CACCN

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CANADIAN ASSOCIATION OF CRITICAL CARE NURSES

Canadian Association of Critical Care Nurses

Vision statement

All critical care nurses provide the highest standard of patient- and family-centred care through an engaging, vibrant, educated and research-driven specialized community.

Mission statement

We engage and inform Canadian critical care nurses through scholarship, education, and networking providing a strong unified national identity.

Values and beliefs statement

Our core values and beliefs:

- Excellence and Leadership
  - Collaboration and partnership
  - Pursuing excellence in education, research, and practice
- Dignity and Humanity
  - Respectful, healing, and humane critical care environments
  - Combining compassion and technology to advocate and promote excellence
- Integrity and Honesty
  - Accountability and the courage to speak up for our beliefs
  - Promoting open and honest relationships

Pathways to success

1. **Leadership:**
   - Lead collaborative teams in critical care interprofessional initiatives
   - Develop, revise, and evaluate CACCN Standards of Care and Position Statements
   - Develop a political advocacy plan

2. **Education:**
   - Provision of excellence in education
   - Advocate for critical care certification
3. **Communication and Partnership:**
   - Networking with our critical care colleagues
   - Enhancement and expansion of communication with our members
4. **Research:**
   - Encouraging, supporting, facilitating to advance the field of critical care
5. **Membership:**
   - Strive for a steady and continued increase in CACCN membership

From the Chief Editor

This is an exciting time for the CJCCN as we have solidified our final Editorial Advisory Board (EAB) membership. Thank you to everyone who submitted their intentions and applications to serve on the EAB. Together with the CJCCN Editorial Management Team, we will continue to support research and scholarship endeavours to serve members' needs within critical care environments across Canada.

Initiating a new team to contribute to the vision of CJCCN is like turning the page of a new chapter. We are proud of the quality and breadth of work occurring within critical care and are excited to share this. Moving forward, the CJCCN will be published three times throughout the year to ensure a better depth of material. Please continue submitting your work to the journal for review and publication.

The spring edition of the CJCCN incorporates the importance of family members when caring for critical care patients. Care becomes more than addressing the medical condition; it is about integrating the person into that care. Family members remind us of the reason for the work. Addressing their roles and impacts on patient care is vital to the dynamic of the medical team, not unlike our own roles within the medical team. Forming positive team dynamics ensures a positive working environment.

I had the privilege of working alongside some of the brightest, empathic, kind, and compassionate critical care nurses, respiratory therapists, health care aids, and intensivists in critical care. I look back on those years fondly for being a part of something bigger than I was individually. Recognizing that we are all a part of a team unit (family, work team, partnership, friendship, etc.), I wanted to end this entry from *Letter from the Chief Editor* with something inspiring. I could not find the correct inspiring quote, so I used the following prompt for chat GPT, "Please create an original teamwork quote specifically for critical care nurses." Here is the product:

"In critical care, teamwork isn't just collaboration—it's survival. Every hand, every voice, and every heartbeat working together makes the impossible possible."

Here's to making the impossible possible.

All my best,
Kara Sealock
CJCCN Chief Editor

Editorial Management Team

Chief Editor

Kara Sealock, EdD, MEd, RN, CNCC(C), CCNE

Kara Sealock is a tenured Professor (Teaching) and researcher in the Faculty of Nursing at the University of Calgary. She holds a Bachelor of Nursing, a Master of Education, and Doctorate of Education degrees. She worked bedside in critical care for 14 years and as a research nurse (cardiology and endocrinology) before transitioning to academia. Kara continues to inspire and share her passion for critical care with undergraduate and graduate nursing students. She is a content expert and reviewer for numerous nursing and medical journals, including the *Canadian Journal of Critical Care Nursing (CJCCN),* the *Canadian Medical Association Journal (CMAJ)*, and *Quality Advancement in Nursing Education (QANE).* She is published in both national and international journals, has written book chapters, is co-author of *Lilley's Pharmacology for Canadian Health Care Practice (5th ed.*), sole author for *Elsevier's Case Study Practice Review for the Next Generation NCLEX (1st ed.),* and a Next Generation NCLEX-RN® contributing editor in *Canadian Comprehensive Review for the NCLEX-RN Examination.*

Co-Editors

Michelle House Kokan, EdD, MSN, RN, CNCC(C), CCNE

Michelle House Kokan is an adjunct faculty member in the Critical Care Nursing program at BC Institute of Technology, and full-time Faculty Development Lead for the Specialty Nursing Department. A critical care nurse since 1991, and a critical care educator for more than 25 years, Michelle has keen interests in supporting nurse educators in their educational practice and in supporting nurses and educators to pursue scholarship. Michelle has served as Co-Editor for the *Canadian Journal of Critical Care Nursing* since 2019.

Ramesh Venkatesa Perumal, PhD, RN, CCNE, CCSNE, CNCC(C)

Ramesh Venkatesa Perumal is an Asst. Professor at the School of Nursing at York University. Ramesh is an internationally educated nurse (IEN) with more than 30 years of experience in clinical, teaching, research, and community service gained at various institutions in India, Oman, and Canada. Ramesh has been a registered nurse (RN), and a clinical practice leader in the intensive care unit (ICU). He holds a Bachelor of Science (BScN), a Master of Science, and doctoral degrees in nursing. He is the coordinator of the Internationally Educated Nurses BScN Program and the Undergraduate Program Director of four-year direct entry BSc Nursing at York University, Ontario. Ramesh has served as Co-Editor for the *Canadian Journal of Critical Care Nursing* since 2022.

Julia St. Louis, MN, RN

Julia St. Louis is a PhD student in the Lawrence Bloomberg Faculty of Nursing at the University of Toronto. Her research interests include pediatric organ donation and end of life care in the critical care setting. She practices as a frontline registered nurse (RN) in the pediatric intensive care unit (PICU) at the Hospital for Sick Children. Outside of work, she loves exploring the parks of Toronto with her dog.

Emeritus Editorial Advisory Board Members

The Canadian Journal of Critical Care Nursing and the Board of Directors of the Canadian Association of Critical Care Nurses (CACCN) is pleased to thank and recognize the following members for their exceptional long-term service to the CJCCN and the CACCN over the years.

Franco Carnevale, PhD, RN

Franco A. Carnevale is a nurse, psychologist, and clinical ethicist. He is a professor at the Ingram School of Nursing, McGill University in Montreal, QC. His primary research interests include a wide range of concerns in childhood ethics.

Marie Edwards, PhD, RN

Marie Edwards is the Executive Director of Education at the Rady Faculty of Health Sciences, University of Manitoba, in Winnipeg, Manitoba, where she teaches and conducts research in the area of ethics, with a particular interest in critical care.

Mary Mustard, MN, NP-Adult, CNCC(C), CNC(C)

Mary Mustard is a Nurse Practitioner in the Cardiovascular Intensive Care Unit (CVIC) at St. Michael's Hospital, Unity Health, and an Adjunct Lecturer at the Lawrence Bloomberg Faculty of Nursing in Toronto, ON.

Editorial Advisory Board Members

The Board of Directors of the Canadian Association of Critical Care Nurses (CACCN) is pleased to confirm the appointment of the following CACCN members for two-year terms commencing March 1, 2025, to the CJCCN Editorial Advisory Board.

Oliver Nicole De Laurentiis, MN, RN, CNCC(C)

Oliver De Laurentiis is an Advanced Practice Nurse Educator (APNE) in the Medical Surgical Intensive Care Unit (MSICU) at Toronto General Hospital (TGH), within the University Health Network. Originally educated internationally, Oliver obtained his BScN in Italy and his MScN in Toronto. Oliver joined the MSICU team at TGH as a staff nurse, moving to Patient Care Coordinator and then into the role of APNE within the Post Anesthesia Care Unit at TGH. In March, Oliver will take on the role of Manager of Professional Practice, where he will leverage his extensive clinical and educational experience to advance nursing practice and further contribute to the growth of nursing education at UHN.

