Fear of COVID-19 among Frontline Nurses in a National University Hospital in the Philippines: A Mixed-Methods Study

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ABSTRACT

Background. Nurses are at the forefront of caring for patients during the height of the COVID-19 pandemic. Nurses themselves are exposed to serious risk and even death while providing care for these patients. Among other healthcare professionals, nurses are mostly exposed to psychologically distressing situations during this time of crisis. Fear of COVID-19 can affect nurses' overall well-being, which in turn may affect their job performance and lead to a decline in the quality of patient care.

Objectives. To determine the level of fear of COVID-19, and to explore the experiences of COVID-19-related fear of frontline nurses in a national university hospital in the Philippines.

Methods. To achieve the study objectives, the study utilized a convergent mixed methodology approach. In the quantitative phase, a random sample of participants completed the Fear of COVID-19 scale (FCV-19S) in order to assess their level of fear of COVID-19. Semi-structured interviews were conducted in the qualitative strand. Participants in the qualitative phase was selected using maximum variation sampling. Integration of data was done through a narrative contiguous approach.

Results. Quantitative data was obtained from 206 frontline registered nurses. The mean age of the participants was 35.5 years (SD =8.17). Overall, the composite score of the fear of COVID-19 scale was 21.76 (SD = 4.92), indicating an elevated level of fear. Having friends and relatives who tested positive predicted fear of COVID-19 (β = -3.658; p = 0.005; CI: -6.213 to -1.104). Three major themes categories emerged from qualitative data analysis: (1) balancing feelings of fear and moral obligation, (2) challenges experienced while providing frontline work, and (3) resilience amidst challenges. For the reporting and integration of our mixed-method results, a narrative contiguous approach was implemented.

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Conclusions. Frontline nurses reported an elevated level of fear during the height of the COVID-19 pandemic. This study was also able to capture the impact of COVID-19 on the mental health of nurses, specifically on their fear experiences. Understanding the underlying causes of fear, such as uncertainties surrounding guidelines and protocols, shortage of personal protective equipment, and moral distress, offers invaluable insights for shaping proactive strategies and policies aimed at mitigating these concerns in subsequent pandemics.

Keywords: COVID-19, fear, nurses, mixed methods

INTRODUCTION

Coronavirus disease 2019 (COVID-19) is caused by a novel variant of the infectious coronavirus that was initially recognized in Wuhan, China, on 31 December 2019.[1] On the 30th of January 2020, the World Health Organization (WHO) declared public health emergency of international apprehension to countries with susceptible health structures.[2]

Historically, nurses have always played a vital role in the prevention and control of infections and in safeguarding public health and safety.[3,4] Nurses have always been at the forefront of healthcare and are now faced with the enormous challenges posed by the COVID-19 pandemic.[5] Nurses specifically, tend to experience stress more than other healthcare workers owing to their heavy workload, shift work rotation, their experience of patients suffering, and numerous other occupational stressors that play a crucial factor in public health protection, restrain, and control of infection.[4] Providing continuous nursing care means that nurses are in proximity to COVID-19 patients from their admission to discharge. Among other healthcare professionals, nurses are mostly exposed to psychologically distressing situations during this time of crisis.[6,7]

Fear is a frequent phenomenon experienced by nurses during the COVID-19 pandemic, as reported in multiple studies.[8,9] Front line nurses in particular face countless challenges, including intense fear of viral transmission to self and to others while attending to managing critically ill patients. They also report choosing alternative housing options for fear of bringing the virus home,[9] and constantly worry about transmitting the virus to their families and others[10]. At work, nurses often served in family-surrogate roles, as patients were suffering, even dying, isolated from loved ones. This experience left frontline nurses vulnerable to ongoing moral and psychological distress due to the ethical considerations in caring for patients and themselves during this pandemic.[11–13]

Anxiety and worry caused by the fear of COVID-19 can affect nurses' overall well-being[14], which in turn may affect their job performance and lead to a decline in the quality of patient care[15]. There is a need for hospital administrators to develop clear guidelines, training, and mental health support to keep nurses on the frontlines and mitigate their feelings of fear and psychological distress.[16] Given these conditions, there is a need to examine the experiences of COVID-19-related fear of frontline nurses both quantitatively and qualitatively. To fill this knowledge gap, this study utilized a mixed-methods approach in order to gain an understanding of the experiences of fear of frontline nurses during this pandemic.

The results of this research offer several important social values. First and foremost, it provides valuable insights into the fear experience and mental health challenges that nurses faced during the height of the pandemic. The results of our study can also lead to policy recommendations aimed at better protecting nurses in future pandemics and other public health emergencies. Insights from our study may also inform the development of training programs for nurses to better cope with fear during a health crises, thereby improving overall patient care. Lastly, our research adds to the knowledge base on the psychological impact of the pandemic on nurses, which can guide future research, interventions, and the creation of pandemic preparedness plans.

METHODS

Study Design

In order to gain a comprehensive and in-depth overview of the topic narratively and numerically, a convergent parallel mixed-method design was implemented.[17,18] In the current study, the research aims were addressed using both qualitative and quantitative methods. A mixed method approach is characterized by the integration that happens between qualitative and quantitative methods at single or multiple steps of research.[19] In this study, quantitative (QUAN) and qualitative (QUAL) strands were implemented concurrently with equal weight; therefore, given the notation QUAN + QUAL.[20] Both quantitative and qualitative data collection methods were utilized. Data collection for both strands occurred in parallel (i.e., in the same time frame approximately). Then, data were analyzed simultaneously and independently after completing data collection for both strands. Finally, results from both mixed-method strands were integrated to look for convergence, divergence, and expansion.[19] (Figure 1). This study was conducted according to the Good Reporting of a Mixed Methods Study (GRAMMS) reporting guidelines.

