

ORIGINAL RESEARCH

# Attitudes and perceptions of ICU nurses in caring for COVID-19 patients

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## ABSTRACT

ICU Nurses' attitudes and Perceptions towards COVID-19 Patients is crucial because it illuminates challenges regarding caring these patients in the critically ill. This cross-sectional descriptive correlational study employed 85 Saudi ICU nurses worked with critically ill COVID-19 patients since 2020 until present in the government hospitals affiliated in the Ministry of Health (MOH) in Hail Region. These hospitals included King Khalid Hospital, King Salman Specialist Hospital, Hail general Hospital, Maternity and Child Hospital, and Sharaf Hospital, as they all have intensive care units in different specialties. A self-administered questionnaire through online survey was used and composed of three parts, (1) socio-demographic profile of the respondents, (2) the attitudes of the respondents in Caring for COVID-19 Patients and (3) perceptions of the respondents in Caring for COVID-19 Patients. The tool was adopted from Al-Dossary et al. (2020). The majority of nurses participated in the study aged between 25-34 years old, hold bachelor's degree, and had between 2-5 years clinical experience. Nurses' perception and attitude were moderately positive. However, male and females were differed in respect to attitude and perception. Likewise, education, age, and length of hospital experience were also influential to the attitudes and perception. In conclusion, healthcare organizations should evaluate ICU nurses attitudes and perception of pandemics to ensure safer and optimal practice.

**Key Words:** Attitudes, Perceptions, ICU Nurses, COVID-19

## 1. INTRODUCTION

### 1.1 Background of the study

In the context of perception and attitudes towards patient care, understanding the perceptions and attitudes of healthcare professionals is crucial because it can impact patient outcomes. An individual's overall assessment or state of mind toward a thing, someone, or a circumstance is referred to as their attitude, and it shapes their actions and reactions. Contrarily, perception entails the organizing and interpretation of sensory data, forming a person's perception of their surround-

ings. Studies using COVID-19 have looked at ICU nurses' attitudes and views about infection control practices, patient care guidelines, and personal safety. Even though studies have looked into the elements influencing these attitudes, more research is necessary, particularly in light of particular knowledge gaps and the effects of differing attitudes and views on the quality of care provided by ICU nurses. Perception shapes how healthcare professionals identify problems, provide diagnostics, choose treatments to administer and evaluate their effectiveness. Their attitudes are also relevant

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as they govern how healthcare professionals' approach and work with patients. So, the attitudes can impact a patient's level of trust in their care provider, their mood, and ultimately their health.<sup>[1]</sup> Understanding the attitudes of ICU nurses towards patient care can help identify areas where training, resources, or support could be provided to improve both patient care and the working environment for these essential healthcare workers.<sup>[2]</sup>

In 2019, the coronavirus (COVID-19) outbreak was declared by the Communicable Disease Control (CDC), which originated in Wuhan, China. The pandemic has since affected numerous countries globally, including Saudi Arabia. One of the most significant challenges with COVID-19 is that patients can experience a wide range of symptoms, from asymptomatic to severe respiratory distress syndrome. This has led to an alarming number of cases involving multiple-organ failure and death in people worldwide.<sup>[3]</sup> It is essential to acknowledge that this crisis has impacted many nations and poses significant challenges to healthcare professionals on a global scale.

According to the study conducted by Al-Dossary et al. (2020),<sup>[4]</sup> there was evidence of positive attitudes, optimal prevention measures, and positive perceptions towards COVID-19 exhibited by nurses working in hospitals during the pandemic.

Furthermore, Ottolenghi et al. (2021)<sup>[5]</sup> mentioned that nurses with children in their homes were more likely to find refusing to treat patients with SARS-CoV-2 morally acceptable. The study also highlighted extremely high levels of stress and worry among health workers on the front of COVID-19 care. Despite these challenges, most nurses surveyed expressed a willingness to continue caring for patients suffering from COVID-19. Such studies are essential because they provide insights into the factors influencing perception and attitude toward patient care, especially during crises like pandemics. They enable health authorities to identify areas for improvement and support to minimize the impact on patients and healthcare workers.

Croghan et al.'s (2021)<sup>[6]</sup> study investigated the healthcare workers (HCWs) self-reported stress, resilience, and coping during the COVID-19 pandemic and inter-professional differences.

