ORIGINAL ARTICLE

# FEAR OF THE CORONAVIRUS (COVID-19) AND SAFETY AMONG THE HEALTH WORKFORCE IN PUBLIC HOSPITALS

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## ABSTRACT

*Health professionals' fear of the coronavirus is a growing concern in the health system, as the disease's spread throughout staff and patients can have a crisis-like impact both inside and outside facilities. COVID-19 is a disease that can spread over a large area throughout hospitals and the community. A quantitative study was conducted to gain a description of health professionals' fear of the coronavirus. The sample (n = 213) consisted of health professionals from different departments in public hospitals in Al-Madinah city in Saudi Arabia. A 35-item questionnaire addressed the fear of the coronavirus, workload, hazards, job satisfaction, and intent to stay. However, nurses and physicians were less likely to fear the coronavirus than allied health personnel, pharmacists, and other hospital employees who work in administrative areas. The majority of participants were worried about a coronavirus outbreak, and they were worried that if they caught the virus, their friends or family would also become infected. They believed the coronavirus to be much more dangerous than the seasonal flu. The major contribution of this research rests on recognizing that following news and social media regarding the coronavirus can be overwhelming and contribute to feelings of fear of the coronavirus or fear of being infected.*

***Keywords*: *health professional, workload, hazard, fear of the coronavirus, job satisfaction***

## INTRODUCTION

The fear of the coronavirus disease (COVID-19) plays a critical role in the maintenance of health workers' well-being, job demand, job satisfaction, and intention to stay in their job. The COVID-19 pandemic has had a dramatic impact on the health system. The International Council of Nurses reports that before May 2020, approximately 6% of all confirmed cases of COVID-19 worldwide were healthcare workers [1]. ICN states that thousands of nurses have been infected with COVID-19 around the world, but there is a lack of specific data available as governments did not collect that information. Concerns about being infected with COVID-19 are compounded not just for nurses but also for other healthcare professionals in the Saudi Arabian healthcare system, as they are not only responsible for providing health care but are also on the frontlines of the pandemic response. The first Saudi nurse died from COVID-19 in June 2020 while working in one of the hospitals in Al-Madinah city in Saudi Arabia. On 8 August 2021, the Saudi Arabian government announced that the family of healthcare professionals who died from COVID-19 would be granted US$133,300 [2].

Healthcare professionals can be defined as "all people primarily engaged in actions with the primary intent of enhancing health" [3]. Healthcare has been listed among the most dangerous professions for infection as it involves deeply personal interactions with people, especially patients and other healthcare providers, who also worry about getting infected[4]. High levels of fear concerning COVID-19 may lead to the intention to leave or job dissatisfaction.

Determining the fear levels of the health workforce in the health sector is of great importance for providing quality health services and protecting the well-being of health professionals. Fear is a syndrome that threatens many of the dynamics of daily life, thus establishing the importance of this research. Fear has various definitions in academic and scientific literature. This research uses the American Psychological Association's definition of fear, which describes it broadly as "a basic, intense emotion aroused by the detection of imminent threat, involving an immediate alarm reaction that mobilizes the organism by triggering a set of physiological changes" [5]. Health workers may become distant from their family environment as a consequence of fear, and they can experience problems in interpersonal relationships due to ongoing worry about being infected with COVID-19 and fear that their family members may get infected [6].

Many recent studies [7, 8, 9] have shown that the health workforce has experienced psychological distress, worry, health anxiety, high turnover, and decreased work satisfaction as a result of the coronavirus pandemic. Fear of the coronavirus is recognized as a severe problem among healthcare workers.

This study aims to examine the relative influence of the fear of the coronavirus on

healthcare workers and work-related outcomes (workload, hazards, job satisfaction, and intent to stay) as shown in Figure 1. The consequences of fear include experiencing health problems and having to deal with psychological difficulties. Fear has negative effects both inside hospitals and outside the workplace, including affecting individuals' social lives and personal relationships. Therefore, it is a phenomenon that needs to be tackled at both the individual and organizational levels.