Study Setting and Study Population

This study was conducted in the University of the Philippines-Philippine General Hospital (UP-PGH). PGH is a tertiary state-owned hospital operated by the University of the Philippines Manila and is designated as the Philippines' National University Hospital. It is the biggest tertiary hospital in the country with a 1500-bed capacity. On the 30th of March 2020, UP-PGH began operating as a COVID-19 referral hospital. It has been designated by the Department of Health (DOH) as one of the three
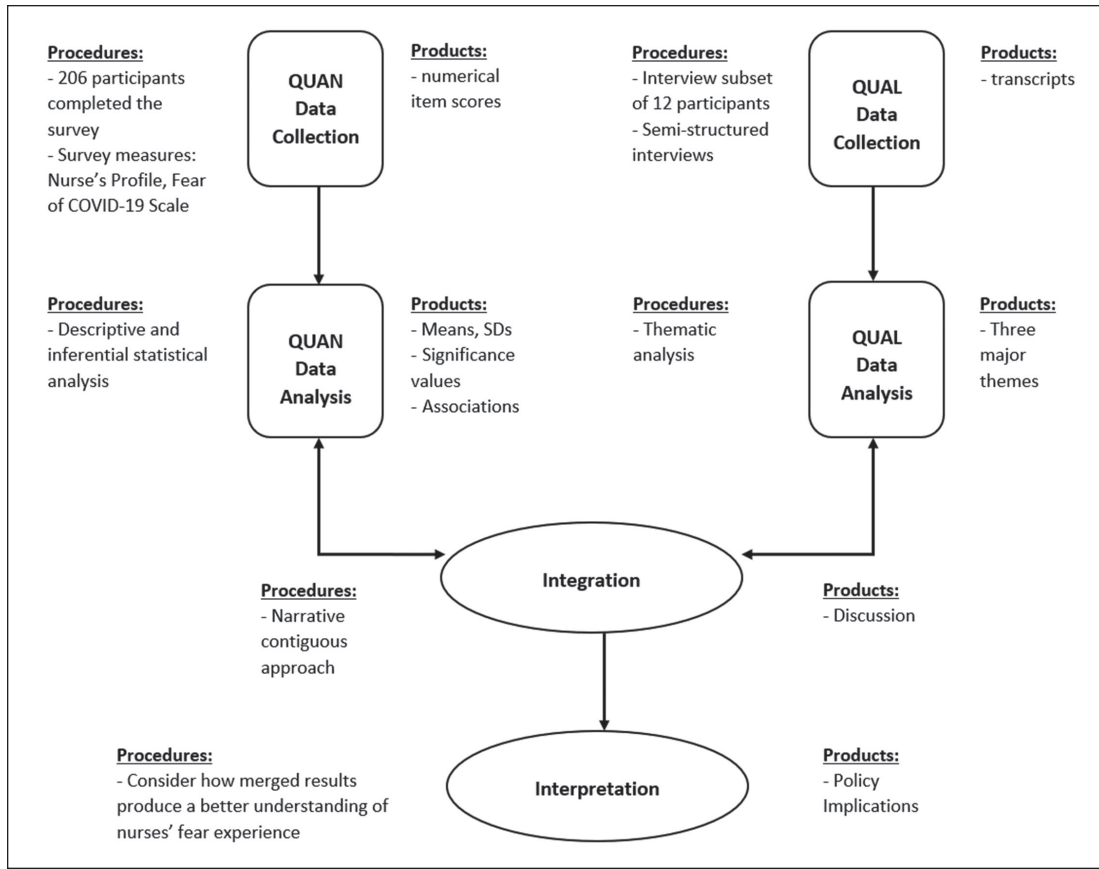
Figure 1. Convergent parallel analysis of quantitative and qualitative data.

COVID-19 referral centers in the National Capital Region.[21] The study population are frontline registered nurses working in the institution. This study was conducted in a span of six months, from June to December 2021.

Quantitative Data Collection and Sampling: QUAN Strand

In this strand, a structured cross-sectional survey questionnaire was utilized. The survey questionnaire comprised of two sections. The first section included questions on the sociodemographic and work profile of the participants. They were then asked to report their level of fear regarding the COVID-19 pandemic in the second section of the survey. The Fear of COVID-19 Scale (FCV-19S) was used to examine the nurses' apprehensions about the current pandemic. This seven-item unidimensional scale was answered by nurses using a five-point Likert scale which ranged from 1 (strongly disagree) to 5 (strongly agree). The composite score ranged from 7 to 35, with a higher score indicating a greater fear of COVID-19. More specifically, reliability values such as internal consistency ($\alpha = 0.82$) and test-retest reliability (ICC = 0.72) were deemed acceptable.[14] For this study, the Cronbach's alpha value was 0.86.

Electronic data collection was utilized. Options to fill out printed copies of the questionnaire was made available for participants who were not amenable to filling out responses via the online process. For surveys administered online, the Checklist for Reporting Results of Internet E-Surveys (commonly known as "CHERRIES")[22] was used to report the results. The online questionnaire was developed using Google Forms, which may be answered via cellular phone, desktop computer, laptop, or tablets.

Regarding the sample size for the QUAN strand, using GPower 3.1.9.2, the minimum sample size required is 200 to achieve 80% power, where alpha was set at 0.05, and a small effect size of 0.05.[23] The inclusion criteria for participation are the following: (1) registered nurse at the frontline (providing direct patient care), 21 years old and above, (2) with contractual or permanent employment status, and (3) having at least three months of employment at the institution. Unwillingness to participate in the study and non-completion of questionnaires were considered the exclusion criteria. The study population consisted of nurses who worked in the clinical wards, both pay and charity, as well as those working in special clinical areas such as the intensive care units. Study participants were recruited using a systematic random sampling method and drawn every 4th interval of the study population of the sampling frame. Participation was voluntary and those who filled out the questionnaire have provided a written informed consent. To evaluate the

clarity and understandability of our survey questions, the questionnaire was piloted on 30 nurses. No amendments were needed on the pilot test. The pilot responses were excluded from the analysis.

Qualitative Data Collection and Sampling: QUAL Strand

In the qualitative strand, frontline nurses were comprehensively interviewed about their experiences in providing direct hospital care for patients during this pandemic. The same set of participants from the quantitative strand were utilized in the qualitative strand of the study. After obtaining informed consent, eligible participants were asked to participate in an individual, face to face narrative semi-structured interview. Participants in the interview were recruited purposively using maximum variation sampling to achieve diversity in the participants' views, experiences, and opinions. To ensure that a wide breadth of viewpoints and experiences were captured, variations in demographics as well as length of work experience was considered.[20] A semi-structured interview guide was developed and the interview questions was based on previous studies regarding the fear status of nurses on COVID-19.[6,8,9,16] The guide included five open-ended questions about their experiences as frontline nurses: (1) Can you tell me about your work experience as a frontline nurse during the COVID 19 pandemic?, (2) Has your life changed in the past few months? If yes, what has changed?, (3) What are your thoughts regarding your current situation?, (4) What are the challenges that you experienced personally and professionally during this pandemic?, and (5) Do you have anything else that you would like to share with us beyond these questions? Interviews were performed by trained members of the research team, with previous experience in conducting qualitative interviews. All interviews were conducted at the participants' preferred time and place with safety protocols in place. Each interview took about 30-45 minutes, and the same interview guide was used to reduce variation in the data collection process. All interviews were audio-recorded with the participants' written permission. Field notes were taken during the interviews to facilitate the collection of contextual information and thus, the data analysis. Collaboration with the participants was established, and techniques such as unconditional acceptance, and active listening were used to improve the authenticity of the data. Data saturation occurred after the tenth interview; however, to ensure data consistency, two further interviews were undertaken and no new data emerged from this interview. Clarifications were sought at the end of each interview to examine if researchers adequately captured the nurses' perspectives. The researchers also accounted for personal biases throughout data collection, analysis, and interpretations, and engaged in intrapersonal and interpersonal dialogues to resolve any inconsistencies in the interpretation of data.