Debbie Fraser, MN, NNP, CNeon(C), FCAN

Debbie Fraser is an Associate Professor in the Nurse Practitioner (NP) Program at Athabasca University, Athabasca, AB, and practises as a neonatal nurse practitioner at St. Boniface Hospital in Winnipeg, Manitoba. Her research interests include the care of extremely low-birthweight infants, online education strategies, and curriculum development.

Sandra Goldsworthy, PhD, RN, CNCC(C), CMSN(C), CCSNE

Sandra Goldsworthy is the Chair of the School of Nursing & Midwifery at Mount Royal University. Sandra is internationally recognized as a simulation and critical care expert, researcher and author. Her research program focuses on the impact of simulation in building competence in recognition and response to the deteriorating patient, reducing medication errors and improving health team communication through interprofessional education. Sandra sits on the board of the World Federation of Critical Care Nurses.

Laurie Lee, PhD, NP, MN, RN

Laurie Lee is a Pediatric Intensive Care Unit (PICU) Nurse Practitioner, Epidemiologist, and Director of the PICU Research Program at Alberta Children's Hospital in Calgary, AB. She is an Adjunct Assistant Professor in the Department of Pediatrics and Adjunct Clinical Associate in the Faculty of Nursing at the University of Calgary. Laurie has more than 20 years of bedside practice as a registered nurse and nurse practitioner. As Director of the ACH PICU Research program, Laurie is the first nurse to lead a PICU research program in Canada. Laurie's program of research is centred around patient and family engagement. She is the lead of the Therapeutic Cuddling in Critically Ill Kids (CHiCKS) program of research, which aims to study the benefits of therapeutic cuddling for children admitted to the PICU.

Martha Mackay, PhD, RN, CCN(C)

Martha Mackay is a Clinical Associate Professor in the School of Nursing at the University of British Columbia. Martha has many years of clinical experience; most recently having practiced for more than 25 years as a Clinical Nurse Specialist in Cardiology. This experience informs her research, which has been funded by national agencies. Martha's program focusses on the influence of, and interventions aimed at, the socio-demographic (e.g. sex/gender, ethnicity) and behavioural (e.g. depression) factors that affect patients with ischemic heart disease, particularly at times of transition.

Carmel Montgomery, PhD, RN

Carmel Montgomery is an Assistant Professor, Faculty of Nursing at the University of Alberta. Dr. Montgomery's research program is centred on clinical and cost outcomes associated with critical illness, particularly in patients with pre-admission frailty and post-intensive care syndrome, nursing leadership, ICU nursing turnover, and evaluation of advanced practice nursing roles. She has been an active member of the CACCN Alberta chapter and will be joining the CACCN Board of Directors as Western Director in May 2025.

The general experience and moral distress of nurses in the sociocultural context of the intensive care unit and the COVID-19 pandemic: A focused ethnography

By Heidi Jetten, MSc, RN, and Emilie Allard, PhD, RN

Abstract

***Background and purpose**: Moral distress is defined by Morley et al. (2019, p. 3) as "a direct causal link between the experience of a moral event and psychological distress." It can lead to psychological, physical, and organizational consequences. The COVID-19 pandemic exacerbated and created factors that may have contributed to moral distress in intensive care (ICU) nurses. The framework for this study is the typology of moral distress written by Morley, Sese et al. (2020). The purpose of this study is to understand the general experience and moral distress of nurses better, in the sociocultural context of the ICU and the COVID-19 pandemic.*

***Method and procedures:** A qualitative focused ethnography design was used. The data collection was carried out by observations with field notes, an observation grid, informal exchanges with general informants, semi-structured interviews with key informants, as well as a reflective journal. Data analysis was conducted with the constant comparison method.*

***Results:** Eight key informants between the ages of 26 and 50 participated in the interviews. Three main themes emerged: 1) the temporality of the pandemic, 2) factors influencing the general experience, and 3) moral distress.*

***Discussion:** The type of moral distress most experienced by participants was that of moral constraint, when informants felt that their patients were suffering or that there was therapeutic futility. The second most common type of distress was that of moral tension, as nurses felt they could not talk about their experiences with anyone.*

***Conclusion:** Moral distress is a common phenomenon amongst RNs, already known in the sociocultural context of the ICU. The circumstances of the pandemic only exacerbated and added to this moral distress. Recommendations were made to mitigate moral distress in times of crisis.*

Keywords: moral distress, registered nurses, intensive care unit, culture, focused ethnography

Jetten, H., & Allard, E. (2025). The general experience and moral distress of nurses in the sociocultural context of the intensive care unit and the COVID-19 pandemic: A focused ethnography. *The Canadian Journal of Critical Care Nursing, 36*(1), 8–24. DOI: 10.5737/23688653-3618

Implications for nursing

- To develop ethical competence and also to provide ICU nurses with tools to exercise their advocacy role during moral events, we recommend that continuing education be provided for ICU nurses. These tools concern the way nurses can express their discomfort and their professional opinion. In this way, they can act on uncomfortable ethical situations.
- The results of this study show that several organizational factors influence ICU nurses' experiences during a pandemic. The onset of the pandemic was fraught with significant changes in the work organization and physical environment. It is important to provide strong and consistent leadership to keep all members of the health care team informed of these changes.
- It would be important to include nurses in ethical discussions and treatment decisions as they are the ones who are most often present at the bedside, who must carry out the care requested, and who are rarely included when the treatment plan is discussed. It is also important to involve all members of the care team in the decision-making process, especially in times of crisis when everything seems to evolve rapidly.
- The results of the study show that moral distress as well as factors influencing ICU nurses' experience change and evolve over time. It would be interesting in another crisis to conduct a longitudinal study to clearly discern the evolution of the professionals' experience over time.

Background and purpose

Moral distress is recognized in the healthcare system as a serious and growing problem, often affecting nurses (Alimoradi et al., 2023; Arbabi et al., 2023; Beheshtaeen et al., 2024; Donkers et al., 2021; Hamric & Epstein, 2017; Henrich et al., 2016). It is defined as "a causal relation between the experience of a moral event and the experience of psychological distress" (Morley et al., 2019, p. 3). Registered nurses (RNs) who experience moral distress can suffer from physical and psychological consequences (Alimoradi et al., 2023; Andersson et al., 2022; Andersson et al., 2023; Arbabi et al., 2023; Beheshtaeen et al., 2024; Donkers et al., 2021; Dorris, 2013; Gehrke et al., 2024; Guttormson et al., 2022a; Henrich et al., 2016; Karakachian & Colbert, 2017; Poisson et al., 2014; Romero-Garcia et al., 2022). This distress also can lead to organizational consequences, such as

RNs leaving their positions and even the profession. This may accentuate further the nursing shortage currently experienced in many countries.

According to several authors, RNs represent the most vulnerable profession with respect to the risks of experiencing moral distress (Arbabi et al., 2023; Andersson et al., 2023; Beheshtaeen et al., 2024; Cacchione, 2020; Dorris, 2013; Donkers et al., 2021; Gehrke et al. 2024; Guttormson et al., 2022a; Henrich et al., 2016; Karakachian & Colbert, 2017; Morley, Grady et al., 2020; Morley, Sese et al., 2020; Poisson et al., 2014). This could be explained by the fact that RNs are at the bedside most often and for the longest time, compared to other healthcare workers (Meltzer & Huckabay, 2004).

Multiple factors impact moral distress and the sociocultural context of the ICU has a significant influence, as it differs from other hospital units. It is the sociocultural context that influences RNs' interpretations of their experiences (Bourbonnais, 2015). This interpretation is constantly shaped by the social interactions and will, in turn, guide RNs' actions (Bourbonnais, 2015). As per Beheshtaeen et al. (2024), ICU RNs are subjected more than any other profession to ethical dilemmas, as the essence of their role is that of caring for and making decisions for their patient. The ICU patients are highly instrumented, which allows them to stay alive (Dorris, 2013). However, this can accentuate a sense of unease among RNs, as they may perceive a higher rate of therapeutic futility (Morley, Sese et al., 2020). Morley et al. (2022) explain that ICU RNs only have one or two patients under their care, and therefore it is easier to become attached to an individual under these circumstances. This could lead to ICU RNs being at a greater risk of experiencing moral distress than their peers in other departments. Moreover, ICU RNs are more at risk to suffer from post-traumatic stress disorder (PTSD) than veterans or patients who suffered a traumatic injury (Guttormson et al., 2022a). Even before the COVID-19 pandemic, RNs from the ICU were reporting higher levels of moral distress (Gehrke et al., 2024; Guttormson et al., 2022a, Henrich et al., 2016).