**Figure 1.** Theoretical model from current literature

## METHODS

A cross-sectional study was conducted and administered to health professionals. As the research and analyzed data were collected at one time, a web survey on Microsoft Forms was used. Data were collected from January to August 2022 from hospitals in Al-Madinah city that treated patients with COVID-19. The unit of analysis of the current study was health professionals who worked at hospitals that dealt with COVID-19. The unit of analysis of the current study was health professionals who worked at a public hospital that dealt with COVID-19. The survey response rate was 61% (the response rate of 213 out of 350). The survey was written in English, since staff who work in hospitals in Saudi Arabia use English as the primary language of communication. The participants met the criteria for taking part in the study, which was working during the COVID-19 pandemic in one of the selected public hospitals. The aim of these criteria is to identify the specific challenges, including the workload, hazard, job satisfaction, and intent to stay within the hospitals, that affect the level of fear of the coronavirus experienced by health professions in order to decrease the level of fear of the coronavirus and increase intention to stay and job satisfaction among health professionals.

### Measurement and analysis

The study measured four exogenous variables: workload, hazard, job satisfaction, and intent to stay, and one endogenous variable, which was the fear of the coronavirus. A survey consisting of 35 items was arranged into three sections. The response set was designed in accordance with five-point Likert scales. In the first section, a demographic questionnaire was developed by the researcher that collected data on age, education level, marital status, gender, and ethnicity. In the second part, three questions were designed to explore the perception of health professionals in regard to awareness of existing protocols related to COVID-19, if they had been infected by the coronavirus, and their attendance at coronavirus training, which is awareness training about the virus and how to protect oneself from it.

The third part comprised the four exogenous variables: workload, hazard, job satisfaction, and intent to stay, and the endogenous variable, which was the fear of the coronavirus. Fear of the coronavirus was measured by seven indicators on a five-point Likert scale, ranging from strongly disagree to strongly agree, using the Fear of the Coronavirus Scale (FCS) developed by Ahorsu in 2020 to study nurses' concern about COVID-19. For this research, three items were used to obtain data to measure hazards, which were defined as the extent to which employment is physically dangerous[10]. In regard to the Job Satisfaction Scale (JSS), seven items were used, and Cronbach's alpha was used to measure reliability [11]. The intent to stay scale was measured using four items to assess health professionals' intent to stay in their job during COVID-19 [12]. The quantitative data were collected through a questionnaire using SPSS and structural equation modelling (SEM) to examine the relationships among the study variables [13]. In addition, the goodness of fit index (GFI) and adjusted goodness of fitness index (AGFI) were used. The Tucker-Lewis index (TLI) and normed fit index (NFI) are used if the GFI and AGFI do not provide researchers with satisfactory results. Descriptive statistics from SPSS showed frequency tables and the distribution of variables. For the study, a statistical analysis of the demographic characteristics of health professionals and their response to the fear of the coronavirus, workload, hazard, job satisfaction, and intent to stay was undertaken.

## RESULTS

Table 1 displays the demographic characteristics of the respondents. The participants were asked to provide information about their ethnicity, religion, age, educational qualifications, gender, job title, and marital status. All the participants reported their job title on the survey (nurses = 101, physicians = 30, pharmacists = 25, allied health personnel = 18, and other = 38). Overall, there were more nurse participants (48%) than

physicians (14%) and pharmacists (12%). Of the 213 respondents, the majority were female (128; 60%). This is typical for the health workforce, which is majority female. A majority of all participants (65%) were married. Exactly half of the respondents had a bachelor's degree (50%), followed by a master's degree (16%), a diploma (14%), and (11%) postgraduate certification. Less than 10% of respondents had a doctorate. The majority of respondents identified as Arab (54%). The next most common ethnicities identified were Asians (31%), Indian (10%), and African (5%); see Table 1 for the frequency distribution highest level of education of participants. Analysis of the age question on the survey indicated that the largest group was aged between 30–40 years (47%) and 41–45 (31%). Only 13% were aged over 51 years of age and 10% were aged between 20–29 years.

