of safety measures were the major barriers to willingness to work.<sup>28,29</sup>

#### BARRIERS TOWARD PERCEIVED WORK OBLIGATION

The findings of our study highlight the importance of exploring and managing the main barriers that may influence the decision of HCPs to report for duty during pandemics. In this study, while the overwhelming majority of participants indicated a willingness to work during COVID-19, only about half of them perceived an obligation to report to work in the presence of any of the aforementioned barriers. Previous studies indicated that emergency responders face difficulties in balancing their safety and duty to work during disasters and public health emergencies, which could result in a significant shortage of HCPs.<sup>10,31</sup> Previous studies also indicated that the perception of duty to work has a major influence on reporting for duty.<sup>1,32</sup>

PPE are of prime importance to keep HCPs safe from contracting infections. During disease outbreaks, there might be a need for additional PPE and training to protect workers. In the United Kingdom, during the heat of the COVID-19 response in March 2020, HCPs threatened to quit their work if they were not provided with appropriate PPE, as they felt that working without enough PPE would have exposed them to unacceptable risks.<sup>20</sup> In addition, for the COVID-19 response, McConnell<sup>9</sup> indicated that in the case of a PPE shortage, the risk of infection increases, and

the chance of fatal infection reaches approximately 1/200. In such a case, the author believes that HCPs are not obligated to work.<sup>9</sup> Our findings are in congruence with these previous studies. That is, lack of proper PPE was found to be the major barrier to perceived work obligation, as about two-thirds of participants indicated that they did not feel obligated to report to work during the COVID-19 pandemic if there was a lack of PPE.

Our study indicated that in the case of inappropriate training, more than half of the participants perceived no obligation to work, making it the second major barrier to working during the COVID-19 response. Our findings were in congruence with previous studies, as knowledge and training on infectious diseases and infection control practices are among the most important contributing factors to motivating HCPs and enhancing their intention to work during public health emergencies.<sup>24,32-35</sup> A study by Weingarten et al<sup>36</sup> found that HCPs and families of infected patients were at the highest risk of infection with COVID-19. In the middle of the COVID-19 response, a study in China found that 64.6% of participants received specific COVID-19 training at hospitals.<sup>30</sup> The study also showed that 77.1% of participants were willing to provide care for patients with COVID-19 infection.

Although vaccine availability is important in protecting responders, prompt availability of vaccination in the early stages of disease outbreaks is unlikely because of the long process of its development and distribution. However, research studies have indicated that vaccine availability might influence the decision on reporting to work.<sup>23,37</sup> For instance, a study found that lack of effective PPE, along with the absence of self and family vaccination, were reported to dramatically decrease willingness to report for duty from 91% to 4%.<sup>37</sup> In our study, however, the availability of effective vaccines and treatments was least indicated by participants as a barrier for duty to treat. Their response can be explained by the observation that HCPs, in general, acknowledge that the development of a vaccine may require many months before it becomes available to responders, and that with proper PPE, they can be safe. In addition, the COVID-19 cases were under control during the period of data collection, which could have made HCPs less concerned about not being vaccinated.

#### SEX DIFFERENCES

Our study indicates that male participants perceive higher work obligation than female participants in the presence of all potential barriers. This might be due to the stereotypes concerning the role expectations of males and females in the

society of Jordan. In Jordan, females are generally assumed to be the primary caretakers of dependents in the households.<sup>38</sup> This unequally socially imposed role indicates that the exposure of female HCPs to the COVID-19 infection in the workplace could put their dependent family members at higher risk, which might be the main factor for their lower perception of work obligation compared with the males. In addition, a recent report on discrimination in Jordan found that women are still being viewed as mothers and wives, which may undermine their social status, economic status, and profession.<sup>38</sup> Our study findings are also in congruence with previous studies indicating that the male sex is a factor associated with willingness to work.<sup>27,32,39,40</sup>