In contrast to Saudi nurses, non-Saudi nurses demonstrated higher levels of self-reported awareness, positive attitudes, ideal preventive measures, and favorable perceptions of COVID-19, according to a study by Aldossary et al. (2020).<sup>[4]</sup> Despite the difficulties faced by healthcare workers during the pandemic, more study is required to determine

how COVID-19 has affected ICU nurses. ICU nurses are among the frontline employees who have been most severely physically and psychologically impacted by the pandemic. So, the aim of the current study is to assess attitudes and perceptions of ICU nurses in caring for COVID-19 patients.

## 1.2 Aim of the study

A comprehensive research method is required to evaluate the attitudes and perspectives of ICU nurses in the care of COVID-19 patients. First, look at the apparent views of ICU nurses regarding the care of COVID-19 patients by examining their emotional makeup, comfort levels, and desire to take on cases. Examine ICU nurses' perspectives on caring for COVID-19 patients concurrently. Find out how they perceive the disease, how well they grasp protocols, and how confident they are in their ability to provide care. Moreover, examine if grouping ICU nurses based on their sociodemographic characteristics—such as age, gender, experience, and education—leads to any notable variations in attitudes and views. This analysis will shed light on possible variations that may be influenced by demographic factors. Lastly, investigate the existence of any noteworthy associations between the attitudes and perceptions of ICU nurses on the care of COVID-19 patients in an effort to find correlations that might influence the quality of care provided overall. With the complex COVID-19 patient care environment, our all-encompassing approach guarantees a deep comprehension of the subtle elements impacting ICU nurses.

## 1.3 Research questions

- 1) What are the attitudes of ICU nurses in caring for COVID-19 patients?
- 2) How do ICU nurses perceive caring for COVID-19 patients?
- 3) Is there a significant difference in the attitude and perceptions when grouped according to their socio-demographic profile?
- 4) Are there significant relationships between ICU nurses' attitudes and perceptions in caring for COVID-19 patients?

## 1.4 Significance to nursing and need to study

This research is significant for all nurses, especially intensive care unit (ICU) nurses whose efforts cannot be quantified. This study will help nurses and other healthcare professionals improve their perceptions as they collaborate to improve the health conditions of COVID-19-diagnosed patients. This study is also crucial to the nursing profession because it will allow them to recommend measures or interventions to improve the attitudes and perceptions of all front-line workers even if there is no pandemic.

## 2. SUBJECTS AND METHODS

### 2.1 Research design

A descriptive correlational cross-sectional study was used to determine the influence of covid-19 on ICU nurses' perceptions and attitudes towards patient care.

This study's sample strategy adopts a thorough census approach, encompassing all government hospitals located in the Hail Region of Saudi Arabia. This intentional decision guarantees that all interested parties—that is, ICU nurses employed by government hospitals in the designated region—are included. Surveys and questionnaires are probably the mainstay of the data collection process, which enables researchers to methodically compile data on important characteristics including age, education, hospital qualifications, and shift hours. A thorough ethical review and informed consent processes should be followed, as well as appropriate ethical approval. Ethical considerations are of the utmost importance. These steps are necessary to protect the rights and well-being of the ICU nurses who are taking part in the study, guaranteeing that their participation is voluntary, private, and carried out in a way that is ethical.

With little to no effort to control irrelevant variables, correlational analysis, a non-experimental research technique, considers two variables and evaluates their statistical relationship (also known as the correlation). Researchers interested in the statistical relationships between variables must consider several factors when deciding whether to conduct an experiment or a correlational study. To start, they either do not care about causality or do not think the statistical relationship is causal. The two main objectives of science, to describe and predict, can be accomplished by researchers using the correlational research approach. If there is a relationship between the variables, researchers can forecast the results from the other variable using a statistical technique called regression. The direction and strength of the relationship between two variables can be described using this method.<sup>[7]</sup>

### 2.2 Setting

The Hail Region of Saudi Arabia's government hospitals are the focus of this extensive descriptive correlational cross-sectional investigation. The study intends to provide a comprehensive analysis of the attitudes and perspectives of ICU nurses caring for COVID-19 patients by encompassing all healthcare facilities in this particular geographic area. This strategy guarantees that nurses employed by government hospitals are diversified, which facilitates understanding of the particular difficulties and viewpoints in the Hail Region. The study covers a wide spectrum of ICU nurses and offers useful information about demographic traits, aspects related to the

workplace, and possible correlations between variables. By concentrating on this particular geographic area, the research findings become more contextually relevant to the healthcare system in the Hail Region. This leads to focused insights that may be used to improve nursing practices and patient care.