The COVID-19 pandemic highlighted their role and intensified tasks for ICU RNs. In fact, ICU RNs were confronted with ethical issues that they never had to deal with before, and they also needed to deal with the impacts of isolation and quarantines on themselves and their loved ones (Donkers et al., 2021). Furthermore, the lack of nursing staff was aggravated in specialized units, such as ICUs (Andersson et al., 2023). Guttormson et al. (2022a) mentioned that, at the beginning of the pandemic, ICU RNs working in China reported high levels of depression, anxiety as well as distress. Moral distress was mainly caused by an exposure to hazardous situations, colleagues not following safety instructions, working with new and inexperienced colleagues, as well as witnessing patients dying without the presence of their loved ones (Andersson et al., 2022; Andersson et al., 2023). As of August 30th 2022, representing the moment the study was carried out, Quebec (Canada) has confirmed 1,170,066 cases of COVID-19 (Public Health Agency of Canada, 2022), with 8,365 COVID+ patients hospitalized in ICUs (Institut national de santé publique du Québec, 2022). Marceau et al. (2022) depict a different context in Quebec than anywhere else in Canada, as it was the province that was the most affected by COVID-19 during the first wave of the pandemic. The orders given by the Quebec government's Ministry of Health and Social Services enabled the province to temporarily stop and modify collective agreements (Marceau et al., 2022). Healthcare workers saw their scheduled vacations cancelled or postponed, as well as an increase to mandatory overtime.

In sum, the sociocultural context of this study differs not only in relation to the specialization of the intensive care unit, but also with the addition of the circumstances of a global pandemic. These two major characteristics certainly tinted the experiences of ICU RNs. In fact, studies have highlighted the presence of moral distress in ICUs among RNs during the COVID-19 pandemic (Andersson et al., 2022; Arbabi et al., 2023; Gehrke et al., 2024; Guttormson et al., 2022a; Haghbeen et al., 2022; Romero-Garcia et al., 2022). Others even established the notion of time, as they compared moral distress from before to during the pandemic; depending on the study, moral distress among ICU RNs either decreased (Alimoradi et al., 2023; Donkers et al., 2021) or increased (Andersson et al., 2023; Beheshtaeen et al., 2024). To our knowledge, none have tried to establish a temporality component within the time frame of the pandemic with respect to moral distress, using the classification of Morley et al. (2019).

This study was conducted in the context of the first author master's degree in nursing (MSN). The purpose of this study is to understand the general experience and moral distress of nurses better in the sociocultural context of the ICU and the COVID-19 pandemic. Two research questions arose from this goal: 1. How did RNs within the ICU culture describe their experience working during the COVID-19 pandemic? 2. What type(s) of moral distress did ICU RNs experience?

Classification of moral distress

It is first important to define moral distress and clarify its components. Moral distress is described as "a causal relation between a moral event and psychological distress" (Morley et al., 2019, p.3). The first component of this definition is the presence of a causal link. Certain criteria must exist to establish a causal link between a moral event and psychological distress: the proximity in time and space of the event and the distress, and a sense of professional and/or personal duty (Morley et al., 2022). The second component of moral distress is a moral event (Morley et al., 2019). To be labelled as moral, an event must have an ethical origin, otherwise moral distress would be labelled as psychological distress (Morley et al., 2019). Psychological distress is the third component of moral distress and encompasses an enormous number of negative effects. Common reactions to psychological distress are "anger, frustration, guilt, regret, sadness/upset, powerlessness, symptoms associated with stress, and feeling torn" (Morley et al., 2019, p.14).

The classification of moral distress used for this study comes from an article written by Morley, Sese et al. (2020) based on another article written earlier by Morley, Bradley et al. (2020) as a guide to help healthcare workers identify moral distress among themselves and others during the COVID-19

pandemic. The table *Recognizing moral distress in oneself and others,* categorizes moral distress into five different types: constraint, uncertainty, dilemma, conflict, and tension (Morley, Sese et al., 2020). The authors gave examples of moral distress during the pandemic according to the type of moral event, as well as the emotions and thoughts experienced as a result of the distress. The first type of moral distress is that of moral-constraint – when a healthcare worker cannot perform an action, they deem ethically good due to constraints (Morley, Sese et al., 2020). The second is that of moral-uncertainty – when a healthcare worker does not know if what they are doing is ethically right (Morley, Sese et al., 2020). The third is that of moral-dilemma – when a healthcare worker is unable to choose between at least two alternatives (Morley, Sese et al., 2020). The fourth is that of moral-conflict – when a healthcare worker is unable to choose an action that they deem ethical (Morley, Sese et al., 2020). The fifth is that of moral-tension – when a healthcare worker is unable to share their opinions with those around them (Morley, Sese et al., 2020).

Method and procedures

Design

A qualitative focused ethnography methodology was used. The goal of ethnography is to decipher the components of a culture through the people who live it (Bourbonnais, 2015; Higginbottom et al., 2013; Monrouxe & Ajjawi, 2020). As per Leininger (2008), a nursing theorist that focused on ethnonursing, culture is defined as "[…] the learned, shared, and transmitted values, beliefs, norms, and lifeways of a particular culture that guides thinking, decisions, and actions in patterned ways and often intergenerationally" (p.6). More specifically, focused ethnography concentrates on a problem (moral distress) in a specific situation (pandemic) within a particular subgroup (RNs; Stahlke Wall, 2014).

Settings

The study took place in a 35-individual-rooms adult ICU, employing approximately 200 RNs in a bilingual (French and English) University Health and Social Services Centre in the Montreal (Quebec) area where the main researcher worked as an RN. During this study, the unit was divided into three subunits: COVID+ patients, medical intensive care, and cardiovascular-thoracic patients.

It is important to mention the reasons that led the student researcher to pursue the topic of this study. They had an interest in the matter of moral distress in the ICU partly because they themselves felt overwhelmed with the workload in the ICU in the context of the COVID-19 pandemic and felt an increase of moral distress from their fellow colleagues on the unit.

Sampling and recruitment

When conducting an ethnographic study, there are two types of informants: key informants and general informants (Bourbonnais, 2015; Leininger, 2008). Key informants are the people who experience the phenomenon within the culture under study (Bourbonnais, 2015; Leininger, 2008); they are the RNs who participated in the semi-structured interviews. Alternatively, general informants do not have as much knowledge, but can contribute with their general opinions (Bourbonnais, 2015; Leininger, 2008). All members of the healthcare team approached during the observation periods for informal exchanges were general informants. If the type of informant (key or general) is not specified in this text, the authors are referring to both groups.

Convenience sampling was used to recruit key informants following these inclusion criteria: 1. RNs who had at least one month of experience working in the ICU during the COVID-19 pandemic (to make sure the initial training in the unit was concluded); 2. were actively working a minimum of twice a week in the ICU during the time of the recruitment (this avoided nurses on sick leave or maternity leave who could not share their work experience during the pandemic due to their absence from the environment); 3. spoke French or English. Posters placed in the conference room and presentations about the purpose and confidentiality, given preceding RNs' shifts, were used as solicitation strategies. During these presentations, the purpose of the project was explained, as well as the confidentiality of their participation. Recruitment of informants stopped when there was no emergence of new themes and reaching what we thought was close to data saturation, which is defined as the exhaustion of new data (Bourbonnais, 2015). In this study, the authors agree with Sebele-Mpofu (2020) that the aim of saturation is not always to generalize the results obtained, but rather to gain an in-depth understanding of informants' behaviours through their vision, experience, and perception. In fact, the last four verbatims from the eight semi-structured interviews and the informal exchanges in the field notes generated very few new codes and no new sub-themes or themes.

