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Factors Associated with Perceived Fear of Covid-19 in Penang, Malaysia: A Healthcare Professionals Survey

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ABSTRACT

Background: This descriptive cross-sectional study aimed to assess the perceived fear of handling coronavirus disease 2019 (COVID-19) cases and its associated factors among healthcare professionals in two major hospitals in Penang, Malaysia, during the COVID-19 pandemic. **Methods:** Healthcare professionals working in clinical divisions, departments, and outpatient settings at Penang General Hospital and Seberang Jaya Hospital participated in this study. A total of 326 healthcare professionals who worked at these hospitals, aged between 20 and 58, were recruited between October 2020 and February 2021. The data was collected using a questionnaire. The questionnaire consisted of the validated COVID-19 scale. It also assessed 18 occupational risk exposures and socio-demographic characteristics. **Results:** Of the total 326 healthcare professionals surveyed, 172 (52.8%) perceived fear. Multiple linear regression analysis revealed that age, working department (discipline), working divisions, administering medications, and giving nebulizers to patients were significantly associated with perceived fear. In addition, socio-demographics and occupational risk exposures were essential correlates of fear among healthcare professionals when handling COVID-19 patients. **Conclusion:** The results of this study point to the necessity of increasing medical facilities and hiring more skilled healthcare workers to manage newly emerging and reemerging infectious illnesses in the healthcare environment.

Keywords: Healthcare Professionals; Pandemic; COVID-19; Fear

INTRODUCTION

The first and following few pneumonia cases of unknown etiology were reported on December 31, 2019, at the Wuhan Municipal Health Commission in Wuhan City, Hubei Province, China. The genetic analysis and epidemiological studies indicated that these cases were different from previously known coronavirus infections caused by SARS (SARS-CoV) and MERS (MERS-CoV) viruses (ECDC, 2020). In the following week, new cases were reported in a few Asian countries, such as Thailand, South Korea, and Japan, with their epidemiological patterns suggesting possible human-to-human transmission (Chan *et al*., 2020; World Health, 2020). When more than 110,000 cases from 114 different countries were reported globally, the World Health Organization (WHO) declared a pandemic on March 11, 2020 (WHO, 2020).

Newly emerging infectious diseases are pathogen-causing diseases first described in human hosts (Fauci & Morens, 2012). The contemporary, dawning global challenge in managing infectious diseases is dealing with COVID-19. The most common symptoms of this coronavirus are fever, fatigue, dry cough, myalgia, and dyspnea, which occur within 2–14 days of infection (Wang *et al*., 2020). COVID-19 has now spread worldwide and raised concerns among healthcare professionals (Ammad Ud Din & Boppana, 2020).

COVID-19 cases in Southeast Asian Nations showed an increasing trend within a short period of time. Between January and October 2020, Singapore reported 58,015 cases with 28 mortalities, whereas Thailand reported 3,780 cases with 59 mortalities. The Philippines reported 380,729 cases and 7,221 mortalities; Indonesia reported 410,088 cases and 13,869 mortalities; and Myanmar had 52,706 cases and 1,237 mortalities (Rampal *et al*., 2020). Among Southeast Asian countries, Malaysia reported a high number of COVID-19 cases (Ganasegeran *et al*., 2020). The first case of COVID-19 in Malaysia was reported on 25th January 2020, while its first death was on 17th March 2020. From October 1–14, 2020, Malaysia reported 17,540 COVID-19 cases. This number increased to 31,548 by the end of October, with 249 deaths being reported (Ganasegeran *et al*., 2021). As of 11th June 2021, 175M cases and 3.77M deaths were reported globally.

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People were constantly worried because of the increasing infection and mortality rates.

Fear of contracting individuals who were possibly infected was reported (Lin, 2020). It is common for people to feel emotionally drained during a disaster. Everyone living during the pandemic would easily feel stressed and anxious. The fear and anxiety about COVID-19 can be overwhelming and evoke strong emotions in an individual (Ahorsu *et al*., 2022). Unfortunately, fear, given the unique nature of the infectious disease, would escalate the severity of the disease and its negative consequences. Fear has been reported to be commonly associated with rapid transmission rates, morbidity, and mortality. Healthcare professionals who interacted closely with infected patients were afraid and anxious that COVID-19 would affect them and their families; this fear was perceived after witnessing cases of healthcare professionals becoming infected. In Saudi Arabia, fear and nervousness have been reported to be experienced by healthcare professionals serving MERS-CoV patients (Khalid *et al*., 2016).