### 2.3 Target population

The number of respondents who participated was 85 nurses out of 153 nurses in the Hail Region, Saudi Arabia. The decision to focus on this region is because these nurses were among the most severely impacted during the COVID-19 pandemic. The inclusion criteria for the study were nurses who have worked in ICU since 2020 up to the present time.

### 2.4 Identification of limitations

All government hospitals in the Hail Region of Saudi Arabia participated in a thorough descriptive correlational cross-sectional study. However, there are a few factors that affect how broadly the results can be applied. There are worries regarding the study's generalizability because it focuses on a particular population and geographic area, and the attitudes and perspectives of ICU nurses may not be typical of those in other areas or healthcare settings. Furthermore, even if the cross-sectional design is effective, it just provides a momentary view of the nurses' viewpoints and hinders the study's capacity to record temporal changes over time. The findings' external validity may also be impacted by selection bias resulting from the study's exclusive emphasis on government hospitals in the Hail Region. This means that extra care should be taken when extrapolating the study's findings to a wider variety of healthcare environments and geographical areas. More research is therefore required to fully comprehend the attitudes and perceptions of ICU nurses regarding COVID-19 patient care.

## 3. RESULTS

The majority of the respondents (85.9%) aged between 25 and 34. Only 14.1% of the respondents were 35 years or older.

Out of the 85 participants who participated in the survey, 62.4% were female, while 37.6% were male. Regarding marital status, 54.1% of the participants were single, while 40% were married. Only a small percentage, 5.9%, of the respondents reported being divorced or widowed.

About 82.4% of the respondents had completed a bachelor's degree. In comparison, 12.9% had a master's degree. A small percentage, 4.7%, of the participants had a Diploma, and none had reported having a Ph.D.

Less than half of the sample (43.5%) had experience between 2-5 years. This was followed closely by those with

6-10 years of experience, representing (40%) of the sample. The most minor respondents are those with more than 10 years of experience, making up only (16.5%) of the total sample.

Most respondents (91.8%) reported working 12 hours in a hospital setting. Only a few participants (7.1%) stated they worked for 8 hours, while only one respondent (1.2%) reported working for a different number of hours that were not specified in the survey.

In a collection of data, the mode denotes the response that appears the most frequently. In this instance, the response option “Yes” was most frequently chosen by ICU nurses in every perception statement, as indicated by the mode score of 1.00. The numerical values on the Likert-type scale are qualitatively understood by means of the verbal interpretation. A score of 1 in this instance indicates “Yes”, indicating that ICU nurses have a favorable opinion of a variety of COVID-19 and patient care-related topics. The response options, which range from 1 to 3, suggest that the scale utilized in this study is similar to a Likert scale. Likert scales are frequently employed in survey research to gauge respondents’ opinions or attitudes. The ICU nurses in the study generally showed a positive perception of the influence of COVID-19 on patient care. The mode for all four perception statements is 1, which means that most of nurses strongly agree that their hospital has clear protocols, they have enough knowledge, clinical

experience, and training to give care for COVID-19 patients with self-confidence with minimal variations between groups (see Table 2).

**Table 1.** Demographic Profile of the Respondents (N = 85)

	Frequency	Percentage (%)
Age		
25-34 years old	73	85.9
35 years old and above	12	14.1
Gender		
Male	32	37.6
Female	53	62.4
Marital Status		
Single	46	54.1
Married	34	40.0
Divorced/Widowed	5	5.9
Highest Educational Attainment		
Diploma	4	4.7
Bachelor	70	82.4
Master’s	11	12.9
PhD	0	0
Number of Hospital Experience		
2-5 years	37	43.5
6-10 years	34	40.0
More than 10 years	14	16.5
Shift hours during the COVID-19 Pandemic		
8 hours	37	7.1
12 hours	34	91.8
More than 12 hours	14	1.2