### OCCUPATIONAL DIFFERENCES

There are occupational differences in perceptions of working during pandemics. According Malm et al<sup>41</sup> and McConnell,<sup>9</sup> the benefits one gains from their job, including social prestige, determine the level of duty to work. That is, HCPs such as physicians and nurses experience a stronger sense of duty to treat patients than social care workers owing to the greater benefits they acquire from the job.<sup>9</sup> Although all HCPs are needed to keep health agencies functioning during normal times, some jobs are needed more than others during public health emergencies. For instance, nurses are most essential during pandemics, and they are at the highest risk of contracting infection due to frequent and long duration of contact with patients.<sup>41</sup> While historical social and power dynamics have granted nurses fewer benefits and social prestige compared with physicians, our study found that nurses perceive higher work obligation than other HCPs, including physicians, in situations where they lack appropriate training, lack effective vaccine or treatment, or there is a reported infection among coworkers. Previous studies showed that physicians and nurses have a higher willingness to work than others,<sup>26,27</sup> with physicians being the most likely to be willing to work.<sup>27</sup> Furthermore, after the Fukushima nuclear disaster in Japan in 2011, a study found that only 47% of HCPs reported to work in their hospitals (within the impacted zone).<sup>42</sup> Second to the clerks (38% reported to work), only 48% of nurses reported to work. This fact was explained by suggesting that clerks and nurses were mostly women who had evacuated from the impacted area due to the concern of radiation exposure to their children. In our study, lower concerns about the impact to children from COVID-19

infection may explain the higher perceived work obligation among nurses than others.

### EFFECT OF HAVING CHILDREN

The current study found no significant effect of having children on the perceived work obligation, which contradicts the findings of previous studies.<sup>42,43</sup> The reason for the difference in our findings from other studies is unclear. A possible explanation is that early in the COVID-19 outbreak, children were the least affected group from COVID-19 infection. However, our study indicated that almost half of the participants perceived no obligation to report to work if they needed to take care of a sick family member (not necessarily children). This supports the findings of a previous study indicating that 28% of HCPs agree that it is professionally acceptable to abstain from work to protect the family during pandemics.<sup>44</sup> With regard to the COVID-19 response, McConnell<sup>9</sup> indicated that it is morally permissible for HCPs to abstain from work when the risk and burden to self and family outweigh the duty to treat. This is the case in COVID-19, as the elderly are at a much higher risk of death from COVID-19 infection than the young.<sup>9</sup> During pandemics, first responders are more concerned that they could transfer the contagious disease to their family members.<sup>43</sup> During the SARS outbreak, for instance, many HCPs contracted the disease from their work, and some of them transmitted the infection to their family members.<sup>2</sup> It was found that 21% of victims of the SARS outbreak were HCPs.<sup>45</sup> The feeling of uncertainty and the concern for family safety are reported to be the main sources of role conflict during disasters.<sup>46</sup> Another potential reason for the conflicting findings from our study, compared with previous studies, was that we did not measure whether the participant was the primary caretaker for their children; we only measured whether they had children.

### RWA FRAMEWORK

This study assessed the perceived duty to work within the context of the RWA framework. In assessing the readiness domain, the readiness should be assessed at the individual, agency, and system levels. That is, at the agency or system levels, readiness includes “staff, structure, and stuff.” This means that the presence of barriers (in staff, structure, or stuff) for reporting for duty may influence the readiness domain of the framework.<sup>16</sup> In our study, the lack of appropriate PPE (stuff) was the greatest barrier to the perceived

obligation to report to work. For the willingness domain, the willingness of an individual to respond appropriately is influenced by many factors. For instance, training experiences can provide confidence in the ability to respond, which in turn affects willingness to respond. Other factors may also influence the willingness to respond such as risk perception, trust relationships, and political imperatives.<sup>16</sup> Our study found that the lack of appropriate training and mistrust with the employer were among the major barriers for perceived work obligation. For the ability domain, which is the actual ability of an individual to perform a task, included are knowledge, competencies, and proficiencies that come from education, training, and preparatory experiences.<sup>16</sup> Our study found that lack of appropriate training influences the perceived duty to work, indicating that proper training can improve both the ability and willingness to respond. In addition, previous studies found that HCPs trained on disaster situations are more likely to perform better during actual disasters.<sup>15</sup> Therefore, it is plausible that applying RWA constructs would improve the likelihood of coordinated, comprehensive, and competent responses to public health emergencies. Future study is needed to test this framework.