Data Analyses and Integration Technique

For the quantitative strand, the survey answers were collected in an EXCEL spreadsheet which was imported into Software for Statistics and Data Science, STATA® version 14.1 for Windows (StataCorp Ver 14.1 Texas, USA) for quality check and analysis. Percentages, means, and standard deviations were the descriptive statistics used. Analysis of variance (ANOVA) and independent t-test were used to identify correlations between nurse characteristics and fear of COVID-19. The level of acceptable significance was set at $p < 0.05$.

For the qualitative strand, data was analyzed using a thematic approach to identify emergent ideas prior to beginning the coding process.[20] Data analysis was conducted using Braun and Clarke's six stage process of inductive thematic analysis.[24] The researchers simultaneously analyzed and collected data, allowing the processes to influence each other.[25] Interviews were independently reviewed by the first and second authors to identify emergent concepts in order to establish initial categories as well as to create a digital audit trail that served as the foundation of the validation strategy. Once the initial interpretation of the data was complete, an inductive coding system was applied to identify themes that emerged in the data. To achieve consensus, researchers resolved disagreements by iteratively re-coding, re-reading, and re-analyzing transcripts.[20] Final themes were evaluated to ensure that interpretations and findings were clearly derived from the data.[25] The Consolidated Criteria for Reporting Research (COREQ) Checklist was used to ensure quality reporting in the study.[26] To ensure rigor, the criteria referenced by Lincoln and Gubawas utilized.[27] The summary table provided illustrates how each of the criteria, in relation to credibility, dependability, confirmability, and transferability was fulfilled (Table 1).

For the reporting and integration of our mixed-method results, a narrative contiguous approach was implemented, that is, reporting of the results of the quantitative strand followed by the results of the qualitative strand in different subsections.[17]

Ethical Considerations

All participants were informed of the details of the study. Informed consent was obtained from the participants. All participants had read, signed, and possessed a copy of their informed consent form (ICF). It was indicated in the ICF that participants understood that the study can be used for publication, but all personal identification will remain confidential. All methods were carried out in accordance with the relevant guidelines and regulations of the authors' affiliated institution. Participation in both strands of the study was voluntary, and participants were informed that they could withdraw from the study without any consequences. The confidentiality and anonymity of the participants were strictly ensured with encryption. Only the researchers had access to the study data. Ethical approval was obtained from

Table 1. Summary of Strategies Applied to Achieve Rigor

Rigor Criteria	Purpose	Strategies to Achieve Rigor	Notes of Application
Credibility	To establish confidence that the results are true, credible, and believable	Interviewing process and techniques	Two pilot interviews were conducted, and the data from these interviews were also included in the final data analysis.
		Collection of referential adequacy materials	Field notes were used to aid the documentation of the contextual information mentioned by the participants for accurate data analysis. Field notes were also analyzed with the transcripts.
		Peer debriefing	Debriefing sessions were held regularly to ensure that there were no taken for granted biases, or assumptions on the researchers' part.
Dependability	To ensure the findings of the qualitative inquiry would be repeatable if the inquiry occurred within the same cohort	Description of study methods	The study method was described in detail and clearly in the paper.
		Establishing an audit trail	Researchers formed a detailed track record of the data collection process. Member checking was performed to ensure the clarity of the meanings derived from the participants, thereby enhancing the validity of the accounts from the participants.
		Stepwise replication of the data	Assessment of the coding accuracy and inter-coder reliability throughout the data analysis process.
Confirmability	To extend the confidence that the results would be corroborated by other researchers	Reflexivity	Reflexive journals and weekly investigator meetings were adopted.
Transferability	To extend the degree to which the results can be generalized/ transferred to other settings	Data saturation	Data saturation was reached when no new themes emerged from the participants. All researchers reached a consensus on the attainment of data saturation.
		Thick description	Lengthy description was provided in the quotes of the participants, such that the meanings of the statements from the participants could be interpreted in context.

the University of the Philippines Manila Research Ethics Board (2021-319-01).

RESULTS

Quan Strand: Cross-sectional Survey

A total of 206 nurses were included in this study. The mean age of participants was 35.5 years (SD = 8.17). The majority of the participants were female (n = 165, 80.1%), single (n = 114, 55.34%), and without children (n = 125, 60.68%). The respondents work profile showed that most nurses were assigned in non-COVID areas (n = 133, 64.56%), working in the service / charity clinical units (n = 143, 69.42 %), has a permanent job status (n = 205, 99.51%), has been working in the institution for more than 10 years (n = 80, 38.83 %), and holds a bachelor's degree (n = 200, 97.09%) as their highest educational attainment. Majority of the participants were retained in their original clinical areas. However, 34.95% of the respondents reported to have been displaced to other clinical units since the start of the pandemic. Moreover, majority of the participants reported to not have received prior training in caring for patients with infectious diseases (n = 128, 62.14 %). Nonetheless, most nurses reported to have had prior experience in caring for patients with infectious diseases (n = 185, 89.81%). Of the participants that were surveyed, 38.35% reported to have tested positive for COVID-19. Vast majority of the participants also reported to have had friends and relatives that also tested positive for

COVID -19 (n = 191, 92.72 %). Majority of the nurses also searched for information on COVID 19 (n = 190, 92.23%); with news (n = 114, 55.34%) and social media (n = 138, 66.99%) reported as their main sources of information. The complete details of nurse characteristics are shown in Table 2.

Assessment of Fear of COVID-19

Table 3 presents the results for the FCV-19S, which reflected the participants' fear of COVID-19. The total mean score for the FCV-19S was 21.76 (SD = 4.92) which again exceeded the mid-point for the total score range, indicating elevated level of fear of the COVID-19 pandemic.