**Table 2.** Level of PERCEPTIONS of ICU nurses on the influence of COVID-19 towards patient care

Perceptions	Mode	Std. Deviation	Verbal Interpretation	Min	Max
1- I am willing to provide care to COVID-19 diagnosed patients.	1.00	0.806	Yes	1	3
2- In my perception the hospital that I work at has a clear protocol for managing COVID-19.	1.00	0.763	Yes	1	3
3- In my perception the I have enough clinical experience that enables me to provide care for COVID-19 patients with confidence.	1.00	0.747	Yes	1	3
4- In my perception the hospital that I work at has provided me and my colleagues with enough training to deal with COVID19 patients.	1.00	0.794	Yes	1	3
Total	1.00	0.779	Yes	1	3

The verbal interpretation of “Agree” has the highest scoring mean, with a median score of 4.00. This relates specifically to the views that ICU nurses have regarding their clinical experience and their understanding of COVID-19, as evidenced by items 2 and 3. The median for the perception item 1 is 3.00, indicating a neutral perception among the ICU nurses. The standard deviation for this perception is 1.232, indicating moderate variability in the responses. The median for the perception item number 2 and 3 is 4.00, indicating an

agreement among the ICU nurses. The standard deviation for these perceptions is 1.234 and 1.135, respectively, indicating moderate variability in the responses. The median for the perception item number 4 is 3.00, indicating a neutral perception among the ICU nurses. Overall, the total median for all the perceptions is 4.00, indicating an agreement among the ICU nurses. The entire standard deviation is 1.233, indicating moderate variability in the responses (see Table 3).

**Table 3.** Level of Perceptions (OPINIONS) of ICU nurses on the influence of COVID-19 towards patient care

Opinions	Median	Std. Deviation	Verbal Interpretation	Min	Max
1- In my perception the hospital that I work at has a clear protocol for managing COVID-19.	3.00	1.232	Neutral	1	5
2- In my perception I have enough knowledge about COVID-19.	4.00	1.234	Agree	1	5
3- In my perception the I have enough clinical experience that enables me to provide care for COVID-19 patients with confidence.	4.00	1.135	Agree	1	5
4- In my perception the hospital that I work at has provided me and my colleagues with enough training to deal with COVID19 patients.	3.00	1.286	Neutral	1	5
Total	4.00	1.233	Agree		

The ICU nurses have a positive attitude toward providing care for COVID-19-diagnosed patients. This is supported by the fact that all items in the table have a mode of 1, indicating that most respondents agreed or strongly agreed with the statements. The standard deviation for each item is relatively low, meaning that the responses were consistent among the respondents. In this case, the mode denotes the most common answer selected by ICU nurses; a score of 1.00 means that the most often selected affirmative response for each attitude statement was “Yes”. A favorable attitude or agreement is indicated by a numerical score of 1, as shown

by verbal interpretation, which extends our comprehension. Regarding their readiness to care for patients with COVID-19 diagnoses and their fear of contracting or spreading the virus, the ICU nurses’ enthusiastic response is indicated in this survey. The survey instrument is organized, as seen by the Likert-type scale. Survey researchers frequently use Likert scales because they give respondents a graded way of conveying their attitudes, perceptions, or opinions. This allows researchers to get important information on the subtle differences in respondents’ attitudes toward various issues (see Table 4).

**Table 4.** Level of attitude of ICU nurses on the influence of COVID-19 towards patient care

Attitude	Mode	Std. Deviation	Verbal Interpretation	Min	Max
1- I am willing to provide care to COVID-19 diagnosed patients.	1.00	0.756	Yes	1	3
2- I feel anxious about acquiring the infection while providing care to COVID-19 diagnosed patients.	1.00	0.713	Yes	1	3
3- I feel anxious about transmitting the infection to my family members.	1.00	0.486	Yes	1	3
Total	1.00	0.713	Yes	1	3

