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The hand-brain-heart connection: ICU nurses' experience of managing patient safety during COVID-19

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Abstract

Background: COVID-19 has challenged critical care nursing through increased critical care service utilization. This may have a profound impact on intensive care unit (ICU) nurses' ability to maintain patient safety. However, the experiences of ICU nurses in managing patient safety during an infectious disease outbreak remains unexplored.

Aims and objectives: To explore ICU nurses' narratives in managing patient safety in the outbreak ICUs during the COVID-19 pandemic.

Design: A narrative inquiry design.

Methods: A purposive sample of 18 registered nurses who practiced in the outbreak ICUs during the COVID-19 pandemic were recruited between June and August 2020. Individual semi-structured interviews were conducted, transcribed verbatim, and narratively analysed.

Results: Findings reviewed an overarching anatomy-specific storyline of a 'hand-brain-heart' connection that describes nurses' experience with managing patient safety during the COVID-19 pandemic. Firstly, stories on 'the hands of clinical practice' revealed how critical care nursing is practiced and adapted by ICU nurses during the pandemic. In particular, ICU nurses banded together to safeguard patient safety by practicing critical care nursing with mastery. Secondly, stories on 'the brain of psychosocial wellness' highlights the tumultuous impact of COVID-19 on the nurses' psychosocial well-being and how nurses demonstrated resilience to continually uphold patient safety during the pandemic. Lastly, stories on 'the heart of nursing' drew upon the nurses' intrinsic professional nursing identity and values to safeguard patient safety. Specific patient tales further boosted the nurses' commitment to render safe nursing care during the pandemic.

Conclusions: Through their stories, ICU nurses reported how they continually seek to uphold patient safety through clinical competence, resilience, and heightened nursing identity.

Relevance to clinical practice: ICU nurses require sustainable clinical resources and references such as clinical instructors, as well as visible psychosocial support channels, for ICU nurses to continue to uphold patient safety during COVID-19.

KEYWORDS
COVID-19, critical care, narrative inquiry, nursing, patient safety

1 | INTRODUCTION

Recent memories of SARS, H1N1, and the Ebola pandemic have demonstrated the immense impact of public health emergencies on health systems worldwide.[1,2] On 11 March 2020, the 2019 coronavirus (COVID-19) is declared by the World Health Organisation to be a global pandemic.[3] Early studies from China and Italy have reported a high incidence of acute respiratory distress syndrome (17%-29%) and critical illness (23%-32%).[4-7] Indeed, such rapid trajectory and nature of these pandemics often become a catalyst for health systems to implement swift and decisive changes to secure population health through minimizing mortality rates and enhancing public health.[8,9]

2 | BACKGROUND

The COVID-19 pandemic hence impacts health care delivery on multiple fronts; the rapid disease and clinical progression of COVID-19 signals that more patients will require critical care services for prolonged periods. Intensive care units (ICUs) will then be challenged to manoeuvre around resource limitations, infection control, staff safety, and adaptation of critical care services while ensuring patient safety in a rapidly evolving pandemic situation. Existing evidence has identified organizational factors and teamwork as predictors of patient safety.[10,11] This was further reinforced by previous nurses' narratives that the nursing practice environment impacts their perceived adequacy of care.[12] Recent evidence has also demonstrated that ICU nurses reported the dehumanization of care provision during the COVID-19 pandemic,[13,14] which in turn may threaten patient safety. These prominent findings highlighted the importance of understanding the specific context and environment in which nurses deliver patient care. However, there is a dearth of evidence on how ICU nurses storied their accounts on how they manage patient safety during a pandemic situation. Understanding how ICU nurses manage patient safety during an infectious disease outbreak holds strong promises for nurse leaders to render targeted interventions to support ICU nurses in managing patient safety. This thus pave the way for the current study to explore ICU nurses' narratives of managing patient safety within the context of the COVID-19 pandemic.

What is already known about the subject

- The COVID-19 pandemic expedited critical care services utilization, with consequent changes in critical care nursing provision.
- ICU nurses positioned within the outbreak ICUs will need to navigate across a complex critical care environment to uphold patient safety.
- Nurses' narratives on how they manage patient safety in the ICU during the COVID-19 pandemic have not been explored yet.