Table 4 displays the bivariate analysis to examine the correlations between fear of COVID-19 and nurses' variables. The independent t-test showed a significantly higher mean fear of COVID-19 scale score for nurses assigned in COVID clinical units (mean = 22.79, p = 0.02) compared to those assigned in non-COVID units. Nurses who had friends and relatives who tested positive for COVID-19 also had a significantly higher mean of fear of COVID-19 scale score (mean = 22.05, p = <0.01) compared to those who did not. Nurse variables which correlated significantly with fear of COVID-19 in the bivariate analysis was entered into a regression model. The model accounted for 6.14 % of the variance of the fear of COVID-19 and was statistically significant (F = 6.64, p = 0.0016). Having friends and relatives who tested positive predicted fear of COVID-19 (β = -3.658; p = 0.005; CI: -6.213 to -1.104).

Table 2. Participant Characteristics (N = 206)

Characteristics	Frequency	Percentage
Sex		
Male	41	19.9
Female	165	80.1
Age (years)	35.5	8.17
Marital status		
Single	114	55.34
Married	91	44.17
Separated	1	0.49
With child/children		
Yes	81	39.32
No	125	60.68
Clinical area		
COVID unit	73	35.44
Non–COVID unit	133	64.56
Ward service type		
Service / Charity	143	69.42
Pay	63	30.58
Job status		
Permanent	205	99.51
Contractual	1	0.49
Work experience		
<1 year	14	6.80
1 – 5 years	72	34.95
6 – 10 years	40	19.42
>10 years	80	38.83
Education		
Bachelor's degree	200	97.09
Master's degree	5	2.43
Doctorate degree	1	0.49
Working wards changed		
Yes	72	34.95
No	134	65.05
Prior training in caring for patients with infectious diseases		
Yes	78	37.86
No	128	62.14
Prior experience in caring for patients with infectious diseases		
Yes	185	89.81
No	21	10.19
Tested positive for COVID-19		
Yes	79	38.35
No	127	61.65
Had friends/relatives that tested positive for COVID-19		
Yes	191	92.72
No	15	7.28
Reported cases of infection in neighborhood		
Yes	191	92.72
No	15	7.28
Searched for information on COVID-19		
Yes	190	92.23
No	16	7.77
Sources of information		
News	114	55.34
Social Media	138	66.99
Medical / Professional websites	97	47.09
Friends / Family	71	34.47
Online searches	80	38.83

Table 3. Mean Scores Fear of COVID-19 Scale (FCV-19S)

Item	Mean (SD)
FCV#1 *I am most afraid of Corona*	3.86 (0.85)
FCV#2 *It makes me uncomfortable when I think about Corona*	3.34 (1.03)
FCV#3 *My hands become clammy when I think about Corona*	2.38 (0.94)
FCV#4 *I am afraid of losing my life because of Corona*	4.22 (0.99)
FCV#5 *When I watch news and stories about Corona on social media, I become nervous or anxious*	3.29 (0.97)
FCV#6 *I cannot sleep because I'm worried about getting Corona*	2.30 (0.91)
FCV#7 *My heart races or palpitates when I think about Corona*	2.35 (1.01)
FCV-19S Total Score	21.76 (4.92)

Qual Strand: Individual Interviews

A total of 12 nurses were interviewed. Table 5 describes the interviewees' characteristics. In the qualitative strand, we explored the COVID-19-related fear experience of nurses providing frontline work during this pandemic. Overall, three themes and 11 subthemes emerged from the analysis of data. Exemplar quotes for each theme are displayed in Table 6.

Theme 1: Balancing Feelings of Fear and Moral Obligation

Balancing their own personal feelings of fear and struggle while maintaining professional commitment created an ethical conflict for the nurses. This collection of themes includes the following sub-themes: "sense of duty," "sense of community," and "treating and caring for patients."

Sense of Duty. While their own personal safety was a concern, nurses indicated that they felt obligated to report to work due to their professional obligation. Their colleagues have been stretched thin as the virus rapidly progressed. The nurses felt that they were duty-bound to align with and work with other healthcare providers on the frontline to save lives.

Sense of Community. According to participants, respect for other members of the team, and hard work allowed them to feel more closely connected to their colleagues in comparison to a time before the pandemic. Sharing their thoughts, feelings, and experiences with other members of the team were experienced as comforting and helpful, and cultivated a feeling of camaraderie. Moreover, physicians and nurses collaborated, and they respected their team members' hard work and contribution.

Treating and Caring for Patients. Nurses were determined to provide the best care for the patients; spending much of their time providing intensive care. Moreover, when patients were unable to take care of themselves, nurses assisted them with their activities of daily living. The nurses caring for COVID-19 patients also strived to integrate

Table 4. Relationship between FCV-19S and Nurse Characteristics

Characteristic	Mean ± SD or *r*	*p*-value
Sex		0.18
Male	20.82 ± 5.07	
Female	20.82 ± 4.87	
Age	0.07	0.35
Marital status		0.70
Single	21.58 ± 4.69	
Married	21.95 ± 5.23	
Separated	25.00 ± 0	
With child/children		0.32
Yes	22.18 ± 5.32	
No	21.48 ± 4.65	
Clinical area		0.02*
COVID unit	22.79 ± 4.30	
Non–COVID unit	21.18 ± 5.16	
Ward service type		0.65
Service / Charity	21.86 ± 5.12	
Pay	21.52 ± 4.48	
Job status		n/a**
Permanent	21.71 ± 4.90	
Contractual	30 ± 0	
Work experience		0.16
<1 year	20.79 ± 4.79	
1–5 years	21.38 ± 4.75	
6–10 years	20.90 ± 4.41	
>10 years	22.70 ± 5.25	
Education		0.61
Bachelor's degree	21.80 ± 4.97	
Master's degree	21.20 ± 2.59	
Doctorate degree	17.00	
Working wards changed		0.42
Yes	22.14 ± 5.33	
No	21.55 ± 4.69	

Characteristic	Mean ± SD or *r*	*p*-value
Prior training in caring for patients with infectious diseases		0.22
Yes	22.29 ± 5.17	
No	21.43 ± 4.75	
Prior experience in caring for patients with infectious diseases		0.30
Yes	21.64 ± 4.92	
No	22.81 ± 4.94	
Tested positive for COVID-19		0.50
Yes	22.05 ± 5.00	
No	21.57 ± 4.88	
Had friends/relatives that tested positive for COVID-19		<0.01*
Yes	22.05 ± 4.86	
No	18.07 ± 4.23	
Reported cases of infection in place of residence		0.40
Yes	21.68 ± 4.94	
No	22.80 ± 4.74	
Searched for extra information on COVID-19		0.92
Yes	21.75 ± 4.80	
No	21.88 ± 6.35	
Sources of information		
News	21.34 ± 4.88	0.18
Social Media	21.80 ± 4.70	0.87
Medical / Professional websites	21.56 ± 4.86	0.58
Friends / Family	21.66 ± 4.88	0.84
Online searches	21.68 ± 4.98	0.85

*significant at α=0.05, **not estimable*

the provision of emotional support in their nursing care; considering that these patients were in isolation and have not seen their families for a long time.