These findings emphasized the need to pay more attention to the mental health problems among healthcare professionals fighting COVID-19. However, the current healthcare measures for COVID-19 worldwide are focused on transmission control, vaccine effectiveness, and the treatment cure rate (Dong *et al*., 2020), while the psychosocial aspect has yet to be thoroughly contemplated. Indeed, healthcare professionals are vulnerable to many occupational risks and would experience greater fear and emotional stress during their service due to close patient contact while performing procedures or attending to their daily needs, which puts them at risk of becoming infected (Guan *et al*., 2020).

Therefore, our study aims to identify the perceived fear and the factors associated with perceived fear among healthcare professionals towards handling COVID-19.

METHODOLOGY

Study Setting and Population

This study was conducted between October 2020 and February 2021 among 326 nurses and allied healthcare professionals in two major hospitals in Penang, Malaysia. This study approached all nurses and allied healthcare professionals through a systematic sampling technique with an interval of three respondents. The objectives and benefits of the study were explained both verbally and in written form, which was attached to the questionnaires. This study followed compliance with the guidelines convened in the Declaration of Helsinki and Malaysian Good Clinical Practice Guidelines.

Sample Size Determination

Based on a sample size calculation for a study of a finite population (Creative Research System Sample Size Calculator), a total of 331 healthcare professionals were calculated to represent a cross-section of the population. Data collection was conducted at the hospital's weekly Continuous Nurse Education. The data was collected at a single point in time. The objectives of the study were explained in verbal and written form. Participants were assured of the confidentiality of their participation. Written consent was obtained from the participants. Nurses and allied health professionals on long leave, student nurses, and student medical assistants were excluded from this study.

Study Instruments

A self-administered questionnaire consisting of three parts was adopted in this study. The first part included socio-demographic items such as gender, age, marital status, education level, working department, working division, working experience, daily contact with the patient, and daily hours of contact with the patient. The second part assessed occupational risk exposures. Eighteen items of occupational risk exposures were identified and surveyed, and the primary outcome measure (third part) included an assessment of perceived fear. The validated Fear of COVID-19 Scale was used to measure perceived fear among respondents in this study (Ahorsu *et al.*, 2020). This 10-item scale measured participants' level of agreement using a five-point Likert scale. Responses include "strongly disagree", "disagree," "neither agree nor disagree," "agree," and "strongly disagree", with items scored ranging from 1 to 5.

Data Analysis

The Statistical Package for Social Sciences (SPSS) was used to analyze the collected data. A descriptive analysis was performed for all variables in this study. The median and IQR were reported based on a normality check of continuous

variables. In addition, the total perceived fear score was computed. Inferential statistics were conducted using the independent *t*-test and ANOVA with the post-hoc Bonferroni test. The accepted statistical level of significance was set below 0.05 ($p<0.05$), and multiple linear regression analysis using the backward elimination technique was employed. Multicollinearity checked for a VIF not exceeding 10. All statistically significant variables in the univariate analysis were entered into the multivariate analysis.

Ethical Consideration

Ethical approval was granted from the Medical Research and Ethics Committee, Ministry of Health Malaysia (NMRR-20-1422-55669) on 16th July 2020, with reference number KKM/NIHSEC/ P20-1488 (4).

RESULTS

Sample Characteristics

Table 1 shows the demographic characteristics of the samples. A total of 331 nurses and allied health professionals were invited to participate in this study, and 326 allied health professionals (98.5% response rate) participated. The majority of the respondents were females (*n*=229; 70.2%), married (*n*=176; 69.9%) and aged 30 years or less (*n*=176; 54.0%). The median IQR age of the respondents was 30 (9) years, and the age ranged between 20 to 58 years old, most of the respondents were from the medical department (*n*=223; 68.4%), with working experience of 7 years or less (*n*=172; 52.8%). The median IQR working experience of the respondents was 7(8) years, and the work experience ranged between 6 months and 32 years. Daily contact hours with the patient for respondents were 8 hours or less (*n*=164; 50.3%). Median IQR daily contact with the patient was 8(3) hours and the hours ranged between 0 hours to 14 hours. Most of the respondents worked at wards (*n*=187; 57.4%), followed by outpatient (*n*=41; 12.6%) and subsequently at ED (*n*=98; 30.1%). The majority of the respondents were exposed to occupational risks (*n*=317; 97.2%).