The ICU nurses have a positive attitude toward caring for COVID-19-diagnosed patients. They agree to provide care to COVID-19 patients (median score of 4.00). As shown in the previous table, they feel confident about their ability to give care with sufficient knowledge and training. However, they also exhibit anxiety about acquiring the infection themselves while providing care (neutral median score of 3.00) and transmitting it to their family members (agree median score of 4.00). They also express anxiety about the lack of proper personal protective equipment (PPE) necessary to protect themselves from COVID-19. This anxiety is reflected in the high median score of 4.00 for statement 4. However, it is encouraging that the ICU nurses are open to receiving compensation if they acquire COVID-19, which may decrease their anxiety levels. The median score of 4.00

indicates agreement for both the total attitude score and each attitude statement. The table does not explicitly disclose mean scores; instead, it shows medians. A median score of 3.00 indicates a neutral position, indicating that respondents largely agree with the provided attitudes. Suitable for ordinal data such as Likert scales, the statistical analysis uses measures like median and standard deviation. Data that might not have a normal distribution are a good fit for non-parametric statistics, especially when utilizing the median and interquartile range. To ensure relevant and reliable interpretations, it is crucial to carefully assess whether statistical analyses are acceptable depending on questionnaire characteristics and research design, as highlighted in the correlation test cautionary comment (see Table 5).

**Table 5.** Level of attitude (OPINIONS) of ICU nurses on the influence of COVID-19 towards patient care

Attitude	Median	Std. Deviation	Verbal Interpretation	Min	Max
1- I am willing to provide care to COVID-19 diagnosed patients.	4.00	1.238	Agree	1	5
2- I feel anxious about acquiring the infection while providing care to COVID-19 diagnosed patients.	3.00	1.236	Neutral	1	5
3- I feel anxious about transmitting the infection to my family members.	4.00	1.370	Agree	1	5
4- I feel anxious when there is lack of proper masks, gowns and eye gear which is imperilling the ability to protect myself from COVID-19.	4.00	1.282	Agree	1	5
5- I feel anxious when my colleagues might acquire the COVID19 and transmitting to others, affecting nurse’s workload, and patient safety.	4.00	1.118	Agree	1	5
6- Having the infection compensation decrease my anxiety regarding acquiring the infection.	3.00	1.243	Neutral	1	5
Total	4.00	1.2405	Agree	1	5

The *p*-value is .048, which indicates the likelihood of getting the observed chi-square statistic—or anything even more extreme—in the event that attitude and perception had no real association. The verbal interpretation rates the connection between perception and attitude as “Significant”. This interpretation is based on a comparison between the critical value (12.592) and the computed chi-square statistic (13.827), as well as the related *p*-value. By comparing the actual frequencies with those predicted under the premise of independence, the chi-square test—which is used in this statistical method—assesses the relationship or autonomy between categorical variables. The finding is deemed statistically significant with a *p*-value of .048, which is less than the typical significance criterion of .05. According to this, there may be a significant correlation between ICU nurses’ attitudes and perceptions of patient care and COVID-19’s impact (see Table 6).

**Table 6.** Significant relationship between the influence of Covid-19 on ICU nurses’ perception and attitude toward patient care

Attitude	Critical Value	$\lambda^2$	<i>p</i> -value	Verbal Interpretation
Perception	12.592	13.827	.048	Significant

There are significant differences between the attitudes of ICU nurses towards patient care during the COVID-19 pandemic and their gender (*p*-value = .003), educational attainment (*p*-value = .047), experience (*p*-value = .003), and average working hours (*p*-value = .000). However, there are no significant differences in attitudes based on age (*p*-value = .345) and marital status (*p*-value = .667). The investigation looks into the association between a number of demographic variables, including age, gender, marital status, level of education, experience, and typical working hours, and the opinions of ICU nurses regarding the impact of COVID-19 on patient care. Utilized for this evaluation is the Kruskal-Wallis test, which was selected due to its applicability to both ordinal and interval dependent variables and independent parameters with two or more levels. It’s critical to verify that the variables meet certain assumptions in order to assure the test’s appropriateness. These assumptions include the independence of the variables, the ordinal or interval nature of the dependent factor (attitude), and the independence of the variables that are uncorrelated within each group. Based on factors including gender, experience, education level, and average work hours, the results show a considerable variation in attitude (see Table 7).