What this paper adds

- Nurses described managing patient safety in the ICU as a balancing act of providing critical care nursing reflected against their psychosocial wellness and nursing identity.
- By understanding the ICU nurses' narrative of how they manage patient safety during an infectious disease outbreak, tailored interventions such as providing clinical support can be implemented and evaluated.

3 | AIMS

This study aims at exploring ICU nurses' narratives of managing patient safety during the COVID-19 pandemic.

4 | METHODOLOGY

4.1 | Narrative inquiry design

This study adopted the Riessman[15] approach to narrative inquiry to describe how nurses storied their experiences in managing patient safety during the COVID-19 pandemic in the ICUs. The exclusive setting of the outbreak ICUs embedded within the broader COVID-19 pandemic catalysed well with narrative research's unique

characteristics of social context, time, and place. This article follows the Consolidated Criteria for Reporting Qualitative Research (COREQ).[16]

4.2 | Setting

This study is conducted in the outbreak ICUs of a 1900-bedded tertiary hospital and 330-bedded purpose-built infectious disease facility in Singapore. Serving as the epi-centre of the COVID-19 management in Singapore, the hospital sees close to 75% of all COVID-19 cases nationally. Since the COVID-19 outbreak, dedicated outbreak ICUs were operationalized to house suspected and confirmed COVID-19 patients who required intensive care. These outbreak ICUs were intended for use during an infectious disease outbreak or to house ICU patients with novel pathogens. In the absence of an infectious disease outbreak, these ICUs functioned as medical ICUs. Each patient room within the outbreak ICUs features infrastructure barriers such as an anteroom and automated inter-locking doors. The patient room is negatively pressured in relation to the anteroom and corridor to prevent contamination and transmission. In anticipation of the surge in ICU bed demands during an infectious disease outbreak, the outbreak ICUs have the relevant infrastructure to support up to 220 ICU beds.

In tandem, ICU nursing manpower was also mobilized from various sources. Firstly, non-outbreak ICU nurses were deployed into the outbreak ICUs. Next, the Singapore Ministry of Health arranged for a team of ICU nurses from other local hospitals to be deployed into outbreak ICUs. In total, over 150 ICU nurses were deployed to support the outbreak ICUs during the COVID-19 pandemic. In addition, over 550 general ward nurses were also mobilized to provide nursing support in the ICUs.

4.3 | Participants

The participants were drawn from the pool of ICU registered nurses comprising of the outbreak ICU nurses, as well as nurses who were deployed in from the non-outbreak ICUs and local hospitals. These nurses who were working in the outbreak ICUs during the COVID-19 pandemic were informed about the study through their nurse managers and recruitment flyers. Nurses in supervisory positions such as nurse managers, nurse clinicians, and nurse educators were excluded to obtain a focused narrative of ICU nurses who are providing direct patient care during the COVID-19 pandemic. A purposive sample of registered nurses, who were agreeable to study participation, were recruited. Using maximum variation sampling for their years of nursing experience as well as clinical background (outbreak ICU nurse, deployed non-outbreak ICU nurse, other local hospitals' ICU nurse), the study team aimed at yielding diversity in experiences regarding the management of patient safety during the COVID-19 pandemic.

4.4 | Data collection

Data collection took place from June to August 2020. Before interview commencement, participants were invited to complete a demographic questionnaire to obtain information on their age, clinical role, critical care nursing experience, and previous experience in outbreak management (eg, H1N1). Thereafter, a one-time, individual, face-to-face interview was conducted with aid of a semi-structured interview guide with each participant. The interview guide was pilot-tested before study commencement. All interviews were conducted in English by a trained researcher (YPL) who had no dependent relationship with any of the participants. Interviews took place in a private room away from the clinical area, were audio-recorded, and lasted between 32 minutes and 53 minutes. Field notes were taken during and after the interviews to document the researcher's reflections and nonverbal, observational data such as body language and expression of the participants.[17] The interviewer sought to clarify meanings and interpretations during the interview itself. This acknowledges the element of time and space crucial in narrative research and to protect the 'wealth of detail' in the narratives.[15] Data collection occurred concurrently with data analysis until data saturation, wherein no new further information arose from the data.[18]

The study team acknowledges that exploring patient safety issues can lead to recounting of previous negative encounters such as failure of care provision or even adverse patent events. The sensitive nature of the interviews hence signifies a potential threat to participants' psychological well-being.[19] Hence, to safeguard participants against any psychological trauma, the study team collated a list of resources that the interviewer was ready to refer distressed participants to. These resources include a list of para-counsellors within each department, as well as psychosocial support channels helmed by social workers within and beyond the institution. Prior to the interviews, participants were informed that they can stop the interview at any time. In addition, the senior researcher of the team provided coaching to the interviewer to identify signs of participant distress.