### Limitations

The inherent nature of cross-sectional designs and the type of questions may have influenced the way participants answered the questions. Participants were enrolled mainly through closed WhatsApp groups of health care professionals, the most widely used social media tool in Jordan. Owing to the nature of the online survey, those who were not using these social media tools or were unavailable during the data collection period may not have had the chance to participate, which could limit the representativeness of the sample. We also could not exclude the possibility of response bias as the sample did not reflect the exact population demographics, given that more EMS providers and less physicians were represented in the study sample. In addition, the period of data collection occurred in an early phase of the pandemic, during lockdown, and with a relatively low number of COVID-19 cases in Jordan. Had the study been conducted in a later phase of the pandemic with more population deaths among coworkers and their families, the study may have produced different results. Finally, limits to generalizability include nonsystematic sampling and relatively small sample size. Health care specialty was not measured, nor were the age(s) of children and primary caretaker status of the participant.

### Implications for Emergency Nurses

Individual clinicians and health care agencies in Jordan should be proactive in their disaster preparedness for infectious disease surges. Each organization and trained professional must assess factors to ensure they are ready, able, and willing to provide care for patients in pandemic surge conditions. These preparedness activities may include, but are not limited to, providing training, proper PPE, vaccinations, incentives, physiological and psychological support for staff and their families, and keeping them informed about the pandemic progress.

This study assessed the perceived work obligation of HCPs within the context of the RWA framework. Although the perceived work obligation can be influenced by the 'ready', 'willing', and 'able' domains, this study focused mainly on the 'willing' domain at the individual level. Future studies may use the RWA constructs as a framework to assess the preparedness of the health care system of Jordan for quality response to future disasters taking into consideration the 'ready', 'willing', and 'able' domains at system and organizational levels.

There is a plethora of resources that can be used for disaster preparedness at individual and organizational levels.<sup>47-49</sup> For instance, the World Health Organization developed a strategic framework for emergency preparedness identifying the principles and elements applied in developing effective emergency preparedness at all levels.<sup>47</sup> In addition, the US Department of Health and Human Services developed the Kaiser Permanente Hazard Vulnerability Analysis as a tool that can be used by health care facilities to analyze hazards using a systematic approach.<sup>50</sup> At the individual and household levels, the Society for Academic Emergency Medicine and [Ready.gov](https://www.ready.gov) provide disaster preparedness plans and toolkits.<sup>48,49</sup> At the local level, the health care system in Jordan is ill-prepared for disaster response and lacks the necessary resources to support professional and organizational readiness.<sup>51</sup> However, health officials and decision-makers can adapt such resources within the context of Jordan to enhance the response preparedness of the country at the household, professional, and organizational levels.

### Conclusions

During the COVID-19 pandemic, it was clear that the need for HCPs was never greater. This study assessed the perceived work obligation of HCPs within the context of the RWA framework. While the majority of HCPs were

willing to report to work during pandemics in our study, many barriers can significantly influence the perceived obligation to report to work. The lack of PPE, along with the lack of appropriate training, were the major perceived barriers. Males and nurses perceived more obligation to work than females and other HCPs, respectively. There is an urgent need to provide training, proper PPE, vaccinations, incentives, and physiological and psychological support for staff and their families to motivate HCPs to report to work during pandemics. Relying on the HCPs' sense of commitment to work may not be the best strategy to maintain staffing; other practical state, organizational, and individual preparedness interventions are recommended.