Data collection

Bourbonnais (2015) indicates that using a triangulation of data collection methods characterizes ethnography: it allows for an in-depth understanding of the phenomenon under study and ensures scientific rigour. In this study, we used six data gathering tools: observations, an observation grid, informal conversations with general informants, semi-structured interviews with key informants, field notes, and a reflective journal (written during data analysis). The data collection took place in January and February 2022, corresponding with the middle of the fifth wave of COVID-19 infections in Quebec (Canada), as well as the easing of sanitary measures including the end of curfews, the approval of small gatherings, and the reopening of many facilities.

Observations

The main researcher spent four sessions of nine hours (twice from 07:30 to 16:30) and four hours (twice from 19:30 to 23:30) observing the department, making sure that all the shifts were covered. It was deemed acceptable by the research approval committee based on previous studies using a similar design (Laflamme, 2018; Leblanc, 2018). An observation grid inspired by Schein (2010) was created by the main researcher and brought to observation sessions to guide the field notes. The main researcher took notes on the number of RNs working, the number of COVID+ patients on the unit, the atmosphere in the unit, the interactions between healthcare members, and

the conversations with the general informants. Most of the general informants were RNs, but some were respiratory therapists (RTs) or unit coordinators. Interactions usually lasted no more than 10 minutes. These observation sessions, as well as the observation grid, field notes and reflective journal, helped the student researcher to immerse themselves in the sociocultural context of the ICU during a pandemic and distanced their role from a working RN on the unit to a student researcher.

Interviews

An email explaining the purpose of the study and what was expected of the participants was sent to all those interested along with an attached list of psychological support resources, a socio-demographic questionnaire, and a consent form. The interview guide was comprised of open-ended questions based on a literature review on the experiences of working during the COVID-19 pandemic, and the classification of moral distress. The interview guide was divided into two large topics: general ICU experience, and moral distress experienced during the pandemic. Once the socio-demographic questionnaire and the consent form were completed, signed, and sent via email to the main researcher, a link was sent to the key informants. All semi-structured interviews lasted between 50 to 120 minutes and were conducted via Zoom, a computer platform available on a secured licensed account. The interviews were audio-recorded and transcribed by the first author.

Data analysis

The constant comparison method proposed by Côté et al. (2020) was used to analyze our data. There are three steps to coding data: open, axial, and selective coding (Côté et al., 2020). First, we attributed a code to each segment of verbatim represented by a similar idea (open). We then compared all the codes between themselves, other verbatims, and the data collected during the observation sessions, the student researcher's field notes and reflective journal to see if we could gather them into a more general group (axial). At the end, three themes appeared to be the core subjects of our study: the temporality of the pandemic, the factors influencing the general experience, and the moral distress (selective). The framework used in this study was useful to categorize the moral distress codes to the five corresponding types in the table *Recognizing moral distress in oneself and others* made by Morley, Sese et al. (2020). We designed a table summarizing our results where we tried to identify the type of moral distress according to the ethical origin of the moral event. It is divided by each type of moral distress accompanied by the most common moral events, people involved, negative outcomes, psychological distress, and quotes from our study (see Table 1 – *Moral distress among ICU RNs during the COVID-19 pandemic* as per the table *Recognizing moral distress in oneself and others* from Morley et al. [2020]). The software Excel was used to conduct the analyses (Meyer & Avery, 2009).

The criteria for establishing rigour that are consistent with this design and that guide our research are credibility, confirmability, theme redundancy, and transferability (Leininger, 2008). Because we knew that the student researcher's personal experience as a RN on the ICU as well as their personal beliefs could influence the data analysis, several preventive measures were taken in the form of compliance with the aforementioned rigorous criteria. First, we made sure to conduct our observations more than once every shift to understand, as much as possible, the culture of the ICU (credibility). Second, codes were meticulously attributed, and a second opinion was sought from the second author (credibility and confirmability). Third, the meaning of codes was also compared with other sources of information, such as field notes, an observation grid, reflective journals, and literature reviews (credibility and confirmability). Fourth, the key informants will be described later using the socio-demographic questionnaires and the presentation of our results will be supported by verbatim segments from these key informants as well as observations and informal discussions with general informants (credibility, confirmability, and transferability).

Ethical considerations

This research was approved by the ethics committee of the hospital where the research was conducted (#2022-8257), and by the Université de Montréal (#2021-1300). Before the interview, all key informants signed consent forms. All electronic data is kept on a secure institutional server. Since the subjects discussed during the interview can cause strong emotions, a list of psychological support resources was attached in the email sent to each key informant. A protocol for distress management, inspired by Haigh & Witham (2013), was created by the first author and available throughout the interviews. However, it was not used in this study, as neither the eight key informants nor the student researcher exhibited any serious symptoms of psychological distress. Finally, the student researcher checked on the well-being of all key informants via email one week after their semi-structured interview. All key informants reported feeling good and happy to have participated.

Results

Sample

Eight key informants participated in the semi-structured interviews. Seven women and one man, aged between 26 and 50 years old, had on average between 4 to 9 years of experience as RNs and had been working in the ICU from 1 to 7 years. They all work rotation hours (between 8 to 16 hours). Half of them worked rotation shifts between day, evening and night and the other half only worked night shifts. The final sample[1] of key informants' socio-demographic information is illustrated in Table 2 – *Key information characteristics*.

Findings

Our data analysis suggests three major themes for describing the general experience and moral distress of RNs working in a sociocultural context of the ICU and during a pandemic: 1) the temporality of the pandemic; 2) factors influencing the general experience; and 3) moral distress (see Figure 1 – *The general experience and moral distress of nurses in the sociocultural context of the intensive care unit and the COVID-19 pandemic*).

1 All key informants' names were replaced with gender-neutral ones. To keep the anonymity further, we used the gender-neutral pronoun they/them instead of she/her and he/him.

Table 1
Moral Distress Among ICU RNs During the COVID-19 Pandemic as per the Table Recognizing Moral Distress in Oneself and Others *from Morley, Sese et al. (2020)*

Moral – Constraint distress	**Moral events**	• Death / end-of-life • Dehumanization of nursing care • Do not feel safe • Loss of sense • Patient is suffering • Restriction of family's visitation • Therapeutic futility
	People involved	• Patient's family • Patients • Physicians • Security agent
	Negative outcomes	• Loss of professional and personal sense • Neglected patient
	Psychological distress	• Angry • Annoyed • Confronting • Difficult • Disappointed • Fear • Feel that you failed • Feeling bad • Frustrated • Grieving • Guilty • Injustice • Sad • Unsafe
	Quotes from our study	"I think the most difficult thing was to see the families in a state of incomprehension." "I was very sad about it." "It is a sad situation." "It was really hard." "Should we keep doing this?" "What was the point of doing all that?" "What's his quality of life going to be?"
Moral – Uncertainty distress	Moral events	• Death / end-of-life • Execution of patient instrumentation protocols • Strong aggressiveness of the care
	People involved	• Patient's family • Patients • Physicians • RNs toward themselves
	Psychological distress	• Confused • Deprived • Guilty • Stressed • Torn
	Quotes from our study	"I am questioning what are the right words or things to say to the family." "I felt like a fraud." "I had to deal with many confusing things, many indecisions." "I lost the sense of nursing care." "I was trying to find the words." "It was more a dilemma of me towards me." "I am questioning what are the right words or things to say to the family."

continued…

Moral – Dilemma distress	Moral events	• Challenging relationships with physicians • Death / end-of-life • Restriction of families' visitation • Strong aggressiveness of the care
	People involved	• Colleagues • Management • Patient's family • Patients • Physicians • RNs themselves
	Psychological distress	• Confused • Distraught • Guilty • Sad
	Quotes from our study	"I didn't feel supported." "I felt in a very uncomfortable position." "I found myself between X and Y." "I was in a bit of a conflict." "It was a big lack of organization." "I was in a bit of a conflict."
Moral – Conflict distress	Moral events	• Family conflict • Going out in public • Public ignorance
	People involved	• Patient's family • Public
	Psychological distress	• Anxious • Confronting • Distraught Deprived • Sad
	Quotes from our study	"Because I didn't know how to comfort her." "Everything is confronting." "I wanted to change her mind and change her feelings." "It doesn't make sense."
Moral – Tension distress	Moral events	• Added tasks for RNs • Challenging relationships with physicians • Injustice • Loss of sense • No support from the healthcare team • Premiums from the government • Public ignorance • Therapeutic
	People involved	• Friends and family • Government • Healthcare team member • Members of the public • Patient's family • Physicians • RNs colleagues
	Negative outcomes	• Thinking of changing career

continued…

Psychological distress	• Angry • Anxious • Disappointed • Disrespected • Distraught • Frustrated • Injustice • Isolated • Lonely • Misunderstood • Not supported • Powerless • Sad
Quotes from our study	"I didn't feel respected as a person and as a professional." "I felt like I was on my own." "I lost control." "I think it's unfair." "I was angry with my colleagues." "If it was me, I wouldn't want that." "People around you don't understand." "There was a lack of respect."