Theme 2: Challenges Experienced while Providing Frontline Work

This second category of themes consists of five sub-themes relating to the workload and stresses of treating patients and adapting to a new work environment. Although the nurses carried on with their clinical duties, they also experienced their own physical and emotional stresses. This collection of themes includes the following sub-themes: "unclear guidelines and constantly changing protocols," "Personal Protective Equipment (PPE) use and availability," "fear of viral transmission and the unknown," "organizational support," and "moral distress."

Unclear Guidelines and Constantly Changing Protocols. The participants described how they were forced by the pandemic to be ready for changes in the work environment, working shifts, and workflow processes.

Personal Protective Equipment (PPE) Use and Availability. While providing frontline work, nurses wore

Table 5. Characteristics of Interview Participants

	Age, years	Gender	Marital Status	Work experience, years	Clinical Unit
Nurse 1	24	Male	Single	1.8	COVID
Nurse 2	23	Female	Single	2	COVID
Nurse 3	32	Female	Married	6	COVID
Nurse 4	31	Male	Single	5	COVID
Nurse 5	42	Female	Separated	18	COVID
Nurse 6	48	Female	Married	26	COVID
Nurse 7	26	Male	Single	6	Non-COVID
Nurse 8	52	Male	Separated	22	Non-COVID
Nurse 9	24	Female	Single	1.5	Non-COVID
Nurse 10	33	Female	Single	5	Non-COVID
Nurse 11	32	Male	Married	6	Non-COVID
Nurse 12	40	Male	Married	17	Non-COVID

Table 6. Themes and Subthemes

Theme	Subtheme	Quotations
I. Balancing fear and moral obligation	Sense of duty	*"Pumapasok pa din ako araw-araw dahil ito ang sinumpaan kong trabaho. Nurse ako... medical worker.. no matter what happens ito yung trabaho ko."* (I still go to work every day because this is my sworn duty. I am a nurse... a medical worker... no matter what happens this is my job.) *"Syempre andyan yung takot na lumapit sa pasyente... ginagawa ko yung best ko kahit mahirap kasi ito yung time na kailangan tayo talaga ng mga pasyente. Ito talaga yung trabaho natin eh, yung mag-alaga ng mga may sakit."* (Of course, there is the fear of getting in close contact with the patient... I do my best even though it's difficult because this is the time when the patients really need us. This is really our job, to take care of the sick).
	Sense of community	*"Nakakatakot kasi bago lahat, pero nakayanan namin makaraos sa duty kasi lahat nagtutulungan. Teamwork talaga lahat kami na duty."* (It was scary because everything was new, but we were able to finish our duty because everyone worked together. It was really teamwork, we all performed our duty.) *"Saluhan kami. Kasi nga may mga kasama kami from other areas, tinutulungan namin sila sa bedside. Basta kung sino may kailangan ng tulong, o kaya may problema, pinaguusapan namin.. nagtutulungan kami. Nung tumagal-tagal naging magkakaibigan na din kami."* (We helped one another. Because we have coworkers coming from other areas, we were helping them at the bedside. Whenever someone needs help, or has a problem, we talk about it... we work together. Eventually, we all became friends.) *"Yung mga doctors namin very responsive din. Masisipag sila. Kapag nagto-toxic yung pasyente nandun sila kaagad sa bedside tumutulong sa aming nurses. Magagalang din sila. Nagpapasalamat sila sa amin pagkatapos ng shift namin."* (Our doctors are also very responsive. They are hardworking. When the patient becomes toxic, they immediately attend to the bedside and help our nurses. They are also respectful. They thank us after our shift.)
	Treating and caring for patients	*"Mas mabigat yung workload ngayon kasi walang bantay. Ina-assist namin yung patient sa pag-inom ng gamot, pagkain, saka paliligo. Mas toxic kapag intubated kasi ikaw lahat gagawa. Tapos every hour pa yung monitoring. Mahirap talaga pero kailangan mo gawin yung trabaho mo."* (The workload is more tedious now because there is no one to look after the patient. We assist the patients in taking their medicine, eating, and bathing. It's more difficult when the patient is intubated because you will do everything. Then the monitoring is every hour. It's really hard but you have to do your job.) *"Kinakausap namin yung mga pasyente...kinakamusta namin sila. Dyan kasi sa loob, [isolation unit] hindi lang kasi COVID kalaban mo, palakasan din kasi ng loob yan. Yung iba madalas kamustahin ng kamag-anak ng iba, yung iba wala talaga. Kaya kinakausap namin sila para kahit papano mabawasan yung lungkot at kaba nila."* (We talk to the patients... we say hello to them. Because inside, [the isolation unit], COVID is not your only enemy, you also have to be emotionally strong. Other patients are often greeted by other people's relatives but some don't get any greetings at all. So we talk to them to somehow reduce their sadness and nervousness.)
II. Challenges experienced while providing frontline work	Unclear guidelines and constantly changing protocols	*"Nakakapanibago nung umpisa kasi palaging nagbabago yung protocols, mas nakaka-stress dahil halos every week may bagong guidelines or schedule or staffing pattern."* (It was challenging at the beginning because the protocols are always changing, it's more stressful because almost every week there were new guidelines or schedules or staffing patterns.) *"Nagulat kami kasi all of a sudden nilipat kami ng area. Natakot kami. Yung iba sa amin napunta sa COVID unit. Na–bother lang kami kasi syempre hindi mo alam yung workflow dun sa area na lilipatan mo, saka hindi mo din kilala yung mga co-nurses mo dun."* (We were surprised because all of a sudden we were moved to another area. We were scared. Some of us were assigned to the COVID unit. We were worried because you don't know the workflow in that new area you're moving to, you also don't know your new co-nurses there.)
	Personal Protective Equipment (PPE) use	*"Sobrang uncomfortable magsuot ng PPE. Natandaan ko nung first time ko magsuot, sobrang nahilo ako.. hindi ako nakatagal ng isang oras, nagsuka ako kaagad."* (It is very uncomfortable to wear the PPE. I remember the first time I wore it, I felt very dizzy... I didn't last an hour, I vomited right away.) *"... feeling ko nasu-suffocate ako. Para kang kinakapos sa hininga. At saka sobrang init pag nakasuot na."* (... I feel like I'm suffocating. It's like having shortness of breath. It's also very hot when you're wearing it.) *"Naka-receive naman kami ng orientation and training sa pagsuot ng PPE. Pero iba pa din pag ikaw na mismo yung gagawa. Natandaan ko sobrang natakot at nag-panic ako. Nagfo-fog yung goggles na suot ko, wala ka nang makita, tapos yung hibla ng N95 sobrang uncomfortable sa ilong."* (We were given an orientation and training on wearing the PPE. But it's actually different when you're doing it yourself. I remember being so scared that I panicked. The goggles I'm wearing are fogging up, you can't see anything, then the material of the N95 is very uncomfortable on your nose.) *"... headache, neck pain, dizziness, vomiting, eye strain, allergy, facial wounds, dermatitis, lahat yan na-experience ko while wearing PPE. Nagkaroon din ako ng madaming masasakit na blisters sa face dahil sa N95."* (... headache, neck pain, dizziness, vomiting, eye strain, allergy, facial wounds, dermatitis, I experienced all that while wearing the PPE. I also got a lot of painful blisters on my face because of the N95.)