Table 1: Sample Characteristics (N=326)

Characteristics	N (%)
Gender	
Male	97 (29.8)
Female	229 (70.2)
Marital Status	
Married	176 (69.9)
Single	150 (30.1)
Age	
≤ 30	176(54.0)
> 30	150 (46.0)
Median (IQR)=30 (9), min=20 years, max=58 years	
Discipline	
Medical	223 (68.4)
Surgical	103 (31.7)
Working Experience	
≤ 7 years	172 (52.8)
>7years	154 (47.2)
Median (IQR)=7 (8), min=0.5 years, max=32 years	
Daily Contact Hours with the Patient	
≤ 8 hours	164 (50.3)
>8 hours	162 (49.7)
Median (IQR)=8 (3), min=0 hours, max=14 hours	
Divisions	
Ward	187 (57.4)
Outpatient	41 (12.6)

ED	98 (30.1)
Risk of Occupational Exposure	
Yes	317 (97.2)
No	9 (2.8)

Occupational risk factors of the respondents

The majority of the respondents were exposed to the following occupational risks: Respondents majority occupational risk factors were taking blood pressure, pulse rate and temperature for patients (*n*=288; 88.3%), attending to admission and discharge (*n*=266; 81.6%), giving injections (*n*=250; 76.7%), assisting doctors in the invasive procedure (*n*=249; 76.4%), performing suctions (*n*=243; 74.5%), serving medications (*n*=241; 73.95%), performing dressing (*n*=236; 72.4%), Ryle's tube insertion (*n*=230; 70.6%), giving nebulizers (*n*=219; 67.2%), bagging(bag Valve mask) an intubated patient (*n*=216, 66.3%), accompanying a patient for procedures such as echo, X-ray, USG and transfer out (*n*=216; 66.3%), performing cardio pulmonary resuscitation were (*n*=215; 66.0%), positioning a patient and sponging (*n*=208; 63.8%), inserting continuous bladder irrigation (n=205; 62.9%), and cannulation of branula (*n*=186; 57.1%) (Table 2).

Table 2: Occupational Risk Factors (N=326)

Risk Factors	N (%)
Attending Admission/Discharge	
Yes	266 (81.6)
No	60 (18.4)
Accompany Patient	
(Transfer out /ECHO/X-ray/USG)	
Yes	216 (66.3)
No	110 (33.7)
Taking Vital Signs (BP/PR/TEMP	
Yes	288 (88.3)
No	38 (11.7)
Taking Throat Swabs	
Yes	86 (26.4)
No	240 (73.6)
Giving Injections	
Yes	250 (76.7)
No	76 (23.3)
Serve Medications	
Yes	241 (73.9)
No	85 (26.1)
Cannulation (Branula)	
Yes	186 (57.1)
No	140 (42.9)
Insert CBD	
Yes	205 (62.9)
No	121 (37.1)
Insert Ryles Tube	
Yes	230 (70.6)
No	96 (29.4)
Perform Dressing	
Yes	236 (72.4)
No	90 (27.6)
Perform Sponging/Positioning	
Yes	208(63.8)
No	118(36.2)
Perform Suction	
Yes	243(74.5)
No	83(25.5)

Assisting doctors in Invasive Procedures	
Yes	249(76.4)
No	77(23.6)
Bagging (bag valve mask) of the Intubated Patient	
Yes	216(66.3)
No	110(33.7)
Giving Nebulizers	
Yes	219(67.2)
No	107(32.8)
Performing Gastric Lavage	
Yes	103(31.6)
No	223(68.4)
Perform Chest Percussion	
Yes	133(40.8)
No	193(59.2)
Perform CPR	
Yes	215(66.0)
No	111(34.0)

Association between Perceived Fear and Sample Characteristics

Table 3 shows the association between perceived fear and sample characteristics. The respondents who are 30 years old or less had greater perceived fear (34.3 ± 7.5) than those aged more than 30 years (32.1 ± 7.8), and this association was statistically significant (*p*-value of 0.009). Respondents working in surgical wards had higher perceived fear (38.9 ± 7.1) than those working in medical wards (32.9 ± 7.6), and this association was statistically significant (*p*-value of 0.001*)*. The majority of the respondents who had exposure to occupational risk had greater perceived fear (40.8 ± 6.5) than those without occupational risk exposure (33.1 ± 7.7), and this association was statistically significant (*p*-value of 0.006*)*. Finally, respondents with working experience of 7 years or less had greater perceived fear (34.2 ± 7.3) than those with work experience of more than 7 years (32.3 ± 8.1), and this association was statistically significant (*p*-value of 0.035). There is also a significant association between divisions and perceived fear (*p*-value of 0.018). The post-hoc test revealed that those working in the wards had significantly greater fear (34.1 ± 7.0) as compared to those working in ED (31.4 ± 8.6) (*p*-value of 0.018).