**Table 1. Characteristics of respondents of the study (n = 213)**

| | **Number (%)** |
|---|---|
| Gender | |
| Men | 85 (40 %) |
| Women | 128 (60 %) |
| Marital status | |
| Married | 131 (62%) |
| Single | 77 (36 %) |
| Divorced | 5 (2%) |
| Job Titel | |
| Nurses | 101 (48%) |
| Physicians | 30 (14%) |
| Pharmacists | 25 (12%) |
| allied health | 18 (8%) |
| Other | 38 (18%) |
| Ethnicity | |
| Arab | 115 (54%) |
| Asian | 65 (31%) |
| Indian | 18 (10 %) |
| African | 10 (5%) |
| Education | |
| Diploma | 38 (14%) |
| Bachelor's degree | 82 (50%) |
| Postgraduate certificate | 25 (11%) |
| Master's degree | 42 (16.0%) |
| Doctorate | 26 (9%) |

When asked whether they were constantly following all news updates regarding the virus, almost 75% of the participants responded that they were constantly following all news updates regarding the virus. This suggests the health professionals' fear of the coronavirus is influenced by news and media, which can be overwhelming and contribute to feelings of fear of the coronavirus or fear of being infected. When asked whether they were aware of existing protocols related to COVID-19, almost 93% of participants responded that they knew existing protocols related to COVID-19 in the hospital. Moreover, when the participants were asked whether they had attended COVID-19 training, the majority commented that their hospital had only provided a small number of training courses related to COVID-19. In response to the question asking whether they had been infected by COVID-19 while working at their hospital during the COVID-19 pandemic, most of those surveyed reported that they had not been infected by the coronavirus, suggesting they were aware of and followed protocols related to COVID-19 and they had enough information to know how to deal with COVID-19 to minimize the chances of becoming infected.

Fear of the coronavirus was measured by the FCS, using seven items to study health professionals' concern about COVID-19 [10]. The first item, FCS1, asks if participants are very worried about the coronavirus outbreak. As shown in Table 2, 62% (132) of participants agreed they were worried about a coronavirus outbreak. Item FCS2 asks if participants are taking precautions to prevent infection. Most (86%; 183) respondents indicated they were taking precautions to prevent infection, such as avoiding contact with infected people, washing their hands, and avoiding touching door handles. Item FCS4 asked if participants believe the virus to be more dangerous than the seasonal flu. As shown in Table 2, 73% (155) of respondents stated that the virus was much more dangerous than the seasonal flu. Furthermore, when asked whether they were worried that their friends or family would be infected, almost 70% (148) of participants responded that they were worried that their friends or family would be infected. In the final part of the FCS, respondents were asked if they felt that the health authorities were doing enough to deal with the virus. The results showed that 71% (150) of respondents did not think health authorities were doing enough.

For the current study, FCS scores were analyzed according to personal factors. Participants were divided into nurses, physicians, pharmacists, allied health personnel, and others according to their job title. The job title was found to be statistically associated with the fear of the coronavirus using analysis of variance (ANOVA). A statistically significant difference in the fear of the coronavirus was found comparing allied health personnel, nurses, and pharmacists ($p = 0.006$). However, there were no differences in the fear of the coronavirus comparing nurses and physicians ($p = 0.886$). This indicates that nurses and physicians were less likely to fear the coronavirus in comparison to allied health personnel, pharmacists, and other people who work in administrative areas.

In regard to participants' marital status, no significant difference in the fear of the coronavirus was found based on marital status. As shown in Table 2, there was no significant

difference in mean scores comparing married participants (M = 2.966, SD = 0.4121) and single participants (M = 3.032, SD = 0.4332) (t (477) = -0.919, p = 0.322). This result suggests that marital status did not influence the fear of the coronavirus among participants in the current study. Regarding participants' gender, no significant difference in the fear of the coronavirus was found based on gender. As shown in Table 2, there was no significant difference in mean scores comparing male participants (M = 2.987, SD = 0.4312) and female participants (M = 2.983, SD = 0.4332) (t (488) = -0.137, p = 0.392). This result suggests that gender does not influence the fear of the coronavirus among participants in the current study.

Regarding participants' education level, there was a significant difference associated with the fear of the coronavirus (F (489) = 3.762, p = 0.006). Post-hoc Tukey honestly significantly different (HSD) tests show that there was a statistically significant difference in fear of the coronavirus between participants who had a doctorate and those with a master's degree (p = 0.016), as well as nurses who had bachelor's degree and master's degree (p = 0.004). However, there were no differences in the fear of the coronavirus between participants who had diplomas and postgraduate certificates (p = 0.997).

