

## ORIGINAL ARTICLE

# Caring for COVID-19 Patients in Malaysian ICUs: A Qualitative Analysis of Nurses' Experiences and Management Dynamics

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## ABSTRACT

**Introduction:** The COVID-19 pandemic, originating in Wuhan, China, has caused global health crises, with Malaysia facing significant challenges. The first case emerged in February 2020, and by October 2022, Malaysia recorded 4,848,314 cases and 36,387 deaths. Healthcare workers, especially nurses, bear a high infection risk and elevated burnout rates. ICU nurses have relatively high physical and mental workload. Thus, this study aims to explore the intricacies of Malaysian ICU nurses' experiences. **Materials and Methods:** A qualitative approach was used, and twenty ICU nurses from Sultan Ahmad Shah Medical Center @IIUM (SASMEC @IIUM) were purposively selected. Data were obtained through an individual 30-90 minutes in-depth interview. **Results:** The thematic analysis used has revealed one theme with six subthemes; Theme: Challenges Encountered and Emotional Response by ICU Nurses in The Care of COVID-19 Patients, Subthemes: Interpersonal and Organizational Challenges, Task-Related Challenges, Facility-Related Challenges, Health and Well-being Challenges, Infection Control Challenges and Emotional Responses. **Conclusion:** The study highlights the complex challenges faced by ICU nurses caring for COVID-19 patients in Malaysia, emphasizing the need for organizational support, coping strategies, communication, and collaboration. Implementing these findings can enhance the resilience and well-being of ICU nurses in times of healthcare crises, ultimately ensuring the sustainability and effectiveness of the healthcare workforce.

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## INTRODUCTION

The emergence of the COVID-19 pandemic, originating in Wuhan, China, in December 2019, has led to global health crises, with the virus mutating into various strains. As of 1 December 2023, 61 de-escalated variants of COVID-19 have been detected (1). The Malaysian healthcare system, like the rest of the world, was impacted by the challenges posed by COVID-19. Despite extensive efforts to protect healthcare workers (HCWs),

a significant number, including nurses, have been infected. In Malaysia, 53.3% of COVID-19 infections among HCWs came from the workplace, HCWs are at a risk of contracting COVID-19 of 2.9 greater than the general population and the occupational group with the highest infection rate was nursing professionals (2). Studies in Malaysia have highlighted the profound effects of the pandemic on HCWs, revealing elevated rates of burnout and its multifaceted impact on their physical, occupational, psychological, and social well-being (3,4). HCWs, particularly nurses confronting the COVID-19 pandemic, grapple with mental health issues, challenges in patient care, and an increased risk of burnout (5–8). Over 70% of nurses reported increased workload-related stress when caring for infected patients (9). As Intensive Care Units (ICUs) play a pivotal role in

treating critically ill patients, nurses experience higher exposure to risks and stress levels. ICU nurses have relatively high physical and mental workload (10,11). Furthermore, the pandemic raised the responsibility and workload of intensive care nurses, adding more hazards to their health and caregiving issues (12). The existing literature underscores the necessity of understanding the experiences and challenges faced by ICU nurses during the pandemic. While studies have explored HCWs' challenges, a focused qualitative analysis of Malaysian ICU nurses is still lacking. Hence, this study intends to address this gap, providing insights into their unique challenges. The findings will enhance understanding, potentially leading to improved support mechanisms and work environments for ICU nurses during pandemics.

## **MATERIALS AND METHODS**

### **Study Design**

This qualitative study implemented a generic qualitative approach, generally employed to obtain a rich description and a broad insight into a phenomenon from people who experience it. This study explored the experiences and challenges faced by ICU nurses during caring for COVID-19 patients.

### **Study Setting**

This study was conducted among ICU nurses in a teaching hospital, Sultan Ahmad Shah Medical Center @ IIUM (SASMEC @IIUM), Kuantan, Pahang. Even though this hospital is a new hospital, this hospital also known as teaching hospital and has handled patients with COVID-19.