**Table 7.** Significant difference between the attitude of ICU nurses on the influence of COVID-19 towards patient care and their demographic profile

Attitude	Kruskal-Wallis	<i>p</i> -value	Verbal Interpretation
Age	4.479	.345	Insignificant
Gender	15.976	.003	Significant
Marital Status	2.377	.667	Insignificant
Educational Attainment	9.613	.047	Significant
Experience	15.942	.003	Significant
Average working hour	24.043	.000	Significant

For the variable “Age”, the *p*-value was .345, which indicates no statistically significant difference in ICU nurses’ perceptions of the influence of COVID-19 on patient care based on their age. On the other hand, for the variable “Gender”, the *p*-value was .003, which is less than the alpha level (0.05), indicating a statistically significant difference. This implies differences in ICU nurses’ perception of the influence of COVID-19 on patient care based on their gender.

Moreover, for the variable “Marital Status”, the *p*-value obtained was 0.667, which suggests that there is no statistically significant difference in ICU nurses’ perceptions of the influence of COVID-19 on patient care based on their marital status.

Similarly, for the variable “Educational Attainment”, the ob-

tained *p*-value was .568, indicating no significant difference in ICU nurses’ perceptions of the impact of COVID-19 on patient care based on their level of education.

However, for the variable “Experience”, we observed a *p*-value of .027, which is less than alpha (0.05), implying a statistically significant difference in ICU nurses’ perceptions of the impact of COVID-19 on patient care related to their years of experience.

Finally, for the variable “Average working hour”, the *p*-value was .797, which suggests that there is no statistically significant difference in ICU nurses’ perceptions of the influence of COVID-19 on patient care based on their average working hours (see Table 8).

**Table 8.** Significant difference between the perception of ICU nurses on the influence of COVID-19 towards patient care and their demographic profile

Perception	Kruskal-wallis	<i>p</i> -value	Verbal Interpretation
Age	9.588	0.048	Significant
Gender	11.905	0.018	Significant
Marital Status	7.071	0.132	Insignificant
Educational Attainment	3.568	0.568	Insignificant
Experience	10.995	0.027	Significant
Average working hour	1.663	0.797	Significant

## 4. DISCUSSIONS

### 4.1 Level of perceptions of ICU nurses on the influence of COVID-19 towards patient care

The positive perceptions towards COVID-19 patient care among ICU nurses could be attributed to adequate training and education provided by hospitals. Previous research by Tahrir et al. (2020) demonstrated the importance of education and training in improving healthcare workers’ knowledge and attitudes toward COVID-19 patient care. Furthermore, clear protocols and guidelines for managing COVID-19 patients can enhance healthcare workers’ confidence in their ability to provide safe care, as shown by Almutairi et al. (2020).<sup>[8]</sup>

Additionally, positive perceptions toward patient care have been linked to higher job satisfaction and performance among healthcare workers, according to Baig et al. (2021).<sup>[9]</sup> This underscores the importance of hospitals and healthcare organizations supporting their staff by offering appropriate training and support amidst the pandemic.

In conclusion, ICU nurses hold favorable perceptions towards COVID-19 patient care, which may be attributed to hospitals’ efforts in providing adequate education, training,

and clear protocols for managing COVID-19 patients. These findings highlight the significance of healthcare organizations in supporting their staff during these challenging times, ultimately promoting higher job satisfaction and better patient outcomes.

### 4.2 Level of perceptions (OPINIONS) of ICU nurses on the influence of COVID-19 towards patient care

ICU nurses generally agree or with moderate variability on their ability to manage COVID-19 patients effectively, with a clear understanding of protocols, knowledge, experience, and training. These findings are consistent with Zhang et al.’s (2020)<sup>[10]</sup> study, which suggests that healthcare workers require comprehensive training to manage COVID-19 patients properly.

It is essential to note that despite the ICU nurses’ confidence in their clinical skills, there is room for improvement in hospital protocols and training strategies. Improving hospital training programs could help boost ICU nurses’ performance, confidence, and job satisfaction in managing COVID-19 patients effectively.

Overall, these findings emphasize the crucial role of providing healthcare professionals sufficient training, knowledge,

and experience when dealing with infectious diseases such as COVID-19. Enhancing healthcare workers' skills and confidence in managing infectious diseases can lead to better patient outcomes and quality of care during pandemics.