Table 6. Themes and Subthemes *(continued)*

Theme	Subtheme	Quotations
II. Challenges experienced while providing frontline work	Fear of transmission and uncertainty	*"Bilang frontliner, natatakot ako ma-infect ng virus at madala yung virus sa bahay at sa pamilya ko."* (As a frontliner, I am afraid of being infected with the virus and bringing the virus to our home and my family.) *"... reports ng mga namamatay na fellow nurses at frontliners sa news, mga namatay na colleagues natin dito sa ospital, yung biglang pagsurge ng cases, lalo na yung time na nagkaroon ng outbreak dito sa ward, anim kaagad and na-infect sa amin."* (... reports about dying fellow nurses and frontliners in the news, our dead colleagues here in the hospital, the sudden surge of cases, especially during the time when there was an outbreak here in the ward, six staff were infected right away.) *"Sobra ang fear namin noon dahil sa lockdown at di mo kilala yung virus. Pero same pa din ang takot namin ngayon kasi wala naman na cure, at nagkakaroon ng mutations yung virus. Ang fear ko ngayon ay para sa loved ones ko kasi alam ko mabagal ang distribution ng vaccine."* (We were very afraid then because of the lockdown and you don't know much about the virus. But we still have the same fear up to now because we don't have a cure yet, and the virus is rapidly mutating. My fear at the moment is for my loved ones because I know the distribution of the vaccine is slow.) *"Same pa din yung takot ko ngayon kahit may vaccine na. Pero nagmomonitor pa din ako araw-araw kasi hindi mo talaga alam if infected ka or hindi. Lalo na dahil mas transmissible yung bagong variant."* (My fear is still the same now even though there is already a vaccine. But I still monitor every day because you don't really know if you are infected or not. Especially because the new variant is more transmissible.) *"Takot pa din kasi may mga mutations yung virus. Hindi mo talaga alam kung ano mangyayari or i-expect."* (I'm still scared because the virus has mutations. You never really know what will happen or what to expect.)
	Organizational support	*"Nabibigyan naman kami ng support, PPE, guidance, accommodation, meals, transportation, vitamins, and vaccination."* (We are given support, PPE, guidance, accommodation, meals, transportation, vitamins, and vaccination.) *"Yes, may support kami na natatanggap from the administration. Skeletal workforce was implemented, yung ibang areas ay nagclose then staffing in COVID areas were augmented by personnel from other units. We were also provided with sufficient and safe PPEs."* (Yes, we are receiving support from the administration. Formation of skeletal workforce was implemented; some areas were closed then staffing in COVID areas were augmented by personnel coming in from other units. We were also provided with sufficient and safe PPEs.) *"May suporta kaming natatanggap pero hindi 100%. Nageencourage sila na mag-suggest for improvement ng processes, pero feeling namin hindi sya kino-konsider."* (We are getting support but not 100%. They are encouraging us to suggest ways for the improvement of processes, but we feel that they are not really considered.) *"Hindi lahat ng aspeto nasusuportahan ng administrators, like sa personnel staffing. Minsan hindi sila makapag-provide ng tao sa mga areas na nangangailangan talaga ng additional staff."* (The administrators do not provide support in all aspects, like personnel staffing. Sometimes they cannot provide people in areas that really need additional staff.) *"Nabigyan naman kami ng comfortable na accommodation, point-to-point shuttle services saka meals nung start ng pandemic. Meron din hazard pay at SRA [Special Risk Allowance] kaso late na nabibigay...feeling ko din kulang ang recognition na binibigay sa ating nurses ngayong pandemic."* (We were given comfortable accommodation, point-to-point shuttle services, and meals during the start of the pandemic. We were also granted with hazard pay and SRA [Special Risk Allowance], however, they were given late. Moreover, I feel that the recognition given to our nurses during this pandemic is not enough.)
	Moral distress	*"Sobrang nakakapagod. Mag-isang taon na tayo na nasa pandemya. Pakiramdam ko nag-susuffer na ang mental health ko at mga co-nurses ko."* (It's very exhausting. We've already been in the pandemic for a year now. I feel that my mental health and that of my co-nurses have suffered.) *"Feeling ko burned out na ako. Sobrang challenging mag provide ng nursing care during this pandemic."* (I feel like I'm already experiencing burn out. It is very challenging to provide nursing care during this pandemic.) *"Yung makita mong mamatay yung pasyente na walang kasama, hindi man lang nakapag-paalam sa pamilya nya, yung ganung experience hindi mo agad makakalimutan yun. Sobrang nakakalungkot."* (When you see a patient die without any companion, without even being able to say goodbye to his family, that's an experience you won't easily forget. It's very heartbreaking.) *"Being away from my loved ones is the most difficult challenge in being a nurse during this time. Kahit sa work mahirap, because patients have to be away from their watchers. We have to meet their medical, physical, and sometimes their emotional needs."* (Being away from my loved ones is the most difficult challenge as a nurse during this time. Even at work it is difficult, because patients have to be away from their watchers. We have to provide their medical, physical, and sometimes their emotional needs.) *"Meron talagang feelings of extreme loneliness and isolation kasi I've been away from home for a long time and travels are restricted."* (There is that feeling of extreme loneliness and isolation because I've been away from home for a long time and travels are restricted.)