### **Participants**

A purposive selection method was applied to ensure that the participants involved in the study fulfilled the study criteria. The head nurse-in-charge in the ICU was contacted and asked for cooperation to secure a list of names and contact numbers of participants. The criteria of participants were i) Have experience taking care of COVID-19 patients for at least one week, ii) Have working experience in ICU for at least 1 year and iii) Voluntarily participate. The data was collected until the data saturation was achieved. In the end, twenty ICU nurses were interviewed in this study.

### **Data Collection**

Data was collected from March to October 2023 through individual in-depth interviews. The semi-structured interviews used tailored questions based on literature searches, with additional prompts to encourage detailed participant experiences. Before each session, participants were briefed on the interview process and provided written and verbal consent. Sessions, lasting

30 to 90 minutes, were audio-recorded, and field notes were taken. Participants were coded as SN1-SN20. Data was transcribed verbatim, and transcripts were sent to participants for validation of content accuracy.

### **Data Analysis**

The researcher used NVivo 14 Software to organize the data during the data analysis process. Inductive thematic analysis was used to analyze the data following Braun and Clarke's (2006) six phases of data analysis: i) Get familiar with the data by reading the transcripts multiple times and jot down the initial ideas, ii) Create initial code from the meaningful statements (this process was guided by the interview topic guide), extract the code from the data (using NVivo 14), iii) Search for potential themes, in this step the coding was grouped based on potential themes gained from the research objectives and questions. The themes were shared among research team members, iv) Review the themes, during the discussion among the team members, some coding was merged. In the fifth step, the defining and naming process, the team has come up with suitable themes after reviewing the merged coding. Lastly, vi) The primary researcher prepared the reporting and shared it with the team for the last review. Since the interview sessions were held in Malay language, the excerpts from the coding were translated into English by the primary researcher (a bilingual Malay-English speaker). They were validated by the team (who are also Malay-English speakers).

### **Trustworthiness**

This study uses credibility, confirmability, dependability, and transferability to establish trustworthiness. Credibility is achieved by ensuring trustworthy data through a five-month analysis and verification process. Continuous participant observation, triangulation, and peer debriefing with nursing lecturers were conducted. Field notes and comparing interview findings are additional steps for validation. To intensify the credibility, confirmability was performed by sending the interview transcripts to the participants for content approval. Dependability was achieved by reporting a transparent report to the research team with detailed descriptions of the research process. Lastly, transferability was gained by providing sufficient information regarding the study. Ethical considerations

This study has received ethical approval from Kulliyyah of the Nursing Postgraduate Research Committee (KNPGRC) No.7/2022, International Islamic University Malaysia (IIUM) Research Ethics Committee (IREC) ID number: 2022-200. and the Department of Education and Research (DEAR) from SASMEC @IIUM. Written and verbal consent from the participants was obtained. Data was strictly kept and can only be accessed by the researcher and team. Each participant's name was coded to ensure anonymity and confidentiality.

## RESULTS

### Sociodemographic Data

Twenty participants were interviewed in this study. Most of the participants were females (65%) and males (35%) and had an average age of 30.4. The socio-demographic data can be seen in Table I.

**Table I: Sociodemographic data of the participants**

| Participant | Gender | Age (years old) | Working experience in ICU (years) | Working experience in ICU COVID (years) |
|-------------|--------|-----------------|-----------------------------------|---|
| SN1         | Female | 36              | 12                                | > 3                                     |
| SN2         | Female | 35              | 13                                | 4                                       |
| SN3         | Female | 34              | 10                                | > 3                                     |
| SN4         | Male   | 27              | > 4                               | > 4                                     |
| SN5         | Male   | 29              | > 2                               | > 2                                     |
| SN6         | Female | 30              | > 5                               | 4                                       |
| SN7         | Female | 34              | > 2                               | > 2                                     |
| SN8         | Male   | 27              | 2                                 | > 4                                     |
| SN9         | Female | 31              | > 2                               | 3                                       |
| SN10        | Female | 32              | > 3                               | 3                                       |
| SN11        | Female | 32              | > 4                               | ~ 4                                     |
| SN12        | Male   | 32              | 7                                 | 4                                       |
| SN13        | Male   | 28              | 6                                 | > 2                                     |
| SN14        | Female | 30              | 8                                 | 3                                       |
| SN15        | Female | 28              | 6                                 | 4                                       |
| SN16        | Female | 26              | 4                                 | 4                                       |
| SN17        | Female | 31              | 4                                 | ~ 4                                     |
| SN18        | Male   | 25              | 3                                 | 3                                       |
| SN19        | Female | 28              | > 2                               | ~ 2                                     |
| SN20        | Male   | 33              | 2                                 | 2                                       |