Table 3: Association between Perceived Fear and Sample Characteristics (n=326)

Characteristics	Mean (SD)	*p*-value
Gender		
Male	32.1 (8.7)	0.077
Female	33.8 (7.2)	
Marital Status		
Married	32.9(7.5)	0.151
Single	34.2 (8.2)	
Age		
≤ 30	34.3 (7.5)	0.009
> 30	32.1 (7.8)	
Discipline		
Medical	32.9 (7.6)	0.001
Surgical	38.9 (7.1)	
Risk occupational Exposure		
Yes	40.8(6.5)	0.006
No	33.1(7.7)	
Working Experience		
≤ 7 years	34.2 (7.3)	0.035
>7years	32.3 (8.1)	
Daily Contact Hours with the Patient		
≤ 8 hours	33.5 (8.1)	0.490
>8 hours	33 (7.3)	
Divisions		
Ward	34.1 (7.0)	0.018
Outpatient	34.1 (7.9)	
ED	31.4 (8.6)	

Association between Perceived Fear and Occupational Risk factors

Table 4 shows the association between perceived fear and occupational risk factors. Respondents serving medications had greater perceived fear (241±34.1), which was associated significantly with a *p-value* of 0.002). Those inserting Ryle's tube had greater perceived fear (230±33.98), which was associated significantly with a *p-value* of 0.012). Respondents giving nebulizers to patients had greater perceived fear (219±34.39), which was associated significantly with a *p-value* of 0.001). Respondents performing sponging and positioning had greater perceived fear (208± 34.18), statistically significant as (*p-value* 0.006). Those performing continuous pulmonary resuscitation had greater perceived fear (215±33.08), which was associated significantly with a *p-value* of 0.014). Finally, inserting continuous bladder irrigation had greater perceived fear (205± 34.0), and this association was statistically significant with a *p-value* of 0.032.

Table 4: Association between Perceived Fear and Occupational Risk Factors (n=326)

Risk Factors	Mean (SD)	*p*-value
Attending admission/discharge		
Yes	33.3 (7.4)	0.856
No	33.1 (9.1)	
Accompany patient (transfer out/ECHO/X-ray/USG)		
Yes	33.2 (7.5)	0.853
No	33.4 (8.2)	
Taking Vital Signs (BP/PR/TEMP)		
Yes	33.5 (7.6)	0.186
No	31.7 (8.3)	
Taking Throat Swabs		
Yes	34.0 (7.3)	0.326
No	33.0 (7.9)	
Giving Injections		
Yes	33.6 (7.2)	0.172
No	32.2 (9.1)	
Serve Medications		
Yes	34.1 (7.1)	0.002
No	31.1 (8.9)	
Cannulation (Branula)		
Yes	33.2 (7.5)	0.870
No	33.3 (8.0)	
Insert CBD		
Yes	34.0 (7.0)	0.032
No	32.1 (8.7)	
Insert Ryle's Tube		
Yes	33.9 (6.9)	0.012
No	31.6 (9.1)	
Perform Dressing		
Yes	33.6 (7.1)	0.185
No	32.3 (9.1)	
Perform Sponging/Positioning		
Yes	34.1 (6.9)	0.006
No	31.7 (8.7)	
Perform Suction		
Yes	33.6 (6.9)	0.132
No	32.1 (9.5)	
Assisting Doctors in Invasive Procedures		
Yes	33.6 (7.1)	0.095
No	32.0 (9.4)	
Bagging (Bag Valve Mask) Intubated Patient		
Yes	33.1 (7.7)	0.573
No	33.6 (7.8)	

Giving Nebulizers		
Yes	34.3 (6.8)	<0.001
No	31.0 (8.9)	
Performing Gastric Lavage		
Yes	33.5 (7.1)	0.708
No	33.1 (8.0)	
Perform Chest Percussion		
Yes	34.5 (7.0)	0.014
No	32.4 (8.1)	
Perform CPR		
Yes	33.1 (7.5)	0.653
No	33.4 (8.0)	

Factors associated with perceived fear by multiple linear regression analysis.