### Acknowledgments

This work was performed at Jordan University of Science and Technology, Department of Allied Medical Sciences. We would like to thank all healthcare providers who participated in this study and shared their experience.

### Author Disclosures

Conflicts of interest: none to report.

### Supplementary Data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.jen.2022.04.004>.

### REFERENCES

- Damery S, Draper H, Wilson S, et al. Healthcare workers' perceptions of the duty to work during an influenza pandemic. *J Med Ethics*. 2010;36(1):12-18. <https://doi.org/10.1136/jme.2009.032821>
- Singer PA, Benatar SR, Bernstein M, et al. Ethics and SARS: lessons from Toronto. *BMJ*. 2003;327(7427):1342-1344. <https://doi.org/10.1136/bmj.327.7427.1342>
- Bandyopadhyay S, Baticulon RE, Kadhum M, et al. Infection and mortality of healthcare workers worldwide from COVID-19: a systematic review. *BMJ Glob Health*. 2020;5(12):e003097. <https://doi.org/10.1136/bmjgh-2020-003097>
- Loeb M, McGeer A, Henry B, et al. SARS among critical care nurses, Toronto. *Emerg Infect Dis*. 2004;10(2):251-255. <https://doi.org/10.3201/eid1002.030838>
- Sabetian G, Moghadami M, Hashemizadeh Fard Haghghi L, et al. COVID-19 infection among healthcare workers: a cross-sectional study in southwest Iran. *Virology*. 2021;18(1):58. <https://doi.org/10.1186/s12985-021-01532-0>
- Tran BX, Vo LH, Phan HT, et al. Mobilizing medical students for COVID-19 responses: experience of Vietnam. *J Glob Health*. 2020;10(2):1-3. <https://doi.org/10.7189/jogh.10.020319>
- Xu H, Intrator O, Bowblis JR. Shortages of staff in nursing homes during the COVID-19 pandemic: what are the driving factors? *J Am Med Dir Assoc*. 2020;21(10):1371-1377. <https://doi.org/10.1016/j.jamda.2020.08.002>
- Situation report: Ebola virus disease*. World Health Organization; Published 2016. Accessed December 3, 2020. [http://apps.who.int/iris/bitstream/10665/208883/1/ebolasitrep\\_10Jun2016\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/208883/1/ebolasitrep_10Jun2016_eng.pdf?ua=1)
- McConnell D. Balancing the duty to treat with the duty to family in the context of the COVID-19 pandemic. *J Med Ethics*. 2020;46(6):360-363. <https://doi.org/10.1136/medethics-2020-106250>
- Connor SB. When and why health care personnel respond to a disaster: the state of the science. *Prehosp Disaster Med*. 2014;29(3):270-274. <https://doi.org/10.1017/S1049023X14000387>
- Alwidyen MT, Trainor JE, Bissell RA. Responding to natural disasters vs. disease outbreaks: do emergency medical service providers have different views? *Int J Disaster Risk Reduct*. 2020;44:101440. <https://doi.org/10.1016/j.ijdrr.2019.101440>
- Koh D, Lim MK, Chia SE, et al. Risk perception and impact of severe acute respiratory syndrome (SARS) on work and personal lives of healthcare workers in Singapore what can we learn? *Med Care*. 2005;43(7):676-682. <https://doi.org/10.1097/01.mlr.0000167181.36730.cc>
- Wahlquist C. Coronavirus: union defends staff of Sydney aged care home after 'most' call in sick. Accessed June 16, 2020. <https://www.theguardian.com/world/2020/mar/05/coronavirus-union-defends-staff-of-sydney-aged-care-home-after-most-call-in-sick>
- Jones S. Spanish minister says older people found "dead and abandoned". The Guardian. Accessed June 16, 2020. <https://www.theguardian.com/world/2020/mar/23/spain-distributes-65000-testing-kits-as-coronavirus-deaths-rise-steeply>
- Adini B, Goldberg A, Cohen R, Laor D, Bar-Dayana Y. Evidence-based support for the all-hazards approach to emergency preparedness. *Isr J Health Policy Res*. 2012;1(1):1. <https://doi.org/10.1186/2045-4015-1-40>
- McCabe OL, Barnett DJ, Taylor HG, Links JM. Ready, willing, and able: a framework for improving the public health emergency preparedness system. *Disaster Med Public Health Prep*. 2010;4(2):161-168. <https://doi.org/10.1001/dmp.v4n2.hcn10003>
- Kayed M. Jordan's extraordinary measures to contain COVID-19 spread draw int'l. *Jordan Times*. Accessed June 15, 2020. <http://jordantimes.com/news/local/jordans-extraordinary-measures-contain-covid-19-spread-draw-intl-accolades>
- Worldometer. *COVID-19 coronavirus pandemic*. Accessed December 3, 2020. <https://www.worldometers.info/coronavirus/>
- Dimaggio C, Markenson D, Loo T, Redlener I, et al. The willingness of U.S. Emergency medical technicians to respond to terrorist incidents.