**Table 2. Characteristics of respondents of Covid 19-related questions (n = 213)**

| | **Number (%)** |
|---|---|
| Attended to COVID-19 training | |
| No | 64 (30%) |
| Yes | 148 (70%) |
| Awareness of existing protocols related to COVID-19 | |
| No | 15 (7%) |
| Yes | 197 (93%) |
| Infected by the coronavirus | |
| No | 179 (84%) |
| Yes | 33 (16%) |
| Worried about the coronavirus | |
| No | 81(38%) |
| Yes | 132 (62%) |
| Worried that friends or family will be infected | |
| No | 65 (30%) |
| Yes | 148 (70%) |

The current study's hypothesis proposed that workload, hazards, job satisfaction, and intent to stay were related to the fear of the coronavirus among participants in their current job. For example, decreased workload and hazards were associated with a decrease in the fear of the coronavirus among participants in hospitals. The SEM results indicate a good fit between the study's hypothesized model and the data. As shown in Table 3, these goodness-of-fit statistics show that the study's model fits very well with the data. The total variance in the fear of the coronavirus accounted for in the four predictors is 36%.

Workload had a significant negative effect on the fear of coronavirus (ß = -0.27, p < .01), indicating that higher workload was associated with lower fear. The hazard factor is defined as the extent to which employment is physically dangerous. The results broadly support the work of other studies in this area, linking workload, hazards, and job satisfaction with the fear of the coronavirus [8, 14]. This suggests that health workers with heavy workloads might feel more in control or capable of handling challenges, including COVID-19 and possible receive more workplace support or have better coping mechanisms.

The SEM results indicated that job satisfaction had a significant negative effect on the fear of the coronavirus among participants (ß = -0.24, p < .01). This means that as the participants' job satisfaction increases, the fear of the coronavirus will decrease. Intent to stay also had a significant negative effect on the fear of the coronavirus among participants (ß = -0.19, p < .01). The negative regression coefficient indicates that a decreased level of fear of the coronavirus was associated with an increased level of intent to stay among participants in their job.

**Table 3. Characteristics of respondents of Covid 19-related questions (n = 213)**

| **(X2/df** | **P** | **RMSEA** | **GFI** | **CFI** | **TLI** |
|---|---|---|---|---|---|
| 1.983 | 0.017 | 0.056 | 0.977 | 0.980, | 0.961 |

**Table 4. Regression statistic of the factors on fear of the COVID-19.**

| Indicators | Standardised Regression Weight | Unstandardised Regression Weight | Standard Error | CV/ | p |
|---|---|---|---|---|---|
| Workload | -.275 | -.142 | .039 | -3.609 | *** |
| Job satisfaction | -.240 | -.213 | .034 | -6.318 | *** |
| Hazards | -.201 | -.106 | .023 | -4.672 | *** |
| Intent to stay | -.193 | -.131 | .037 | -3.507 | *** |

## DISCUSSION

The current study was designed to investigate the impact of the fear of the coronavirus among health workers on workload, hazards, job satisfaction, and intent to stay. The results of this investigation indicate that the majority of participants were worried about a coronavirus outbreak and were worried that friends or family would also be infected. They believed the virus to be much more dangerous than the seasonal flu [9]. Furthermore, the spread of a disease such as COVID-19 throughout a hospital's staff or patients can have a crisis-like impact inside and outside the hospital's facilities. COVID-19 is a disease that can spread over a large area, throughout hospitals and the community [15, 3]. (The results of this study suggest that attending COVID-19 training courses may help prevent participants from being worried about or infected by COVID-19, as well as result in a decreased level of fear of COVID-19 among health workers. These results reflect those of Labrague and de Los Santos (2021), who also found that attendance of coronavirus-related training was a significant predictor of a decrease in fear of the coronavirus. Management can handle crises that are due to COVID-19 by ensuring that staff have training on clearly identified policies and procedures that are established to ensure protection for both patients and staff. Hospital management also needs to be prepared to deal with staff's fears concerning a possible outbreak of COVID-19.