4.5 | Data analysis

All audio recordings were transcribed verbatim and narratively analysed.[15] Transcripts were not returned to the participants for comment. Data are first categorized by participants, and then read and re-read to gain and re-sensitize an in-depth understanding of each participant's narration. The data are then inductively analysed by two researchers (YPL, VAT) independently and examined across the continuum of patient safety, with narratives fitting the overarching foci of patient safety identified through manual coding (Data S1). Each narrative sequence was preserved and presented as shared by the participants.[15] This ensures that the resulting evolving narrative truths are situated within the context of the outbreak ICU during the COVID-19 pandemic. Field notes taken during the interviews were also referred to during the data analysis phase. A coding schema and map are then generated to give rise to the patient safety-specific storylines. Data

saturation was achieved after 15 participants. A further three more interviews did not reveal any new storylines, but rather, deepened the understanding of the intricacies of managing patient safety in the outbreak ICUs.

4.6 | Rigour

Strategies to ensure trustworthiness in this study were implemented in accordance with the recommended guidelines by Lincoln and Guba.[20] Independent data analysis by two researchers and clarifying meanings during the interviews strengthened credibility. Having the lead researcher (YPL) conduct all the interviews promoted dependability. An exhaustive write-up of the narrative storylines, together with the participant demographics, facilitated transferability. To promote confirmability of the findings, the lead researcher maintained a reflexive diary of his reflected thoughts and an audit trail for the study. The reflexive measures adopted also ensured constant 'wakefulness' during the study.[21]

5 | ETHICS STATEMENT

Ethical approval was sought from the National Healthcare Group Domain Specific Review Board (Reference No: 2020/00317) prior to study commencement. Informed consent was obtained from each participant prior to the interview. Their right to withdraw from the study at any time was reinforced to the participants. Consistent pseudonyms were used across the audio-recording and transcripts to ensure confidentiality.

6 | RESULTS

Eighteen nurses, comprising of 13 females and 5 males, were interviewed. There was no refusal to participate or drop out during the study. Their years of nursing experience ranged from 2 to 10 years. A summary of their demographic characteristics is shown in Table 1.

The nurses' narratives of managing patient safety in the outbreak ICU are presented according to three anatomy-specific storylines of the hands, brain, and heart as shown in Figure 1. While the storylines are delineated clearly from one another, they share similarities in managing patient safety in the outbreak ICU.
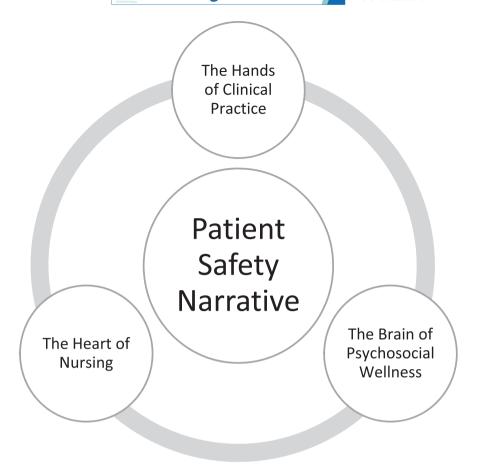
6.1 | The hands of clinical practice

Maintaining patient safety through clinical practice in the outbreak ICU was characterized by personal stories of nursing practices and how nurses 'nurse' their patients during the COVID-19 pandemic. Throughout their stories, nurses constantly mentioned instances of how COVID-19 changes the way critical care nursing is being practiced. 'Nursing a COVID patient in ICU, the situation is different now; you have to cope with many things', Rachel explained. Through their stories, it was clear that nurses have experienced how differences in nursing care provision during the COVID-19 pandemic could have impacted patient safety. A distinct example was raised by Oliver, when she described her experience with attending to a patient receiving renal replacement therapy; 'it will take more time to enter the patient's room; there was once when my patient was on dialysis and the heart rate crashed to 30 (beats per minute). But I cannot run in;