Following are the findings obtained from this qualitative study:

### Theme: Challenges Encountered and Emotional Response by ICU Nurses in The Care of COVID-19 Patients

#### Subtheme 1: Interpersonal and Organizational Challenges

This subtheme highlights the interpersonal and organizational issues that nurses face in their work environment, affecting their job satisfaction and performance. Seventeen out of twenty nurses grappled with various interpersonal and organizational challenges, including staff shortages, uncooperative colleagues, selective assignment of the nurse-in-charge role, issues with patients' relatives, insufficient resting time, and inadequate compensation which led to frustration and feelings of being overwhelmed. Their frustration is reflected in their statements;

"We are lacking nurses; one nurse needs to care for 2 to 3 patients. It is tiring, and we are going

"But your exhaustion is greater than the allowance you receive. Do you understand? If you want to take it, take it. I don't really want it." (SN17)

#### Subtheme 2: Task-Related Challenges

This subtheme focuses on the difficulties nurses face while managing complex medical tasks and patients with severe conditions. Eleven ICU nurses in the study faced task-related challenges, including managing patients with complex medical conditions like Continuous Venovenous Hemofiltration (CVVH) and multiple inotropes. The extended working hours added to the mental and physical strain on ICU nurses, impacting their overall well-being and sleep patterns.

"It's really challenging... I need to take care of the COVID patient alone. A patient with CVVH, it is mentally disturbing." (SN20)

"There are lots of things to pass over. We come home late... I am scared that I will not wake up for tomorrow's work. My brain becomes severely drained; I can't stop thinking; I don't have enough sleep." (SN17)

#### Subtheme 3: Facility-Related Challenges

This subtheme addresses the issues related to facility infrastructure and resource availability that hinder nurses' ability to provide optimal care. In this study, ten out of twenty participants encountered challenges related to the facility.

"In terms of infusion pumps, sometimes we don't have enough infusion pumps. Then, there's too much medication to administer. So, it's tough at that time. We have to borrow from outside." (SN18)

"For COVID patients, they need a negative pressure room, we have 6 rooms, but only 3 are negative pressure rooms. So, there was a time when all 6 isolation rooms were filled with COVID patients. We even had to put patients in the positive pressure room, which shouldn't be the case." (SN16)

#### Subtheme 4: Health and Well-being Challenges

This subtheme explores the health and well-being challenges nurses face, particularly in the context of the COVID-19 pandemic. Eleven nurses reported that they faced mental health disruptions and physical discomfort, which affected the nurses' well-being.

"Confirmed! When I go home, sometimes I dream about the sound of ventilators and all. What's happening in isolation, sometimes it haunts my dreams. The effects make it hard to sleep." (SN18)

"During night shifts, until around 2 or 3 am, we sometimes feel pain. Pain in the legs, pain in the hands here, and headaches. We must endure it for a few more hours before going home. In the cold, it's indescribable; we always feel the burden, you know?" (SN14)

### **Subtheme 5: Infection Control Challenges**

This subtheme focuses on the challenges nurses encounter related to infection control measures and personal protective equipment (PPE). For this subtheme, 95% of the nurses faced numerous difficulties, including communication barriers and inconveniences due to PPE, as well as a shortage of essential protective gear.