Table 6. Themes and Subthemes *(continued)*

Theme	Subtheme	Quotations
III. Resilience amidst challenges	Sources of support	*"Yung pakikipag-usap sa mga friends and kasamahan mo sa trabaho, nakakatulong talaga sya as a source of support."* (Talking to your friends and colleagues at work is really helpful. It serves as a source of support.)
		"Palagi ako nakikipag-video call and message with my family. Matagal ko na din kasi sila hindi nakikita." (I always get in touch with my family through video calls and sending of messages. I haven't seen them for a long time.)
		"Ako, I devote my free time to my fiancé and family, especially when I know that I am safe to be around with them. Kumukuha din ako ng lakas sa aking friends and co-workers. I get inspiration from my patients, and at the same time I try my best in giving them the care and service that they need and deserve." (Personally, I devote my free time to my fiancé and family, especially when I know that I am safe to be around with them. I also gain strength from my friends and co-workers. I get inspiration from my patients, and at the same time I try my best in giving them the care and service that they need and deserve.)
		"Fear kasi comes from having less knowledge about the disease. Nakakatulong din yung nagbabasa about COVID. The more knowledge we have, the lesser fear we will have." (Fear comes from having little knowledge about the disease. Reading more about COVID really helps. The more knowledge we have, the lesser fear we will have.)
	Coping and self-care	*"Ang nakatulong talaga sa akin ay prayers. Also, listening to music and podcasts, reading books, watching tv series and films, constant video-call to loved ones, retail therapy, and stress eating [laughs]."* (Praying really helped me as well as listening to music and podcasts, reading books, watching tv series and films, constant video-calls to loved ones, retail therapy, and stress eating [laughs].)
		"Nakikipagusap ako sa co-nurses ko pang de-stress din, watching tv series and nagpapahinga lang pag day off, saka playing with my dog." (I talk to my co-nurses to loosen up. I'm watching TV series and just relaxing on my day off. I also spend time playing with my dog.)
		"Yung faith and belief ko in God nakatulong talaga sya mabawasan yung fear and it gave me a sense of security and comfort." (My faith and belief in God really helped reduce the fear and it gave me a sense of security and comfort.)
		"Nagpapahinga. Iyan kasi pinaka-kailangan natin ngayon pahinga talaga." (Resting. Taking a rest is what we really need right now.)
	Professional responsibility and identity	*"Masasabi ko na very fulfilling ang experience ko in this pandemic. Nagampanan ko talaga yung purpose and mission ko as a nurse."* (I can say that my experience in this pandemic is very fulfilling. I really lived up to my purpose and mission as a nurse.)
		"Proud ako sa job ko as a nurse, na despite risks pinipili ko magbigay serbisyo dito sa atin." (I am proud of my job as a nurse, that despite the risks, I choose to offer my service here in our country.)
		"Ginagawa ko ito kasi ito yung kailangan. Ito yung ethical and professional duty ko." (I'm doing this because it's what's needed. This is my ethical and professional duty.)

personal protective equipment. Nurses were not accustomed to wearing PPE on a daily basis. Nurses experienced physical symptoms such as headache, nausea and vomiting, and dermatitis. The nurses felt that the use of PPE interfered with their work performance.

Fear of Transmission and the Unknown. Due to the highly contagious nature of COVID-19, nurses were constantly in fear of becoming infected. Nurses were afraid of unintentional occupational exposure, and constantly monitored their health to avoid infecting others. Those who lived with their families also had great concern about taking the virus to their family members.

Organizational Support. Generally, the nurses feel that the organization has provided them with support during this pandemic. However, they also verbalized that some of their prevailing issues and concerns were not considered by the administration, and that much could be improved in terms of providing for their needs.

Moral Distress. Nurses express how they feel tired and fatigued from providing frontline work during this pandemic. For nurses working in COVID units, they also express their feelings of moral anguish as they provide care for dying patients.

Theme 3: Resilience Amidst Challenges
This theme highlighted how nurses were able to withstand the hurdles of providing frontline work in this pandemic. This collection of themes emphasizes the positives that were derived from the nurses' experiences and changed beliefs ranging from an increased personal maturity and changing professional perceptions. This includes the following sub-themes: "sources of support," "coping and self-care," and "professional responsibility and identity."

Sources of Support. Nurses identified multiple sources of support to cope with the situation, including their colleagues, family, and friends. These sources of support allowed them to gain a sense of safety.

Coping and Self-care. Nurses also utilized self-management strategies to cope with the situation and maintain a good mood. The use of religious beliefs and behaviors was often utilized as a means to alleviate feelings of fear and stress. Some chose to do relaxing activities such

as watching films, listening to music, and reading. Owing to the heavy workloads, they also recognized the need for good nutrition and rest.

Professional Responsibility and Identity. Nurses mentioned that professional responsibility prompted them to participate in the mission to contain the pandemic. Most nurses reviewed the value of nursing and identified more with their chosen profession.

Integration

The integration of the quantitative and qualitative data provided greater insights into the level of fear experienced by nurses during the pandemic. The quantitative results demonstrated that frontline nurses had an elevated level of fear during the COVID-19 pandemic as shown by their total mean score of 21.76 (SD = 4.92) for the FCV-19S. Moreover, the mean scores of four items in the scale exceeded the midpoint of the total score range. These items pertain to the nurses being "afraid of corona," "makes them uncomfortable to think about corona," "afraid of losing their lives because of corona," and "news and stories on social media make them anxious about corona." The qualitative themes confirmed as well expanded on these results as probable sources of their COVID-19-related fear. The qualitative data identified "fear of transmission and uncertainty," as well as "moral distress" contributing to the challenges that they experienced during their frontline work. However, one discordant finding in the integration included the quantitative result indicating that having friends and family who tested positive predicted their fear of COVID. On the contrary, qualitative results suggested that having friends and family as sources of support allowed them to gain a sense of safety. Nevertheless, the qualitative analysis generated promoting factors for their resilience despite the challenges, which included self-care and maintaining a professional identity.

DISCUSSION

This study investigated the level of fear of COVID-19 among nurses and explored their experiences of COVID-19-related fears while providing frontline work. Similar studies have been conducted regarding the experiences of nurses during the pandemic which contributed to their uncertainties and fear experiences.[28,29] Nonetheless, to our knowledge this is one of the first studies to utilize both quantitative and qualitative methods to explore the fear experience of healthcare workers, specifically frontline nurses in PGH during the height of the pandemic. Thus, results from this study may generate potential implications for nursing management and leadership.

Overall, the obtained mean scale score for the fear of COVID-19 measure in the present study was 21.76 (SD = 4.92), which was above the midpoint. This finding is congruent with the qualitative strand which report on the nurses' fears for their own personal health and safety while maintaining

their ethical duty to care for patients and provide frontline work. This result is also in line with previous studies which report an elevated level of fear among nurses,[16] especially those providing front line nursing care.[8] As a frontline provider, nurses are exposed to a higher risk of contracting the disease, and experience pandemic-related concerns such as an increase in patient load and volume.[29] All of which contribute to the level of fear experienced by nurses.