The temporality of the pandemic

The temporality of the pandemic is often divided by the informants into two stages: the beginning and the progression of the pandemic (see Table 3).

Beginning of the pandemic: paradox of a new journey. The beginning of the pandemic refers to the period before vaccines. For many informants, this moment marked both the most exciting and the most stressful times. It was motivating because they felt like it was a time when they were helping the community and were making a difference. "I felt good. You know, I felt like I was part of something bigger than me" (Lee). Also, it was a time when the new rules of the ICU made sense to them; family visitation protocols were strict in the objective of reducing the risks of infection. Several informants also spoke positively about the incentives received by the government (more manpower and many monetary bonuses) and the public: "In the beginning, it was exciting, it wasn't difficult" (Dale).

In contrast, due to the social isolation and the lack of knowledge surrounding the virus, all key informants identify the beginning of the first wave as the most stressful time both personally and professionally. Pat sums up personal stressors: "You go home, you're always alone because you don't want to be in contact with your family, we didn't know how contagious it was, how it spread. We were blind. I found it more difficult than the other waves because we were in the unknown." The unknowns surrounding the spreading of the virus were very isolating for some informants who felt that they needed to stay locked in their bedrooms or even move to a new location to protect their family and loved ones.

Professionally, all the informants also found it difficult to adapt to the changes within the ICU. Three major stressful professional changes were mentioned by informants: care intensity, end-of-life, and work organization. In many cases, care intensity progressed rapidly. "We had patients that were on nasal prongs that went directly to being intubated" (Kai). "It's not that nasal high flow oxygen therapy is new, it already existed. Like BiPAP and CPAP, but because it would generate aerosol, no one wanted to prescribe it out of fear for the personnel" (Jordan). During an informal conversation, a general informant remembers how scary it was to see COVID+ patients dying only a few days after arriving to the ICU. It was also hard for Pat who remembers the enormous amount of sedative and paralyzing agents used to make sure that the COVID+ patients would not move and accidentally self-extubate. Another difficulty expressed by the informants was the enforcement of the visitation ban, especially during end-of-life care. One of the general informants' recounts when they had to roll the body of a patient close to the door so the grieving family could say their final goodbyes through the pane of glass. Only a few hours later, they had to admit a new patient into the same room, having no space or time to grieve. A new general rule of the ICU for all members of the healthcare team was to enter the rooms as little as possible, leading the RNs to accomplish the tasks of other members of the team, like distributing meal trays and feeding the patients. "It was very frustrating at the beginning of the first wave; the only people who went into the rooms were the nurses. So, we were the first line of the front lines" (Morgan).

Progression of the pandemic: A new normal. The progression of the pandemic represents the time after the arrival of vaccines. It brought a sentiment of relief, as well as new difficulties to overcome. The virus was less scary and, as Kai says: "It was like before the pandemic." The ICU was returning to a certain normality. Visitations were allowed and a huge weight was lifted from RNs' shoulders as the end-of-life period could be shared with people meaningful to the patient. The family was once again at the bedside, which is how it was supposed to be as per Lee and Morgan. Since there were more studies and knowledge about the virus and its management, a new routine was established and the care of COVID+ patients felt less complex. Instrumentation protocols and the donning and doffing of personal protective equipment no longer induced as much

Table 2

Key Information Characteristics

Characteristics	*n*
Gender	
Woman	7
Man	1
Age	
20–30 years old	5
>30 years old	3
Marital status	
Married	2
Common-law	4
Single	2
Number of people under their care	
0	7
More than one	1
Scholarity	
College degree	3
Bachelor	4
Post-graduate	1
Number of years of nursing experience	
0–5 years	6
>6 years	2
Number of years of intensive care experience	
<1 year	1
1–5 years	3
>6 years	4
Number of months worked during the pandemic	
1–23 months	1
24 months	7
Work schedule	
Part time	4
Full time	4
Shifts	
Night (19:30–7:30)	3
Rotation (day, evening, night)	5
Length of the shifts	
8–12 hours	5
12–16 hours	3

Note: N = 8

anxiety. As Terry recounts, the vaccine also alleviated a lot of health measures, and the informants were finally able to see their loved ones without fear of propagating the virus.

With the hindsight of the past few months, some informants even remarked on the positive aspects of the pandemic. Terry names the advantage of more empathetic feelings toward their patients and themselves. They learned to ask their colleagues for help when they could not complete all the tasks alone, and how to cope better with stress. Lee adds that they now understand their own resiliency better. Kai appreciated the experience of taking care of unstable patients. Pat mentions the recognition of the importance of RNs in healthcare settings by the public.

On the other hand, as the pandemic progressed, informants became tired. Many were exhausted from months of increased caseloads, deaths, and the cancellation of their vacations. Rory, Jordan, and Dale recall the loss of teamwork that was displayed by their colleagues at the beginning of the pandemic. The progression of the pandemic also saw the ICU become populated by patients who refused the COVID-19 vaccines. The families of these patients often did not believe in the vaccine or the disease itself and blamed healthcare workers for their loved one's condition. Furthermore, a better understanding of the COVID-19 virus led to a slower escalation of care. Unlike the beginning of the pandemic, patients requiring a high demand of oxygen were not immediately intubated and have other therapeutic options. Pat describes a new reality that involved heavier patient management, as two COVID+ oxygen-dependent patients were then often the responsibility of only one RN. Finally, as the pandemic progressed, some felt that the government did not offer enough help or appreciation toward RNs. For example, the provincial government forced many part-time health workers, such as Morgan, Lee, and Kai, to work a full-time schedule. Dale also mentioned that even if money was poured into the health system, it only pushed the shortage of manpower problem to a later time.

Factors influencing the care experience

Many factors influenced how informants experienced working in the ICU during COVID-19. There are two types of factors: facilitating and constraining. Facilitating factors helped RNs during the pandemic and came from within the RNs themselves or their environment. Constraining factors are those that make caregiving situations more difficult for RNs. The only source of constraining factors named by the key informants was environmental (see Table 4 – *Factors influencing the general experience of ICU RNs*).

Facilitating factors. Facilitating factors, both personal and environmental, helped RNs to experience the pandemic more positively.