TABLE 1 Demographic information of participants

Pseudonyms	Age (years)	Gender	Nursing experience (years)	Previous pandemic experience
Rachel	32	Female	10	H1N1
Leanne	39	Female	10	H1N1
Debbie	32	Female	10	H1N1
Stephen	34	Male	9	Nil
Nichole	31	Female	8	H1N1
Oliver	30	Female	5	Nil
Phoebe	32	Female	10	Nil
Cedric	29	Male	4	Nil
Monica	26	Female	4	Nil
Janice	27	Female	4	Nil
Mona	30	Female	10	H1N1
Elizabeth	25	Female	3	Nil
Lisa	27	Female	4	Nil
Jennifer	26	Female	5	Nil
Kevin	26	Male	2	Nil
James	31	Male	7	Nil
Joey	28	Male	3	Nil
Jean	28	Female	7	Nil

FIGURE 1   Anatomy-specific storylines

I needed to wear my personal protective equipment and all'. Janice further elaborated that 'work processes are different... how we send off specimens, communicate with colleagues, and plan care activities are different. It makes work more inconvenient'.

In addition, for many nurses, the intensity of how critical care nursing is being practiced during a pandemic greatly impacted patient safety. Reflecting upon the patient acuity, anecdotes soon emerged on how the nurses observed patients becoming even more critically ill than before. Nurses found themselves no longer being able to practice solely as a medical, cardiology, neurology, or surgical ICU nurse as they used to. Instead, nurses were thrust into a position where they had to practice multisystem critical care nursing with mastery. As Janice discovered, 'I find that there is more multi-organ involvement as compared to usual. They tend to get abdominal issues... renal (and) hematologic complications... So, it is more complex'.

In making sense of their nursing practice to safeguard patient safety, nurses located their stories heavily within the nursing workforce in the outbreak ICU. The nurses were cognizant that nursing manpower was deployed from various places. As such, nurses with varying background, years of experiences, and 'ways' of nursing were deployed into the outbreak ICUs. The juxtaposition between differences in clinical practice, particularly among the nurses deployed in from other hospitals, was highlighted as a potential influence on patient safety. Nichole, who was deployed in from another hospital, told of the stark differences in clinical practice between the outbreak

ICU and her previous place of employment. 'We are not sure about the protocols and medication dilutions. Even common practices; there is still a difference. We didn't expect so much differences... differences in practice', she added. In response, nurses from the outbreak ICUs took it upon themselves to standardize nursing practice to safeguard patient safety; this was performed through peer coaching and sharing sessions. As Joey explained, 'When all the nurses started coming in from other places like the local (hospitals), their practices and our practices; some of them were very different. So, we have to explain to them, ok this is being done like that, it is slightly different from yours. Then sometimes we have to explain why, why why....'. Despite the initial hurdle in the teaming process, nurses noted that the synergy within the expanded nursing team ultimately enhanced patient safety. This was encapsulated by Phoebe through 'There is a lot of help from other hospitals' staff, and we can learn from each other, especially on extracorporeal membrane oxygenation (ECMO). They (deployed nurses from local hospitals) are very willing to share how they manage ECMO patients because we seldom have ECMO patients (before COVID)'.

6.2 | The brain of psychosocial wellness

In contrast to the storylines of the hands of clinical practice, stories of the brain were embroiled with the emotional turmoil of seeing the

rapid deterioration of COVID-19 patients, and the mediating role of resiliency and support to uphold the nurses' continued pursuit of patient safety. These embodied experiences drew the nurses to ultimately reorient their attention to patient care.