- Biosecur Bioterror*. 2005;3(4):331-337. <https://doi.org/10.1089/bsp.2005.3.331>
20. Campbell D, Stewart H. Doctors threaten to quit NHS over shortage of protective kit. Accessed June 17, 2020. <https://www.theguardian.com/world/2020/mar/24/doctors-threaten-to-quit-over-protective-equipment-shortage>
  21. Nazer LH, Tuffaha H. Health care and pharmacy practice in Jordan. *Can J Hosp Pharm*. 2017;70(2):150-155. <https://doi.org/10.4212/cjhp.v70i2.1649>
  22. Jebreel S, Tarawneh M, Abu-Shaer M. *National human resources for health observatory annual human*. High Health Council, Jordan. Accessed June 15, 2020. <http://www.hhc.gov.jo/uploadedimages/340f3d68-9059-44d2-b328-1154896f9b8b.pdf>
  23. Alwidyan MT, Oteir AO, Trainor J. Working during pandemic disasters: views and predictors of EMS providers. *Disaster Med Public Health Prep*. Published online May 11, 2020. <https://doi.org/10.1017/dmp.2020.131>
  24. *Sample size calculator*. Raosoft; . Accessed November 28, 2021. <http://www.raosoft.com/samplesize.html>
  25. Jeong HJ, Lee WC. The level of collapse we are allowed: comparison of different response scales in safety attitudes questionnaire. *Biom Biostat Int J*. 2016;4(4):128-134. <https://doi.org/10.15406/bbij.2016.04.00100>
  26. Maraqa B, Nazzal Z, Zink T. Mixed method study to explore ethical dilemmas and health care workers' willingness to work amid COVID-19 pandemic in Palestine. *Front Med (Lausanne)*. 2021;7:576820. <https://doi.org/10.3389/fmed.2020.576820>
  27. Aoyagi Y, Beck CR, Dingwall R, Nguyen-Van-Tam JS. Healthcare workers' willingness to work during an influenza pandemic: a systematic review and meta-analysis. *Influenza Other Respir Viruses*. 2015;9(3):120-130. <https://doi.org/10.1111/irv.12310>
  28. Alwidyan M, Oteir A, Mohammad A, Williams B. Are healthcare professionals in Jordan willing to work and provide care for COVID-19 patients? *Australas J Paramed*. 2021;18:1-8. <https://doi.org/10.33151/ajp.18.924>
  29. Rafi MA, Hasan MT, Azad DT, et al. Willingness to work during initial lockdown due to COVID-19 pandemic: study based on an online survey among physicians of Bangladesh. *PLoS One*. 2021;16(2):e0245885. <https://doi.org/10.1371/JOURNAL.PONE.0245885>
  30. Shi Y, Wang J, Yang Y, et al. Knowledge and attitudes of medical staff in Chinese psychiatric hospitals regarding COVID-19. *Brain Behav Immun Health*. 2020;4:100064. <https://doi.org/10.1016/j.bbih.2020.100064>
  31. Valdez C, Nichols T. Motivating healthcare workers to work during a crisis: a literature review. *J Manag Policy Pract*. 2013;14(4):43-51.
  32. Devnani M. Factors associated with the willingness of health care personnel to work during an influenza public health emergency: an integrative review. *Prehosp Disaster Med*. 2012;27(6):551-566. <https://doi.org/10.1017/S1049023X12001331>
  33. Barnett DJ, Levine R, Thompson CB, et al. Gauging U.S. Emergency Medical Services workers' willingness to respond to pandemic influenza using a threat- and efficacy-based assessment framework. *PLoS One*. 2010;5(3):e9856. <https://doi.org/10.1371/journal.pone.0009856>
  34. Gershon RRM, Vandelinde N, Magda LA, Pearson JM, Werner A, Prezant D. Evaluation of a pandemic preparedness training intervention of emergency medical services personnel. *Prehosp Disaster Med*. 2009;24(6):508-511. <https://doi.org/10.1017/S1049023X00007421>