Table 5 shows the factor associated with perceived fear in handling COVID-19 cases among healthcare professionals. Healthcare professionals aged <30 years had, on average, 2.068 (95% CI 0.448 to 3.689) higher perceived fear in handling COVID-19 patients in comparison to those aged 30 years and above (p=0.013). Surgical department staff had an average of 4.351 (95% CI 1.172 to 7.529) higher perceived fear in handling COVID- 19 patients compared to medical department staff (p=0.007). Healthcare professionals working in outpatient departments had the highest perceived fear (6.364) (95% CI 3.458 to 9.271), compared to healthcare professionals working in the ward and healthcare professionals working in the emergency department. This association was statistically significant (p < 0.001). On average, those healthcare professionals who served medications had 2.143 (95% CI -0.065 to 4.352) higher perceived fear in handling COVID- 19 compared to those who did not serve medicine (p=0.057). Finally, healthcare professionals that were involved in giving nebulizers to patients had, on average, 3.264 (95% CI 1.5.1 to 5.732) perceived fear in handling COVID-19 patients compared to those that were not giving nebulizers (p<0.001).

Table 5: Factors Associated with Perceived Fear by Multiple Linear Regression Analysis (Backward Elimination)

Factor	B	SE	Beta	*p*-value	95% CI	
					Lower	Upper
Age						
≥30	Ref	Ref	Ref	Ref	Ref	Ref
<30	2.068	0.824	0.134	0.013	0.448	3.689
Discipline						
Medical	Ref	Ref	Ref	Ref	Ref	Ref
Surgical	4.351	1.616	0.141	0.007	1.172	7.529
Divisions						
Ward	2.652	0.908	0.168	0.004	0.839	4.412
Outpatient	6.364	1.477	0.274	<0.001	3.458	9.271
Emergency	Ref	Ref	Ref	Ref	Ref	Ref
Serve Medications						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	2.143	1.122	0.122	0.057	-0.065	4.352
Giving Nebulizers						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	3.624	1.072	0.221	<0.001	1.515	5.732

DISCUSSION

Healthcare professionals are considered the most vulnerable group, not just because they are the first to interact with patients but also because they are in a state of fear and anxiety due to the increased number of infected healthcare professionals (Lai *et al*., 2020). Of the 326 nurses and allied health professionals surveyed, 52.8% (172) reported having perceived fear. The estimated rate of perceived fear reported in this study was similar to a study done in the Philippines (De los Santos & Labrague, 2021), Jordan (55%) (Alnazly *et al*., 2021), and Hong Kong (Lam & Hung, 2012), but slightly lower than a Pakistani sample (62.6%) (Saleem *et al*., 2020). Another study done in China by Hu *et al*. (2020) found that healthcare professionals had high levels of fear during the outbreak in Wuhan. Between March

and April 2020, a nationwide survey in the United States regarding the nurses' concerns and experiences during the initial stage of the pandemic was conducted by the American Nurses Association (ANA). That study found that more than 85% of nurses expressed fear at their workplace (ANA, 2020). Another study by Jackson *et al*. (2020) also reported similar findings. In addition, we found that age, working departments, working divisions, serving medications, and giving nebulizers to patients in the hospital were significantly associated with greater perceived fear among healthcare professionals.

This study reported that healthcare professionals aged 30 years and below perceived greater fear than older professionals. This outcome may arise because healthcare professionals below 30 years old may have children or elderly parents at home. They may perceive greater fear if they were asymptomatic, yet the fear of transmitting the virus to their family members. True enough, previous data indicated that the risk for healthcare professionals to come in contact with severe acute respiratory (Sars-Cov 2) virus is linked to community exposures. Among 1423 healthcare professionals in the USA who reported COVID-19, 780 (55%) of them had contact with a COVID-19-positive patient (Chow *et al*., 2020). Similar findings were reported by (Cai *et al*., 2020), younger healthcare professionals tend to have more stress than older healthcare professionals and are more worried about infecting their families. This can be explained by the younger healthcare professionals who are less prepared for their occupational role compared to older healthcare professionals (Sampaio *et al*., 2021; Lai *et al*., 2020).