Inherently, the patients' arduous journey in navigating through the course of the COVID-19 disease trajectory was also mirrored upon the nurses' emotional well-being, as the nurses endured the emotional turmoil of witnessing the deterioration, death, and dying in the outbreak ICUs. Such emotional distress may have far-reaching impact on their perseverance to continually safeguard patient safety during the COVID-19 pandemic. Witnessing patient suffering was described to be emotionally provoking, as nurses detailed their experiences with managing such cases to be far more complex and emotionally draining than during non-outbreak time. This was clearly evident even at the initial encounters with COVID-19 patients as Elizabeth relived her encounter poignantly about the index COVID-19 patient that was admitted into the ICU. 'I am the first to nurse the COVID patients here. I remembered him asking whether (did) his family left him here alone to die… it was very sad'. As more patients were admitted into the outbreak ICUs, nurses began to be more exposed and intertwined with each of their patients' unique circumstances. Specific patient tales, such as one pregnant patient stricken with COVID-19, were shared by the nurses. Visibly distraught, Mona sighed 'When I see the cases, that can be quite emotionally straining. We had one patient who is pregnant, and we were hoping against all hope that she will get better. And when she got worse, we were just so upset'. Such emotional distress and the consequent impact on nursing practice were even more compounded when nurses were faced with the patients' eventual deterioration to the point of death. Such deaths presented itself as a moral quagmire, as the premise of providing end-of-life and bereavement care to the patients and grieving family members in a time of an infectious disease outbreak was made impossible for the nurses when they were confronted with an impending death. Inundated, the nurses could only bore the weight of this perceived shortfall in nursing care. When Kevin told of his shift where he had to manage a patient's death, he was met with extreme guilt as he told the family members that they were unable to enter the patient's room. 'In terms of death… I'm really affected because when I see the loved ones outside being helpless, not being able to go in(to) (the patient's room)… I think it is emotionally impactful', Kevin added. This was corroborated by James who disclosed that 'At times, I feel sad (and) depressed that we don't have a chance to pace with the family members. It can be quite trying at times; sometimes you resign to fate (and) you say that "oh, this patient may not make it"'.

Although the nurses' stories created images of an emotionally charged ICU environment, the nurses were ultimately able to rise above the occasion and soldiered on in their daily work. Stories stemmed from how despite adversities at work, the nurses fostered resiliency and grit to provide patient care and maintain patient safety. One such instance of overcoming negative emotions is when the nurses settled into the outbreak ICUs; Stephen who was deployed from another hospital revealed that 'I suppose that the initial fear and apprehension that I am taking a COVID patient myself goes away…

over time, because help is readily available too'. Stephen's interpretation of overcoming his trepidation in the outbreak ICU was twofold: one that normalizes the reality of working in an outbreak ICU over time, and the other being facilitated by good teamwork in the outbreak ICU. This eventually led Stephen to be able to focus on providing safe patient care in the outbreak ICU.

Within their stories, nurses narrated the immense trust that they placed in the organization to protect staff safety. As Debbie put it 'I have confidence in our healthcare system and infection control practices. I don't feel that it is dangerous, working in the outbreak ICU. I know that if I unfortunately get COVID, I am sure the hospital will try their best to treat me'. Such sentiments inspired nurses, in turn, to pay it forward by safeguarding the patients under their charge. Ultimately, despite building support systems in the outbreak ICUs, nurses were cognizant that efforts to contain and manage COVID-19 will be for the long haul and this called for nurses to be mentally resilient in the process. As James put it succinctly, 'this period in outbreak ICU, it's more like a marathon. It is very long, and there seems to be no end to it. So, we (nurses) need to be mentally prepared'.

6.3 | The heart of nursing

Lastly, nurses reflected their experiences with patient safety against their personal values and identity as a nurse. Storylines for the heart of nursing transcended across various spheres of the nurses' reality to encompass the nation, the patients that they cared for, and the nurses themselves.

There were stories that depicted how the nurses' stint in the outbreak ICU had stirred up inherent emotions on their moral obligations as a nurse to safeguard the nation's health and well-being during the COVID-19 pandemic. Leanne said 'As a nurse, I feel that this is what I have been trained for. This is a call on our courage and professionalism to step forward. This is a call for us to help Singapore tide over the pandemic'. Both explicit and implicit expectations that society placed on nurses during the COVID-19 pandemic and how this further propelled them to render safe patient care were also mentioned by several nurses. Elizabeth recounted that 'We play a very important role for the nation's health. We cannot let the nation down during the outbreak. They need us'. Even when confronted with the prospect of a second wave of infections, nurses readily affirmed their commitment to stand by their patients in the ICU; 'the country needs me here. I will definitely be comfortable in doing it again', Phoebe exclaimed.

Centric to the patient, nurses relayed tales of how a sense of nursing stewardship amidst the helplessness among ICU patients characterized their experience of ensuring patient safety in the ICU. Seeing the patients in dire need of competent nursing care resulted in Rachel to share that 'I would still choose to be here to help with and cope with COVID-19. We are helping the patients to survive this journey'. This was further explicated by Leanne to further add on that 'as a nurse, one of the biggest roles is to be the patient's advocate; and COVID-19 really call upon us to be the patient's advocate'.