The qualitative strand of this study also explored the COVID-19-related fear experiences of nurses. The results of this study demonstrate that the challenges faced by frontline nurses such as unclear guidelines and constantly changing policies, PPE use and availability, fear of viral transmission and the unknown, organizational support, and moral distress, all contribute to the fear experienced by the nurses. The quantitative results of the study confirm these findings, as nurses report to not have received prior training in caring for patients with infectious diseases, albeit having prior experience in providing nursing care. Moreover, the quantitative findings also report that some nurses were displaced since the start of the pandemic which during the qualitative strand, revealed as another stressor for the nurses since they were dealing with unfamiliar colleagues, work environment, and workflow processes. These findings are consistent with the results reported from previous studies which also identified the same aforementioned factors as major stressors when providing frontline work.[28,30]

Lastly, in the face of various challenges, frontline nurses demonstrated resilience, and utilized several support systems and coping strategies as a way to relieve stress and alleviate feelings of fear. The quantitative strand report on the information seeking behavior of nurses as a coping strategy. This is confirmed by the qualitative strand, and further expanded by including other sources of support such as colleagues, family, and friends. The provision of intentional forms of support such as emotional and psychological support are of utmost importance in supporting the mental health of frontline nurses during these challenging times.[31] Other coping strategies identified was the use of religious beliefs, watching films, and prioritizing good nutrition and rest. These findings are congruent with the previous literature which has also identified the same coping strategies of nurses during this pandemic.[28] Supportive coping strategies are needed by frontline nurses to reduce stress and burnout while providing care during this pandemic.[32]

In summary, the fear experiences of nurses during the COVID-19 pandemic offer invaluable insights for preparing for future pandemics. Challenges such as evolving protocols, limited availability of PPE, fear of the unknown, inadequate organizational support, and moral distress have significantly contributed to their fear experiences. The experiences underscore the critical need for comprehensive pandemic preparedness plans that prioritize clear and consistent communication, sufficient PPE stockpiles, robust organizational support structures, and strategies to address

moral dilemmas faced by frontline nurses. By addressing these challenges, healthcare systems can better equip nurses to navigate future pandemics with resilience and efficacy, ultimately safeguarding both their well-being and the quality of patient care.

Limitations

The main strength of this study is that we collected data during the peak of the COVID-19 pandemic wherein PGH was still designated by the DOH as one of the COVID-19 referral hospitals in Manila, and therefore had multiple clinical areas converted to COVID wards. This timing allowed participants to share rich narratives of their experiences as a frontline nurse during the peak of the pandemic. The study was conducted at a time wherein their COVID-19--elated fear experiences were at the forefront of their minds. A second notable strength is the mixed methods design of this study. The quantitative component proved that nurses had elevated levels of fear during the pandemic, but the qualitative component gave meaning and explanation to the quantitative numbers. However, despite these strengths, the inherent limitations of this study must also be acknowledged. First, this is a single-center study which might affect the representativeness of our sample and the generalizability of the results. The time frame with which the study was conducted also presents as a potential limitation. Moreover, it may be difficult to assess causal relationships and temporality of events given the cross-sectional design of the quantitative strand of this study. Another limitation would be that the data represent self-reported states thus, recall bias should be considered. Lastly, this study assessed fear of COVID-19 among nurses as a subpopulation of health care professionals (HCP). We thus encourage for more inclusive studies that involve other HCPs such as physicians, technicians, and paramedics.

Implications for Practice

Literature suggests that certain activities such as mindfulness practice, writing work logs, communicating with staff members, and exercises such as yoga, can aid nurses alleviate their psychological symptoms from their fear experiences.[33,34] By recognizing feelings of fear and implementing strategies to mitigate its effects, nursing administrators may be able to promote ethical decision making and enhance nurses' psychological resilience in future pandemics.

The provision of work-related support can also play a pivotal role in mitigating the fear experiences of nurses during future pandemics. Adequate support encompasses various aspects, including access to sufficient PPE, equipment needed to care for patients, training on infection control protocols, and readily available mental health resources.[35] As stated in Maslow's hierarchy of needs, the most basic human needs are physiological and safety needs.[36] Only when the nurses' most basic physiological and safety needs are met, will they be able to experience love, esteem, and self-actualization, and be motivated to provide the same to others without feeling tired or burned-out.

Younger and newly graduated nurses should also receive more training because they lack experience in caring for persons with infectious diseases and have limited clinical work experience. However, for this study, a majority of the respondents has been working in the institution for more than ten years. These nurses have decades of experience, knowledge, and decision-making skills that are crucially important in treating patients and ensuring the capabilities of the institution. Therefore, nursing managers must consider strategies to frame retention of these nurses in the workforce.

Nursing administrators can also consider providing robust support systems in their facilities such as peer support programs, and counseling services as these can help address psychological distress and promote emotional well-being among nurses. By prioritizing the provision of work-related support, healthcare organizations can empower nurses to confront future pandemics with resilience and confidence.[33]

Lastly, nurse leaders play an important role in building supportive relationships at the workplace, which can significantly improve the nurses' psychological health. By fostering a supportive organizational culture that values and promotes resilience, nurses can be empowered to maintain a sense of control and optimism amidst adversity, thereby mitigating fear and promoting nurses' well-being in future pandemics.[37]

Implications for Research

By delving into the factors underlying nurses' fears, such as concerns for personal safety, emotional strain, and workplace stressors, this study lays the groundwork for targeted interventions aimed at enhancing workplace safety protocols, and fostering psychological well-being among frontline healthcare professionals. Additionally, findings of this study can inform future research endeavors aimed at exploring the broader impacts of fear on patient outcomes, and organizational dynamics within the healthcare setting. Ultimately, by addressing the fear experiences of nurses, strategies may be created to work towards safer, and more supportive environments for healthcare workers.

CONCLUSION

This research finds significance in that it reported elevated level of fear among nurses during the height of the COVID -19 pandemic, and explored nurses' experiences of COVID-19-related fear when providing direct care to patients during this pandemic. This fear challenges them ethically; nonetheless, despite the hurdles that they face, they recognize their professional responsibility and identity during this time of crisis. The results of this study also hold significant potential in informing preparedness strategies for future pandemics. By elucidating the multifaceted nature of

nurses' fears, including concerns on personal safety, inadequate resources, and moral dilemmas, this study provides valuable insights into the challenges faced by frontline nurses during a public health crisis. Understanding these fear experiences enables healthcare facilities to develop targeted interventions and policies aimed at mitigating fear and supporting nurses' well-being in future pandemics. Ultimately, leveraging the findings of this study enables healthcare facilities to strengthen their capacity to support frontline nurses and optimize pandemic response efforts.

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