Personal factors. Age, as well as work experience seem to have decreased stressors from the changing environment and circumstances brought by COVID-19. For example, Dale (age 50) did not notice significant differences between the pre- and post-pandemic ICU. They believe that their previous experience as a RN in the operating room was helpful in preparing

Figure 1

The General Experience and Moral Distress of Nurses in the Sociocultural Context of the Intensive Care Unit and the COVID-19 Pandemic

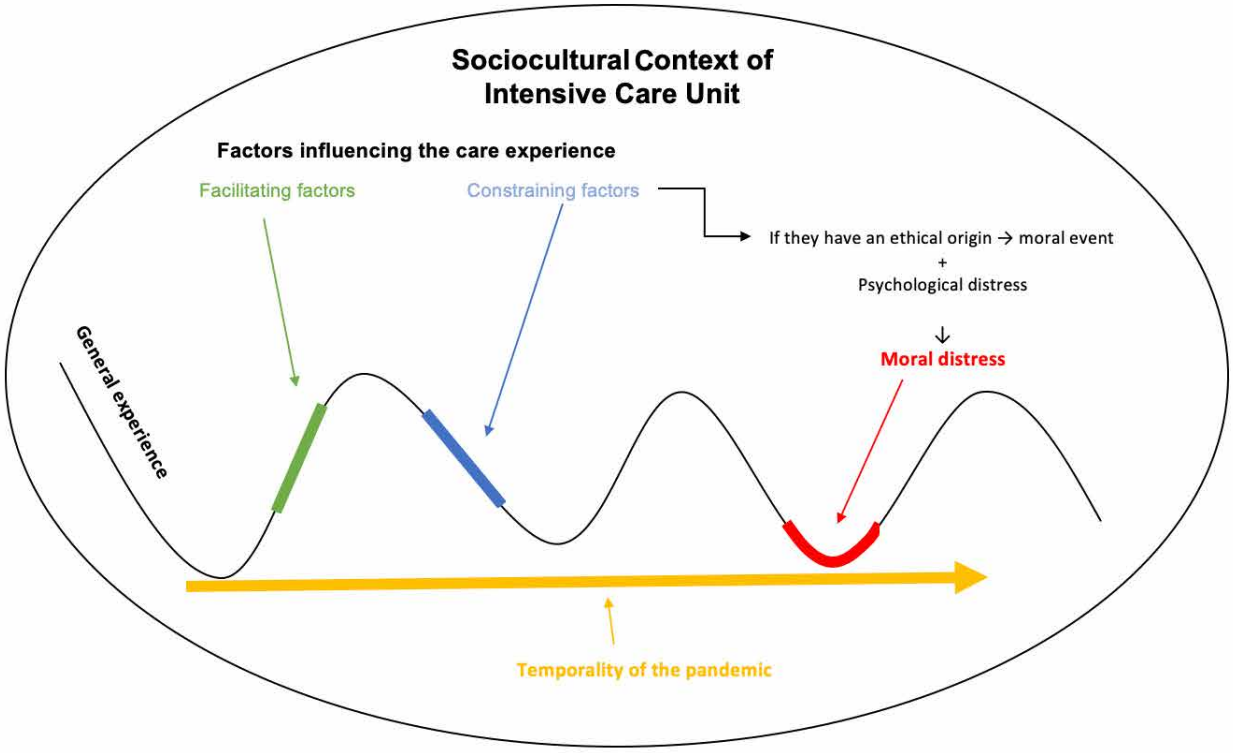

Table 3

Temporality of the Pandemic

Moment	Positive aspects	Negative aspects
Beginning of the pandemic	• Helping community • Making a difference • New rules made sense	• Stress • Unknown
Progression of the pandemic	• Knowledge about the virus • Alleviation of sanitary measures	• Tiredness • Anti-COVID-19

Table 4

Factors Influencing the General Experience of ICU RNs

Facilitating factors	Constraining factors
Personal factors	• Poor support from their surroundings
Environmental factors	• Changes within the ICU • Challenging relationships

them to respond to stressful moments in the ICU. All key informants also talk about self-care strategies as good mechanisms to manage the stress in the ICU during the pandemic, like pursuing hobbies or reflecting about their negative experience to transform it into something positive.

Environmental factors. These involve the healthcare team, the hospital, the government, or the public, and influence the experience of the pandemic. Terry sums up positive aspects: "I think we're a great team. They're competent people, supporting and doing a good job of leadership. I'm proud of my team and of the work that we've done." Moreover, Jordan talks about the psychological support offered by the hospital via a telephone hotline. Similarly, Lee attended a workshop about moral distress given by a spiritual counsellor during the pandemic. Four key informants mention the nursing manager as being thoughtful and present for the employees. Furthermore, the environment in which informants worked was helpful. Lee and Dale believe they were lucky to not have any mandatory overtime enforced before or during the pandemic, unlike other nearby hospitals. This made them feel more respected by their employer and allowed them more hours of rest between their shifts. Lee and one of the general informants mention that the family-oriented mentality of the health centre was helpful because it values the loved one's presence with the patients. The government's actions to support healthcare professionals during the pandemic made some informants feel appreciated for their work. Dale, for example, appreciated the monetary aid they received. Terry valued the public's recognition via food and donations received from various organizations. Lastly, all key informants recall their loved ones (partners, family members, friends, roommates, and pets) as being present and helpful

in going through rough periods. Rory and Jordan were able to change their mindset by taking care of their pets. Kai, Morgan, Lee, Jordan, Rory, and Dale felt lucky to have their partner to listen to them talk about their hard days at work.

Constraining factors. Constraining factors added to participants' perception that the pandemic was more difficult. Unlike the facilitating factors, informants only named external constraining factors: poor support from their surroundings; changes within the ICU; and challenging relationships.

Poor support from their surroundings. In the beginning of the pandemic, informants found it difficult to not see their loved ones. As the pandemic progressed, informants felt that they were expected to carry the burden of the pandemic once health measures were reduced. Even if RNs received support from the public at the beginning of the pandemic, once the health measures were reduced, most of the informants felt that they were the only ones left fighting the virus while everyone else was returning to a normal life. Four of the key informants argued with their loved ones about healthcare measures. "At that time, it hurt me so much because I didn't feel supported by my friends. They would do what they wanted, and it would have an impact on me. After that, I completely isolated myself" (Lee). Jordan also talks about how they felt betrayed when one family member refused to get vaccinated. Morgan felt judged by their family when they did not want to sign a provincial contract offering a monetary bonus to those who agreed to work a full-time schedule. Finally, even if the hospital was providing a hotline for psychological resources, it was difficult to get help on short notice and in the long term. It was also difficult to see a psychologist, even in the private sector. Morgan talks about their panic attacks and how difficult it was to see their colleagues each morning because they could feel their anxiety. "I called a psychologist while bawling, but it's impossible to have a psychologist. Finally, it led to nothing because they were only available in a month. But the moment when you need to express yourself is now" (Morgan).

Changes within the ICU. The never-ending changes caused by the pandemic transformed the standard functioning of the ICU, as it added more rapid escalation of care, restriction of family visits, and ever-changing hospital protocols. One of the general informants found the rapid training of RNs extremely stressful because new RNs were trained in days instead of months. This left the new RNs with almost no time to learn how to manage critical patients and the experienced RNs to supervise them. Added tasks for RNs was mentioned by all key informants. All eight key informants talk about how frustrating it was to empty the garbage cans in the patient rooms because the cleaning staff refused to enter. Similarly, some felt like they were doing the security agents' job to ensure that the number of visitors did not exceed the maximum capacity of the ICU.

Challenging relationships. Relationships in the ICU are usually fraught with heavy emotions, as patients' conditions are critical, creating stress for all the parties involved.

Perspective about death – End-of-life contexts produce even greater emotions, adding to the already complicated situation. Patients were seriously ill, and many passed away in a short amount of time. Informants found it difficult being so close to death every day. "You see everything, the worst of what the pandemic is in the ICU. You really see the disease at its worst and it can kill" (Morgan). Kai remembers a moment during the pandemic when the patient's mother could not accept her son's death and lashed out at them: "I just have to accept that she's grieving, she's blaming, and has to go through so much." Jordan talks about the level of care that is not representative of their patient's wishes. This kind of situation made them feel as if the patient was suffering against their will, because they were receiving overly aggressive treatments that would ultimately lead to an agonizing death. Rory recalls when the family refused to let their loved one go, and the physician did not want to interfere. "In these cases, the [patient's] autonomy and decision rights are undermined" (Rory).