  35. Watt K, Tippet VC, Raven SG, et al. Attitudes to living and working in pandemic conditions among emergency prehospital medical care personnel. *Prehosp Disaster Med*. 2010;25(1):13-19. <https://doi.org/10.1017/S1049023X00007597>
  36. Is your workplace ready for COVID-19? Guidance for local leaders on information requests and requests to bargain. Weingarten R, Johnson L, DeJesus E. Published 2020. Accessed July 6, 2022. [https://www.aft.org/sites/default/files/covid19-guidance-healthcare\\_030320.pdf](https://www.aft.org/sites/default/files/covid19-guidance-healthcare_030320.pdf)
  37. Mackler N, Wilkerson W, Cinti S. Will first-responders show up for work during a pandemic? Lessons from a smallpox vaccination survey of paramedics. *Disaster Manag Resp*. 2007;5(2):45-48. <https://doi.org/10.1016/j.dmr.2007.02.002>
  38. Essaid A, Sajdi J, AbuTaleb HA. Gender Discrimination in Jordan. *Information and Research Center*. 2019.
  39. Mercer MP, Ancock B, Levis JT, Reyes V. Ready or not: does household preparedness prevent absenteeism among emergency department staff during a disaster? *Am J Disaster Med*. 2014;9(3):221-232. <https://doi.org/10.5055/ajdm.2014.0174>
  40. Malesza M. Factors informing healthcare workers' willingness to work during the COVID-19 pandemic. *Preprint*. Posted online March 22, 2021. <https://doi.org/10.1101/2021.03.21.21254048>. medRxiv 21254048.
  41. Malm H, May T, Francis LP, Omer SB, Salmon DA, Hood R. Ethics, pandemics, and the duty to treat. *Am J Bioeth*. 2008;8(8):4-19. <https://doi.org/10.1080/15265160802317974>
  42. Ochi S, Tsubokura M, Kato S, et al. Hospital staff shortage after the 2011 triple disaster in Fukushima, Japan-an earthquake, tsunamis, and nuclear power plant accident: a case of the Soso District. *PLoS One*. 2016;11(10):e0164952. <https://doi.org/10.1371/journal.pone.0164952>
  43. Bell MA, Dake JA, Price JH, Jordan TR, Rega P. A national survey of emergency nurses and avian influenza threat. *J Emerg Nurs*. 2014;40(3):212-217. <https://doi.org/10.1016/j.jen.2012.05.005>
  44. Ehrenstein BP, Hanses F, Salzberger B. Influenza pandemic and professional duty: family or patients first? A survey of hospital employees. *BMC Public Health*. 2006;6:3-11. <https://doi.org/10.1186/1471-2458-6-311>
  45. Smith EC, Burkle FM, Holman PF, Dunlop JM, Archer FL. Lessons from the front lines: the prehospital experience of the 2009 novel H1N1 outbreak in Victoria, Australia. *Disaster Med Public Health Prep*. 2009;3(Suppl 2):S154-S159.
  46. Trainor J, Barsky L. *Reporting for Duty? A Synthesis of Research on Role Conflict, Strain, and Abandonment Among Emergency Responders During Disasters and Catastrophes*. Disaster Research Center; 2011.
  47. A strategic framework for emergency preparedness. World Health Organization; Published 2017. Accessed March 21, 2022. <https://apps.who.int/iris/bitstream/handle/10665/254883/9789241511827-eng.pdf?sequence=1>
  48. COVID-19 provider toolkit. *Society for Academic Emergency Medicine*. SAEM; 2022. Accessed March 23, 2022. [https://www.saem.org/docs/default-source/cdem/193149-saem-covid-19-provider-guide-v3-4.pdf?sfvrsn=8846d0e2\\_0](https://www.saem.org/docs/default-source/cdem/193149-saem-covid-19-provider-guide-v3-4.pdf?sfvrsn=8846d0e2_0)