One of the more significant findings to emerge from this study is that the higher the workload reported by participants, the higher their levels of fear of the coronavirus. These results are consistent with those of other studies [16, 8, 17, 18]. and suggest that hospital management assign health professionals workloads that are hard to handle [19 , 20, 21]. A possible explanation for these results may be the lack of staff and support from colleagues, or related to hospitals being understaffed and having a high patient ratio during COVID-19. Additionally, hospital staff may not know about existing protocols related to COVID-19 in their hospital. Regarding

participants' gender and marital status, no significant difference in the fear of the coronavirus was found based on gender and marital status. This means that gender these factors were not predictive of increase fear of the coronavirus. This outcome is consistent with Mertens et. al (2020) who found that gender was not significantly associated with fear of the coronavirus. However, in contrast to other researchers, Labrague and de Los Santos. (2021) found statistically significant association between personal factors and health professionals' fear of the coronavirus, including health professionals' gender and marital status.

Contrary to expectations, this study did find a significant difference between job title and the fear of the coronavirus, with nurses and physicians less likely to fear the coronavirus than allied health personnel, pharmacists, and other employees who work directly in administrative areas. It seems possible that these results are because nurses and physicians were aware of existing protocols, not just related to COVID-19 but also existing protocols for disease more generally. It is very important to understand that protocols are essential in health systems and all health professionals should be aware of them, not just nurses and physicians. This suggests that hospitals should ensure policies are in place that support a safe work environment. Additionally, the provision of infection control supplies is vital to support health professionals and lower the level of fear of the coronavirus.

## CONCLUSIONS

This research contributes to existing knowledge about the fear of the coronavirus by providing strategies to health professionals, hospital administrators, and policymakers in the health system to manage and reduce levels of fear of the coronavirus. There are several important areas where this study makes an original contribution concerning fear of the coronavirus. First, it is very important for hospitals to develop awareness training about the virus to help educate health professionals on how to prepare and protect themselves from the coronavirus. Furthermore, it is important to train health professionals on how to identify reliable sources of COVID-19 information and which sources of COVID-19 can be trusted. This study indicates that following news and social media regarding the coronavirus can be overwhelming and contribute to feelings of fear of the coronavirus or fear of being infected. This study suggests that there is a need to consider the source and whether the information related to the coronavirus is based on evidence. This means that

hospital management needs to develop training sessions for several reasons. Firstly, to help educate health professionals on how to protect themselves from the coronavirus, and secondly, to educate health professionals on what resources they should use to stay informed regarding COVID-19 in order to reduce the level of fear of the coronavirus among health professionals.

It is very important for hospitals to provide current knowledge about the coronavirus to staff and to share accurate information on the issues about which health professionals working in a hospital need to be informed. The evidence from this research suggests that in order to reduce fear of the coronavirus, the dissemination of information about the disease should be focused, with correct and up-to-date knowledge provided so that health professionals understand the danger of COVID-19 in hospitals. This will provide the key elements of hospital management policies that can help with avoid misleading news that can cause a sense of fear.

This study has shown that workloads in the hospitals where participants work have reached a critical level and need to be reduced urgently to both decrease the staff's fear of being infected or infecting others as well as the fear of failing to provide passable care for patients due to limited resources. An increase in the visibility of management, increasing the number of health professionals and support from colleagues may be improve the sense of safety and support alleviate fear in health professionals.

Based on current study findings, the researcher recommends training content that includes infection control protocols and media literacy. For staffing solutions, the researcher suggests implementing optimal nurse-to-patient ratios. The current study's limitations include its single-city focus, and the researcher proposes future research directions, such as longitudinal studies, to further explore the relationships between variables. Furthermore, unmeasured factors like mental health history, vaccination status, and exposure intensity could influence the relationship between workload and fear of coronavirus. Future studies should consider controlling for these variables to provide a more comprehensive understanding. One of the important limitations of the study is that it only concentrated on the healthcare area. It is possible that healthcare delivery may have different dynamics than other service areas, such education and law enforcement. Future studies may examine whether case management may enhance organizational performance in other areas.

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**Institutional Review Board Statement**
The study was approved by the Institutional Review Board of the General Directorate of Health Affairs in Madinah (protocol code H-03-M0084 and Jan 2023).

**Informed Consent Statement**
Not applicable

**Data Availability Statement**
The data presented in this study are available upon request from the corresponding author.

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**Conflicts of Interest**
The author declares no conflict of interest.

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