Such accounts of how nursing critically ill COVID-19 patients further bolstered their identity as a nurse holding onto the last line of defence. The nurses were also able to isolate specific patient events that occurred, which pivoted them to prioritize patient safety as a guiding compass during the COVID-19 pandemic. For Leanne, the event was both illuminating and sombre as she recalled tearily 'before the patient deteriorated and required intubation, the last sentence that he told the nurses is "Please help me. I cannot breathe"'.

Nurses also weaved in their personal motivations for wanting to care for COVID-19 patients. Short of painting a hero's narrative, Stephen proclaimed that 'When I'm about to retire, I want to be able to tell my juniors that I faced COVID head on... Maybe in that sense, I did not miss out... I don't need to feel survivor guilt'. Other nurses such as Debbie took her deployment into the outbreak ICU as an affirmation of her clinical performance and competency; 'If the organisation wants to deploy me to an outbreak ICU, I need to be able to function well in the ICU first. So, this is a way of proving that I can perform well. I feel more confident that I can function in different places, especially in stressful situations', she shared. Despite varying intrinsic reasons, the reality of working amidst a pandemic is not lost among the nurses as Jennifer stated stoically that 'There is nothing to be proud about being in this kind of pandemic. The main thing is that you get to work as a team, and you get to learn from the pandemic'.

7 | DISCUSSION

This study explored the narrative accounts of nurses managing patient safety in the outbreak ICUs during the COVID-19 pandemic. Our findings revealed that patient safety is under sustained threats and mediators as narrated by the nurses. These narratives shape the storylines within the context of the outbreak ICU during the COVID-19 pandemic.

A salient recurring, narrative was the implications of the mass deployment of nurses into the outbreak ICUs. Our study setting saw mass nursing deployment from the non-outbreak ICUs as well as the other national hospital ICUs, which is consistent with current manpower strategies adopted worldwide, where nurses from non-outbreak departments are deployed into the outbreak ICUs.[22,23] As the COVID-19 pandemic continues to exert significant burden on the manpower resources required for intensive care, ICUs are pressured to scale up bed and manpower capacity. Hence, in an attempt to ensure sufficient nursing manpower in the ICUs, a possible ramification would be the dilution of the critical care skill mix during the COVID-19 pandemic. Particularly, our study findings revealed that nurses deployed from other hospitals have reported significant practice differences in the outbreak ICUs compared with their previous place of employment. This can result in a variety of nursing practices in the ICU environment that can ultimately impact patient safety. Hence, it is crucial that organizational efforts are geared towards enabling safe, professional nursing practice within the clinical environment;[24] where critical care can be reorganized to address systemic gaps in nursing competencies and

harmonize nursing practices across the various groups of nurses in the ICUs. In the study site, all deployed ICU nurses attended an orientation programme whereby work processes and practices specific to the infectious patient were covered. However, further clinical supervision from clinical nurse specialists in the ICUs may be warranted to offer a constant source of clinical guidance for the ICU nurses.

It is established that good intra-professional collaboration within the nursing team can strengthen patient safety and care.[11] Consistent with reports by Baker, Day, Salas[25] our participants also reported that the elements of nursing teamwork and collaboration were inextricably associated with patient safety. In our study, nurses from the outbreak ICU assumed ownership over its nursing practices by engaging in peer teaching and coaching, to align nursing practices across the various groups of nurses. By monitoring each other's performances and providing timely assistance and feedback, nursing teams can function effectively in their practice environment.[26] In addition, adopting non-technical teamwork skills such as fast teaming approaches has the potential to mitigate human errors and improve patient safety.[27,28]

In the seminal work by Lazarus, Folkman[29] the transactional theory of stress and coping proposed that individuals appraise their environment continuously to understand the significance of the situation and context, in order to respond in accordance with their well-being. Extrapolated to our study, within the narrative context of the outbreak ICUs during the COVID-19 pandemic, nurses reported that they bear witness to critical illnesses during their course of duty. As nurses treat their patients through the course of their critical illness trajectory, they see a multitude of undesirable clinical scenarios, from the deterioration of seemingly well patients to the demise of moribund patients. Contrary to existing evidence that nurses can grow increasingly distant and detached following stressful situations,[30] our findings have demonstrated that ICU nurses were keeping pace with the clinical and emotional demands of the outbreak ICUs. However, as this study was conducted during the first wave of COVID-19 infection in Singapore, the possibility of such sustained behaviours is debatable, should the health system be overwhelmed and continuously pressured with subsequent waves of COVID-19 infection. Nurses then run the risk of compassionate fatigue, where the nurses' empathetic behaviours put them at risk of the negative effects of caring.[31] This requires intervention by nurse leaders to conduct regular check-ins with nursing staff and to promote self-care practices through systemic changes.[32,33]