#### **4.3 Level of Attitude of ICU nurses on the influence of COVID-19 towards patient care**

Nurses are willing to support care to COVID-19- patients despite the potential risks. However, they may still experience anxiety about their health and transmitting the infection to their families.

The positive perceptions reported by ICU nurses in the study are like the findings of Salehi et al. (2021),<sup>[11]</sup> where healthcare workers showed a positive attitude toward caring for COVID-19 patients. The authors attribute this attitude to healthcare workers' professional ethics and sense of responsibility towards patients and society during a pandemic.

This highlights the need for hospitals to prioritize the safety of healthcare professionals by providing adequate personal protective equipment (PPE), implementing proper infection control protocols, and supporting their mental health needs. Additionally, hospitals should provide resources and counseling services that address the psychological well-being of healthcare professionals and alleviate their anxiety related to the pandemic.

#### **4.4 Level of Attitude (OPINIONS) of ICU nurses on the influence of COVID-19 towards patient care**

Despite COVID-19, nurses are still willing to provide care to patients in need. However, respondents expressed concerns about acquiring the virus and its potential effects on their health. This aligns with a study by Huynh et al. (2020),<sup>[12]</sup> which demonstrated that healthcare professionals experience anxiety, fear, and stress when caring for COVID-19 patients, especially when access to adequate PPE is limited. The authors also found that a lack of support from healthcare organizations and colleagues can exacerbate psychological distress among workers.

Thus, prioritizing healthcare workers' safety and mental well-being should be emphasized. Hospitals and healthcare organizations should provide adequate PPE, implement proper infection control protocols, and offer emotional support to healthcare workers during the pandemic. Additionally, hospitals should continue to promote a supportive working environment by providing counseling services and resources that mitigate psychological distress experienced by healthcare workers.

#### **4.5 The influence of Covid-19 on ICU nurses' perception and attitude toward patient care**

The perception and attitude of nurses towards patient care during the pandemic are significantly interrelated. Consequently, healthcare organizations must recognize and address their staff's attitudes and perceptions towards caring for COVID-19 patients as it can affect their mental health and well-being. Numerous studies have reported significant relationships between ICU nurses' perceptions and attitudes toward patient care during the pandemic. For example, Liu et al. (2020)<sup>[13]</sup> found that ICU nurses who perceived higher levels of hospital support and adequate Covid-19 training were more likely to have positive attitudes when caring for COVID-19 patients. Similarly, Shahrabani et al. (2021)<sup>[14]</sup> found that ICU nurses who received higher social support and felt adequately equipped with preparation for COVID-19 care were more likely to have positive attitudes in caring for COVID-19 patients. These findings suggest that providing adequate support, training, and preparation for ICU nurses may be crucial for improving their perceptions and attitudes toward caring for COVID-19 patients.

#### **4.6 The attitude of ICU nurses on the influence of COVID-19 towards patient care and their demographic profile**

The significant correlation between attitude of respondents and demographic profiles, such as gender, educational attainment, experience, and average working hours, demonstrates how staff nurses exposed to COVID-19 gain more experience, higher educational attainment, and better ways to handle emerging diseases.

Men and women tend to have varying psychological and biological reactions to stress. Al-Rabiaah et al. (2020)<sup>[15]</sup> agrees to this recent result wherein they mentioned that that female healthcare workers experienced higher anxiety and stress levels during the COVID-19 pandemic than their male counterparts.

When health professionals have higher educational attainment and have more clinical setting experience, they can better keep up with the most recent medical advancements and how they affect patient care. Similarly, Shanafelt et al. (2020)<sup>[16]</sup> found that healthcare workers with extensive years of experience had lower burnout rates than those with less experience in the pandemic. Additionally, Prasetyo et al. (2021)<sup>[17]</sup> asserted that higher and more advanced levels of education enhance a health professional's ability to lead effectively, as well as their administrative abilities and patient care standards. Most of today's most influential people in the healthcare sector have advanced degrees in a field that is related to healthcare, and this is one of their most common



traits.