Relationship with patient's family – Some informants mentioned that the relations with patients' families were complicated because they could not visit as often as before the pandemic, hence were not able to foresee the death of their loved one. When visits were permitted again in the ICU, only immediate family were admitted, and they had to follow strict guidelines. Thus, the pandemic complicated the situation by changing how RNs interacted with families. Lee remembers having to manage more than a dozen family members at the same time, to the detriment of the safety of themselves and their colleagues: "Then I told them, no phones, no sticking together, they didn't listen. There were telephones, they were sticking. They took off their masks, they blew their noses, they cried, and they stuck together. I kind of lost control" (Lee). All key informants also acknowledge that the pandemic forced them to interact more with families over the phone. It was a complicated task to provide updates over the phone, as a RN's professional duty is to not compromise confidentiality. "But, how to give them the message that this person is really sick and dying and we're doing everything we can for them?" (Jordan).

Professional relationships – Some informants felt as if some physicians did not care about the safety of the other team members. "You could see how careless some people were. [Some doctors were] going into the rooms, no N95 masks, when the patient is still positive" (Rory). Jordan, Lee, and Kai recall times when they felt that their patients' wishes were not acknowledged by the physicians. "You advocate for the patients to the doctor. They're just like: 'No, we're not going to do that.' Then you have to go back to your patient, and you feel like you failed" (Jordan). Dale recounts how they can sometime feel overruled by physicians: "You submit to authority, right? Maybe sometimes if you have doctor X and he's ready to pull the plug on everybody and then you get Dr. Y, who wouldn't pull a plug on anybody. Maybe it's personal to them. They're not ready to let the patient go. How do you counsel them?" Similarly, one of the general informants mentions that they did not always feel that the management staff were grateful enough for their work. Another one explains that while they were on sick leave, the human resources department would persistently ask them to come back to work.

Moral distress among key informants during the COVID-19 pandemic

Using the classification of moral distress, *Recognizing moral distress in oneself and others* presenting the five types of moral distress (Morley, Sese et al., 2020), this section discusses moral distress and how it was experienced by the key informants in our study. It is difficult to recognize moral distress with certainty, but when some constraining factors had an ethical origin (which are seen as moral events) and were linked to some psychological distress, we identified the situation as moral distress. Moral events occurred with patients, families, physicians, members of the healthcare team, fellow RNs as well as loved ones. The most common situations in our study that were categorized as moral events were suffering patients, aggressiveness of care, care futility, and added tasks for RNs. They often occurred during the end-of-life context. With the help of the classification of moral distress, we tried to identify the type of moral distress according to the ethical origin of the moral event. We designed a table based on the one from *Recognizing moral distress in oneself and others* (Morley, Sese et al., 2020) summarizing our results divided by each type of moral distress accompanied by the most common moral events, people involved that seemed to contribute to moral distress mentioned by the key and general informants, negative outcomes, psychological distress, and quotes from our study (see Table 1 – *Moral distress among ICU RNs during the COVID-19 pandemic as per the table* Recognizing moral distress in oneself and others *from Morley, Sese et al. [2020])*.

The most common type of moral distress lived by our key informants during the COVID-19 pandemic was that of constraint; out of 51 verbatim segments that were coded as moral distress, 21 of them are moral-constraint distress. This type of moral distress is experienced when RNs feel constrained from carrying out an action they judge morally good (Morley, Sese et al., 2020). For our key informants, the most common moral events occurred from patient suffering, not feeling safe, family visit restrictions, end-of-life and death, dehumanization of nursing care, loss of personal sense, and therapeutic futility. Involved with RNs in this type of moral distress are patients, physicians, security agents, and patients' families. The negative outcomes of this type of moral distress are neglect of the patient, as well as loss of professional and personal sense. The psychological distresses reported by the key informants are feeling guilty, unsafe, bad, sad, confronted, torn, frustrated, disappointed, angry, annoyed, fear, injustice, grieving, and failure. "I have cases that have made me very sad. I think it was mostly when the person died alone" (Terry).

The second most common type of moral distress is that of tension – when RNs feel as if they cannot talk about their beliefs with others (Morley, Sese et al., 2020). In our study, the contexts were when key informants did not feel comfortable opening up or did not feel heard. It occurred from therapeutic futility, added tasks for RNs, a lack of support from the healthcare team, challenging relationships, monetary incentives from the government, public ignorance, injustice, and loss of sense. Moral-tension distress occurred between RNs and patients' families, members of the public, their friends and family, the government, their colleagues, the healthcare team, or physicians. The consequence of moral-tension distress is that key informants are thinking of changing their profession. The psychological distress of moral-tension distress appears as a sense of injustice, or feeling disrespected, sad, angry, disappointed, misunderstood, anxious, lonely, isolated, not supported, frustrated, distraught, or powerless. For example, Morgan tried to understand the reasons behind some of the new rules within the ICU by talking with a manager. "It's a feeling of a misunderstanding. You can't make sense of it; you can't explain it. They say that it's just like that and you can't ask questions. Then it quietly turned into anxiety."

Some negative reactions were named by our key informants that could be categorized as psychological distress. It is only one of the three elements that composes moral distress; therefore, it is not necessarily moral distress if there is no evidence of a link to a moral event. However, some key and discuss thinking of leaving the profession, and even feel as if they have PTSD symptoms from all the deaths they witnessed. Some had to leave the ICU because of burnout. Terry, Jordan, and Morgan talk about dissociation, explaining how they were trying to leave all their ethical concerns at home and how they had to remain professional. "I've had a little bit of that mechanism; it's kind of like dissociation. I was kind of dissociating myself from the person. Sometimes you see someone intubated, but I'm taking care of a body, I don't see the person" (Terry). "I don't realize how much stuff is crazy around me until I compare a couple months later. I think it's a self-preserving mechanism" (Jordan). On the other hand, Kai has resigned themself to step aside: "I try to isolate myself and not be too emotional about it, not to push too much. Just to let go of the situation. It also helps me to not to get depressed so much."

An interesting result of our study is that many of the situations recounted by the key informants were categorized under multiple types of moral distress. For example, Kai recalls a moment when their patient was on a high dosage of vasopressors and neither the family nor the physicians wanted to acknowledge the possibility of end-of-life care. In this situation, three types of moral distress can be found. First, moral-constraint distress from Kai was wanting the patient to be comfortable but being obligated to follow the high intensity plan of care ordered by the family and the physician. Second, moral-conflict distress from Kai was not knowing the most ethically appropriate action to take. They wanted to comfort the patient's mother by revealing to her the prognosis of the patient, but they did not want to cause her more suffering and had to follow the physician's plan of care. Third, moral-tension distress from Kai was feeling ignored by the patient's family and physician when they tried to approach the end-of-life subject.

Our study results show that many influencing factors have a role in the RNs experience of the pandemic. More specifically, some of them can contribute to moral distress if the right conditions are presents.

Discussion

The aim of this study, to understand better the general experience and moral distress of nurses in the sociocultural context of the ICU and the COVID-19 pandemic, was met and the results of our study show that nurses have an experience that progresses over time and is influenced by personal and environmental factors. Our results show that our key informants felt both challenged at the beginning of the pandemic, and as time passed and the pandemic progressed, they became tired. Finally, the type of moral distress most experienced in our study was that of constraint.

In our study, the evolution of the RNs' psychological distress worsened with time, as they reported being more exhausted. Few studies discuss the temporality of the pandemic. For example, Crowe et al. (2022) used an online survey sent to approximately 1,000 critical care RNs across Canada to examine the impact of the pandemic on mental health. 425 RNs answered the quantitative section of the survey, and 147 RNs also filled out an open-ended questionnaire. Our results demonstrated a worsening of psychological distress with time that did not quite concur with Crowe et al. (2022), who observed that, although symptoms of PTSD increased throughout the pandemic, levels of anxiety and depression remained similar. To reach these results, Crowe et al. (2022) compared their data collected in 2022 among RNs from across Canada to their previous study conducted in 2021 among RNs working at one site in British Columbia (BC). Crowe et al. (2022), for reasons not disclosed, do not describe the mental state of RNs or the specificities of the single site in BC in 2021. This means that we do not know if the RNs from BC had higher rates of anxiety and depression and, if the single site was only for patients requiring critical care. Nevertheless, they compared these levels among critical care RNs across all Canada to RNs from a single site in BC. The authors conclude their research by predicting a higher rate of nursing turnover after the pandemic.