A sense of calling to the commitment to the nursing profession is embedded within the professional model by Hall.[34] Our findings strongly resonated along this conceptual model, where nurses drew inspiration to safeguard the patient's health from their professional duties as a nurse. Health care systems will need to be cognizant that while nurses exhibit professionalism during the crisis to step up in their daily duties, they need to be well supported in their practice environment through the provision of adequate staffing, optimal resource allocation, and regular psychosocial support. While nurses are lauded for their efforts and contributions during the COVID-19 pandemic, it is also noteworthy for nurse leaders to safeguard their nurses' well-being by ensuring that nurses do not run into the risk of

burnout and fatigue to compensate for unrealistic societal expectations of nurses as 'guardian angels' or 'heroes'.[35]

8 | LIMITATIONS

Similar to other narrative studies, our findings are self-reported and can only be interpreted within the unique context of the outbreak ICUs during a pandemic. While this may limit transferability of the findings, the clear description of our study settings, together with our participant's demographic characteristics and interview excerpts, will facilitate the wider audience to determine the transferability of the study findings to future pandemic situations. In addition, the qualitative nature and aims of this study have yet to explore the needs and challenges of health care professionals during the COVID-19 pandemic and will hence require further attention. Particularly, the experiences of non-ICU support nurses such as general ward nurses who were re-deployed into the ICUs remained unexplored. Hence, future studies could be considered to explore the experiences of non-ICU nurses on their ICU deployment.

9 | IMPLICATIONS AND RECOMMENDATIONS FOR PRACTICE

The findings of this narrative study have various implications for nursing practice and recommendations for future research. Firstly, nurse leaders will need to recognize that with massive manpower deployment into the ICUs, there will be a possible dilution in the critical care workforce with deployed ICU nurses or non-critical care nurses during the pandemic. Even with the deployment of ICU nurses from external sources, there will be differences in clinical practices and unfamiliarity with ICU equipment. Hence, nurse leaders will need to ensure the availability of clinical instructors or clinical resources to support nurses' capabilities in maintaining patient safety in the ICUs. Secondly, while our findings reported that the ICU nurses were able to practice critical care nursing with resiliency, an air of melancholy described by the ICU nurses necessitated ongoing psychosocial support measures such as counsellors and para-counsellors to be made visible to the ICU nurses. Thirdly, while health system leaders laud the contribution of the nursing profession to safeguard patient safety, it is crucial to accord the nurses with favourable working conditions and to avoid spinning the nursing profession into a self-sacrificial rhetoric. Lastly, future exploration into the interprofessional collaborative practices in the context of a pandemic situation can signal strong potential for improving patient safety during outbreak situations.

10 | CONCLUSION

As nurses assume frontline duties at the forefront of patient care during the COVID-19 pandemic, ICU nurses narrated stories of how their nursing practices, psychosocial well-being, and professional identities shaped their experiences of managing patient safety in the ICU. It is vital to note that nurses reported how the intensity and way critical care nursing is practiced during the COVID-19 pandemic can impact patient safety. In addition, ineffective psychosocial coping of nurses in the face of death and dying can have dire consequences for nurses to maintain patient safety for critically ill patients. Organizational strategies such as the availability of clinical nurse specialists to provide clinical supervision and para-counsellors to promote psychosocial wellness can be beneficial for ICU nurses during the COVID-19 pandemic.

AUTHORS CONTRIBUTIONS
Yongxing Patrick Lin contributed to conceptualization, data collection, and data analysis, wrote the original draft, and reviewed and edited the manuscript. **Charmain Jinxiu Tang** and **Vincent Aditya Tamin** helped with data analysis, and reviewed and edited the manuscript. **Lorraine Yee Ching Tan** helped with conceptualization, and reviewed and edited the manuscript. **Ee-Yuee Chan** performed conceptualization and supervision, and reviewed and edited the manuscript.

DATA AVAILABILITY STATEMENT
Research data are not available.

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