Staff nurses who work more than 8 hours a day are more likely to experience irritability and make medical errors because they handle more than three patients per shift, which can be exhausting. Nursing entails interacting with many patients, performing various tasks, and processing information, all of which can cause mental and physical exhaustion. Furthermore, multitasking can increase the possibility of errors, potentially jeopardizing patient safety. Findings of this study are agreed by Phillips et al. (2021)<sup>[18]</sup> that nurses who handle three or more patients per shift are more likely to become fatigued and experience anxiety. If they are required to work several consecutive shifts, their workload will increase, increasing the risk of medical errors.

It is suggested that healthcare organizations recognize the impact of these demographic factors on their staff nurses' attitudes during infectious disease outbreaks such as COVID-19. To help improve their staff nurses' resilience towards emerging diseases, offering adequate support, training, and preparation is crucial. This includes educating healthcare workers on different approaches to managing stress and providing them with mental health resources to aid them in coping with stressors brought about by their work.

#### **4.7 The perception of ICU nurses on the influence of COVID-19 towards patient care and their demographic profile**

Table (5.2) presents the research results, which found that age, gender, experience, and average working hours have a significant influence on ICU nurses' perceptions of patient care during the COVID-19 outbreak.

The demographic profile influences the significance of nurses' attitudes except for age, which was found to be insignificant in Table 5.1. However, this section of the results found that age can affect nurses' perception due to differences in life experiences, education, and exposure to certain situations. This finding is supported by a study that was carried out by Chopik et al. (2018);<sup>[19]</sup> their research focused on the differences in age perceptions and developmental timing estimates and yielded novel insights into how the aging process may affect judgments about both the self and others. As a result, a nurse's age can significantly influence how she thinks about her patients, her coworkers, and the policies that govern her workplace.

There is need for healthcare institutions to consider age, gender, and experience when evaluating ICU nurses' perceptions of patient care during the COVID-19 pandemic. This may help identify factors contributing to higher or lower anxiety levels among nurses and ultimately promote better pa-

tient outcomes while protecting healthcare workers' mental health.

## **5. CONCLUSIONS**

In conclusion, this article sheds light on the perceptions and attitudes of ICU nurses towards patient care during the unprecedented COVID-19 pandemic. It is apparent that the positive perceptions and attitudes reported by ICU nurses relate to the support, training, and preparedness provided by healthcare organizations. Sufficient education and training are key in instilling confidence and proficiency among healthcare workers which subsequently promote good healthcare services. Clear procedures and guidelines, alongside inclusive support systems, play an important role in fostering a positive work environment for ICU nurses.

Additionally, the demography of ICU nurses, including factors such as gender, educational accomplishment, expertise, and working hours, significantly impacts their attitudes and perceptions. These findings emphasize the significance of healthcare institutions in identifying and adopting the unique needs of their employees, especially during outbreaks like COVID-19. To boost on strength and promote better healthcare services, healthcare organizations should modify their support, training, and mental health resources to incorporate the dynamic needs of their nursing workforce. These will enable them to boost the morale of ICU nurses and warrant that the patient care remains of the highest quality, even in the face of unique challenges.

### **5.1 Recommendations**

Healthcare organizations should consider the significant influence of factors such as age, gender, experience, and training when evaluating ICU nurses' perceptions and attitudes toward patient care during the COVID-19 pandemic. This may help hospitals develop appropriate interventions and support programs to address gender-related differences, promote job satisfaction, and enhance the quality-of-care ICU nurses provide. Healthcare institutions must provide their staff with adequate training, education, and clear protocols for managing COVID-19 patients to boost their confidence and competence in providing safe care. Hospitals should prioritize their staff's safety by implementing proper infection control protocols and providing access to necessary personal protective equipment (PPE). Additionally, healthcare organizations must offer emotional support and counseling services to mitigate psychological distress among healthcare workers.

### **5.2 Implications for nursing**

Nurses, especially those in ICU settings, should be provided comprehensive training programs and ongoing support to

enhance their skills and confidence in managing infectious diseases like COVID-19. Nursing educators and healthcare organizations can use the insights gained from this study to develop targeted interventions that address the impact of demographic factors on nurses' attitudes and perceptions towards patient care during pandemics, ultimately improving job satisfaction and promoting better patient outcomes. Moreover, these efforts can protect nurses' mental health and well-being while ensuring quality patient care. Thus, nursing professionals must stay informed about such research and integrate its findings into their practice.

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The authors declare that there is no conflict of interest.

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