49. *Build a kit*. Ready; Published 2022. Accessed March 23, 2022. <https://www.ready.gov/kit>
50. *Kaiser Permanente Hazard vulnerability analysis*. U.S. Department of Health and Human Services; Published 2022. Accessed March 23, 2022. [https://asprtracie.hhs.gov/technical-resources/resource/250/kaiser-permanente-hazard-vulnerability-analysis-hva-tool#:~:text=Kaiser Permanente Hazard Vulnerability Analysis \(HVA\) Tool.,%2C response%2C and recoveryactivities](https://asprtracie.hhs.gov/technical-resources/resource/250/kaiser-permanente-hazard-vulnerability-analysis-hva-tool#:~:text=Kaiser Permanente Hazard Vulnerability Analysis (HVA) Tool.,%2C response%2C and recoveryactivities)
51. Saif N. Jordanian Public Hospital Disaster Preparedness based on WHO and ECHO Safety Index. *J Law, Policy Glob*. 2018;69:160-169.

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## Supplementary Appendix

### Questionnaire

Dear health care providers,

We are hoping for your valued participation in our research by completing this survey entitled: **Duty to Work during the COVID-19 Pandemic: Perceptions of Health-care Providers in Jordan**. Your feedback is important. This survey designed to assess the perceived work obligation of the healthcare providers in Jordan during the COVID-19 pandemic, and the factors that may influence their perception. The survey should take less than 5 minutes to complete.

Your participation is strictly voluntary, and responses will be kept anonymous. You may withdraw your participation at any time. All information collected from this survey will be used for research purposes only and will be kept confidential.

If you have any questions about the research, please contact the principal investigator, Dr. XXXXXXXXXX via email at XXXXXXXXXXXXXXXX, or by phone at XXXXXXXXXX.

#### Demographic information

Sex

Male

Female

Age

\_\_\_\_\_

Marital status

Single

Married

Others

Have children

Yes

No

Education

High school

Diploma

Bachelors or Higher

Job Title

Physician

Nurse

EMS providers

Other Allied (not specified)

Work Experience \_\_\_\_\_ year.

#### Reason for coming to work

The main reason for coming to work during the COVID-19 response

- Commitment to the community being served
- Commitment to faith
- Commitment to workplace and job
- Avoiding penalties
- Will not come to work in such situations.

#### Obligation to come to work

Based on the previous scenario, please rate your obligation to come to work from 1 to 5, with 1=Not obligated and 5=Obligated:

1. There is a lack of the availability of the appropriate PPE.  
1 2 3 4
2. I mistrust the information coming from my employer regarding the progress of the disease outbreak.  
1 2 3 4
3. I did not receive appropriate training specific to COVID-19.  
1 2 3 4
4. There is no vaccine or effective treatment for COVID-19.  
1 2 3 4
5. I need to take care of a sick family member.  
1 2 3 4
6. Some co-workers got infected with COVID-19.  
1 2 3 4

Thank you for participating. You may now return the completed survey to the research assistant.