“Communication has its problems because, in the COVID situation, it’s usually quite stressful. Some doctors want something, they want it fast. But we can’t just go out and get it ourselves. We must wait for a friend who’s free, and that friend also takes time because they need to settle their own matters first...” (SN14)

“At that time, our N95 masks were very limited. You could say that once you use it, you can’t open it again... it’s very restricted. We even had to hide them. If there’s a real emergency, only then could we provide the PPE. So, at that time, we used regular isolation gowns, layered 2 or 3 times.” (SN16)

### **Subtheme 6: Emotional Responses**

This subtheme captures the range of emotional responses experienced by nurses due to the various challenges they face. Eighteen participants shared a range of emotional responses, including depression, stress, exhaustion, fear, anxiety, gratitude, and happiness. This reflected the emotional complexity of their experiences. Their responses are recorded as below;

“Mentally and physically, it’s down because every day in the ICU, we wear PPE, so every day we’re hot inside it. Every day feels like we’re alone with the patients, sitting in a room where we can’t talk to anyone... So mentally, it’s quite stressful.” (SN7)

“So far, the part about being depressed, not really. It’s just the usual fatigue, you know. What makes us happy is when we see a seriously ill patient suddenly recover and leave. That brings joy to us.” (SN10)

## **DISCUSSION**

This study was conducted to explore the intricacies of Malaysian ICU nurses’ experiences. The findings of this qualitative analysis shed light on the multifaceted challenges faced by ICU nurses in Malaysia while caring for COVID-19 patients. The themes and subthemes emerged from the nurses’ experiences, revealing a spectrum of difficulties faced by Malaysian ICU Nurses. ICU nurses in this study faced many challenges in their work, including interpersonal and organizational challenges such as staff shortages, inadequate compensation, inefficient organization management, difficult colleagues, and others. Correspondingly, Moradi et al. (2021) proved that ICU nurses indeed dealt with the organization’s inefficiency in supporting nurses during COVID-19 (13). Moreover, our findings are

consistent with the recent study that mention ICU nurses encountered hardships such as inconveniences in the use of PPE, communication barriers, and insufficient PPE (14). The shortage of staff has caused the participants to have longer working hours and manage complex patient care alone, and these have affected their health and well-being. Few nurses stressed that the burden they bear was incomparable with the allowance received. Longer working hours have increased the risk of infection for ICU nurses, leading to a psychological burden that would be satiated by financial rewards (10). Besides, a study recorded that ICU nurses faced challenges in maintaining their health and well-being while providing care for COVID-19 patients (15). The psychological tension and stress endured by the nurses have affected their performance (16,17). While caring for COVID-19 patients, nurses experienced complex emotions like anxiety, frustration, fear, and shame (18,19) Consistent with prior research, the challenges experienced by these participants led to a range of emotional responses. They described having negative emotions such as depression, stress, exhaustion, fear, and sadness. Additionally, ICU nurses were more exposed to the virus compared to other healthcare workers, rendering them feel stressed, fearful, and anxious (20). Nevertheless, they also felt a sense of gratitude and happiness, as they were still able to have an occupation when a lot of people lost their jobs, and the ability to see their patients recover brought a sense of accomplishment.

### **Strengths and Limitations**

This study has used purposive sampling, a common sampling technique in qualitative studies. This sampling enables the researcher to recruit participants who fulfill the criteria, which later produces accurate data. The result of this study provides useful information for hospital management and the government. It can navigate future policies and guidelines improvement. Nevertheless, this study only involved ICU nurses as participants. Involving hospital management as part of the study will allow a more accurate data synthesis of the role of hospital management in supporting ICU nurses. Hence, further studies that involve hospital management as participants should be conducted.

## **CONCLUSION**

This qualitative analysis of ICU nurses’ experiences caring for COVID-19 patients in Malaysian ICUs unveils the intricate challenges faced by healthcare professionals. The findings underscore the importance of organizational support, comprehensive coping mechanisms, effective communication, and ongoing collaboration between frontline staff and management. Addressing these challenges and building upon the coping strategies and recommendations can contribute to the resilience and well-being of ICU nurses for future healthcare crises. Continuous efforts to enhance support

systems and prioritize the mental and physical health of healthcare providers are essential for sustaining a robust and effective healthcare workforce.

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