Next, younger healthcare professionals lack experience handling a pandemic, as this might be their first experience handling pandemic preparedness. These junior titles indicate they have fewer years of working experience. They also lack knowledge of aspects of crisis management, such as staff shortages. Younger healthcare professionals are also afraid of being vulnerable to infection since there were no proven treatments at the time this research was conducted. These healthcare professionals felt conflict over their fear of the unfamiliar infectious disease, and more and more people were admitted for COVID-19 disease at the hospital (Lee *et al*., 2020). The psychological responses of healthcare professionals to a pandemic of infectious diseases are complicated. Measurements like quarantine and social distancing may increase the risk of adverse psychological effects (Brooks *et al*., 2020). Severe emotional stress has been reported among healthcare professionals in previous studies during the Ebola (Lee *et al*., 2018) and Mers (Raven *et al*., 2018) outbreaks. Our study results contradicted the findings from Alnazly *et al*. (2021), who reported that older healthcare professionals showed statistically higher levels of psychological distress such as fear and anxiety.

Healthcare professionals in surgical departments experienced a higher perceived fear of handling COVID-19 patients than those in medical wards. Healthcare professionals from the medical department were more resourceful and experienced in managing patients with communicable diseases in their daily work compared to healthcare professionals working in the surgical department, who had less clinical experience in dealing with critical infectious diseases. A previous study on the experience of healthcare professionals during the COVID-19 crisis in China reported consistent findings with this study (Liu *et al*., 2020).

Healthcare professionals working in outpatient settings had the greatest perceived fear compared to those working in the emergency department and wards. Those healthcare professionals in the general ward perceived less fear than in outpatient settings but had greater fear than those in the emergency department. The plausible reason was that healthcare professionals who work in the outpatient setting have lower coping mechanisms for fear, yet their knowledge of new policies and experiences in handling COVID-19 is less than that of inpatient work and emergency triage. At the initial stage of the COVID-19 pandemic, healthcare professionals were less likely to have sufficient protection. This made them more fearful when tackling unfamiliar infectious diseases and new tasks or procedures. During an outbreak, healthcare professionals are given new roles and added tasks in addition to their usual routines, which burdens them (De los Santos & Labrague, 2021).

Healthcare professionals in emergency departments have more control over the situation because they are front-liners who focus on providing training and management for handling COVID-19. Emergency healthcare professionals' contact hours with patients were lesser compared to the general ward, where patients are admitted for continuity of care. Daily exposure to numerous patients and as governing personnel for the hospital healthcare system could also be the reason emergency department healthcare professionals have the lowest perceived fear compared to general wards and

outpatient settings. Cawcutt *et al*. (2020) reported that frontline healthcare professionals caring for COVID-19 patients were less worried about infection than healthcare professionals in other units. Adequate training is critical, as healthcare professionals could prepare to be competent in handling outbreaks. (De los Santos & Labrague, 2021). Our findings were consistent with a recent study by Xu & Zhang (2020), who found that 85.37% of the frontline healthcare professionals handling COVID-19 patients had emotional reactions (2 with depression, 16 with anxiety, and 21 with terror). On the contrary, Huang *et al*. (2020) found that healthcare professionals on the frontlines experienced stronger fear.

We found that occupational risk factors were also associated with healthcare professionals perceived fear while handling COVID-19. Among the 18 elements of occupational risk factors surveyed, serving medications and giving nebulizers to patients had the highest score of perceived fear among healthcare workers. Being in close contact and prolonged exposure with patients during these procedures risks healthcare professionals and increases the perceived fear that they might be infected with COVID-19. This was consistent with a study by Mhango *et al*., (2020). These authors showed that exposure to infected patients and work overload are major COVID-19 risk factors among healthcare professionals. This finding is consistent with a recent study showing that 55% of COVID-19 cases among healthcare professionals in the United States came from exposure in their healthcare setting (CDC COVID-19 Response Team, 2020).

Limitation

The cross-sectional nature of the study cannot establish temporal relationships. This study was only conducted in two major hospitals, and a relatively small sample size limits the generalizability of the study findings. Therefore, more research is necessary to fill in the gap and address these limitations.

CONCLUSION

Factors significantly associated with perceived fear among healthcare professionals in this study were age, working departments and divisions, serving medications, and giving nebulisers. The findings of the current study suggest the need for the expansion of medical facilities and well-trained healthcare professionals to effectively handle emerging and re-emerging infectious diseases in the healthcare setting. In addition, adhering to standard operating procedures on infection control and better training capacities on doffing and donning personal protective equipment (PPEs) would facilitate healthcare professionals' ability to cope with pandemic times.

Conflict of Interest

The authors declare no conflict of interest. No grants, financial support, technical or other assistance received for this study.

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