Some of our facilitating factors were similar to other studies. Some key informants mentioned the increase of teamwork in the ICU during the beginning of the pandemic, which helped with their workload and their stress. Similar results were obtained by Bethel et al. (2022) and Guttormson et al. (2022b) that mention how helpful it was for RNs to be able to talk with their colleagues. The same is true for the key informants' loved ones that were present during the pandemic. Bethel et al. (2022), Guttormson et al. (2022b), as well as Marceau et al. (2022) also talk about the appreciation of RNs for the presence of their loved ones. Finally, informants were able to decrease their psychological distress by taking care of themselves. Bethel et al. (2022) and Marceau et al. (2022) recommended that RNs rest, exercise, and spend quality time with their relatives. Many of our facilitating factors were linked to the ICU, as well as to the healthcare centre's culture. For example, the healthcare centre in which this study took place did not enforce mandatory overtime and has a family-oriented care philosophy. The ICU had a family nurse that communicated regularly with the patients' loved ones, and family well-being was always considered. This facilitated a better communication between the healthcare team and the family. Also, psychological help was offered through an emergency hotline. The ICU held workshops about moral distress hosted by spiritual counsellors, and some key informants felt heard and understood by the ICU manager. The focused ethnography method used in this study made it possible to identify these facilitating factors related to the culture, which had not emerged in studies published in Canada (Crowe et al., 2022; Lavoie-Tremblay et al., 2022; Marceau et al., 2022) using quantitative methods.

As for the constraining factors, many were mentioned by the key informants as hindering their experience of care during the pandemic. For example, the lack of public recognition of RNs' contribution during the pandemic (Guttormson et al., 2022b; Marceau et al., 2022), as well as the sociosanitary restriction impeding RNs to see their loved ones (Marceau et al., 2022; Romero-Garcia et al., 2022), made them feel isolated. The ever-changing rules from the Government, the institution and the managers confused many RNs (Crowe et al., 2022; Guttormson et al., 2022b). Many challenging relationships were mentioned by the key informants. The recognition given to physicians was seen as disproportionate by some RNs and made them feel unacknowledged (Morley et al., 2022). The lack of appreciation from management made RNs feel unsupported (Bethel et al., 2022; Crowe et al., 2022; Guttormson et al., 2022b; Lavoie-Tremblay et al., 2022). Finally, COVID-19 deniers caused frustration among RNs, who did not feel like their profession was being respected (Bethel et al., 2022; Guttormson et al., 2022b).

Some of the constraining factors found in our study seemed to have changed the ICU's culture. For example, the visitation restriction for families in response to the pandemic made it difficult for the key informants to communicate with the patients' loved ones (Bethel et al., 2022; Crowe et al., 2022; Guttormson et al., 2022b; Khanal et al., 2022; Perron et al., 2022; Romero-García et al., 2022). In fact, restriction of family visitations and the lack of communication between the medical team, the family, and the patient increased RNs' perception of therapeutic futility (Khanal et al., 2022; Morley et al., 2022; Romero-García et al., 2022). Some informants spoke about the rapid training of new RNs that was unfair and added unnecessary stress on the preceptor and the new nurse (Bethel et al., 2022).

The type of moral distress most experienced in our study was that of constraint. It is experienced when a RN wants to perform an action that they feel ethical but is unable to do so (Morley, Sese et al., 2020). In our case, moral distress of constraint was most often experienced when RNs felt that their most ethical option went against the opinion of the medical staff, the family, or the patient. For example, when RNs could not properly advocate for their suffering patients, when family members were not allowed to say their last goodbyes, or during therapeutic futility. These results are similar to the ones from Khanal et al. (2022). The authors conducted a quantitative cross-sectional descriptive study in Spain about ethical conflict among 117 ICU RNs during COVID-19. In the survey, RNs answered that the most frequent form of ethical conflict is moral outrage; when RNs feel they cannot carry out an action because of constraints (Khanal et al. 2022). They also mentioned that

end-of-life and care futility were when their participants perceived the most ethical issues (Khanal et al. 2022).

It is important to mention that the very definition of moral distress tends to simplify a complex process, which could limit its scope. Indeed, focusing on the three elements of moral distress (causal link, moral event, and psychological distress) could emphasize only one of the three to the detriment of the other two. For example, if we focus on the psychological distress aspect, we might omit the moral event involved. Moreover, providing solutions to reduce psychological distress won't solve the moral event, which could persist over time. As mentioned earlier, a moral event that persists over time and recurs frequently is likely to cause residual distress. This is when serious physical, psychological and chronic consequences can occur (Dorris, 2013).

Strengths

Our research is current and relevant to the state of knowledge surrounding nurses' experience during the COVID-19 pandemic. Few studies have been carried out on the phenomenon of moral distress in the Quebec sociocultural context during the COVID-19 pandemic, and even fewer have been related to the sociocultural context of ICU. The richness of the results is based on the methodology used, i.e., targeted ethnography. In addition to this methodology, the qualitative design and multiple collection methods enabled us to gather rich data on nurses' experiences and sociocultural context of ICU during a pandemic. Indeed, the use of data triangulation reinforced the rigour of the study. Finally, the analysis of the constant comparison between the data collected through the multiple collection tools and between the results of the literature review enabled us to depict the nurses' experience with accuracy and precision.

Limitations

Even if generalization of our results was not a goal of our study, the small size and homogeneity of the sample could be a limitation to the transferability of the results. It would therefore be interesting, in future research, to conduct a study in many care settings to compare cultures of care. A social desirability bias could be present in this study. Because the student researcher was working on the unit during data collection, key informants might express a desire to please (Loiselle et al., 2007). However, mitigation strategies were put in place, and the ethics committee was aware of the employment situation. The student researcher was not in a position of authority, the enrollment process was made for key informants' participation to be voluntary and confidential. During the interview process, we made sure the informants that wanted to participate were willing to talk freely about their experiences. The student researcher also used journaling to record their personal experience of working during the pandemic and to distance themself from the data collected. During the analysis process, the student researcher worked closely with the data to ensure reliability and credibility of the results. The second author, who had previous experience in qualitative research, supervised the first author during the whole process as well as cross-checked all the results. It was difficult to delineate the components of moral distress pre- and per-pandemic as the authors did not clearly delimitate the key informants' experience pre- and per pandemic in the ICU. Our results suggest that the experience of the RNs changed during the pandemic. However, it is important to note that this study was conducted during the 5th wave in Quebec, and that the pandemic continued months after data collection. We were able to trace a temporality of the pandemic separated by the arrival of the vaccines. However, this is certainly not the only milestone of the pandemic and others could be explored and discussed. It would be interesting to conduct a long-term study to understand moral distress betterduring different periods pre-, per- and post-crisis and interrogate different members of the healthcare team to see if the results are similar in different professions. Also, we have noted that there are two types of factors that influence nurses' experience in the ICU: facilitating and constraining. It would be relevant to conduct a study to explore the modifiable factors that could reduce and/or prevent moral distress.

Conclusion

The COVID-19 pandemic was an extraordinary event. When added to the sociocultural context of the ICU, the pandemic caused further moral distress for nurses who were on the front lines during the health crisis. Although the pandemic was exceptional, it is appropriate to focus the RNs' experiences, as one is never safe from the next crisis. We propose multiple recommendations for the future. The inclusion of nurses to a greater extent in ethical discussions and treatment decisions is essential, as they are the ones who are most often present at the patient's bedside, must carry out the care requested, and are rarely included when the treatment plan is discussed (McAndrew & Hardin, 2020; Morley et al., 2022; Saint-Arnaud, 2019). Moreover, this recommendation is nurtured by good teamwork. Teamwork is important, as its absence can lead to a higher risk of moral distress (Morley et al., 2022). The presence of an impartial professional with ethical experience to discuss and mediate ethical situations amongst the care team can help to clarify moral events and find solutions to moral distress (Hamric & Epstein, 2017; Morley, Sese et al., 2020; Perron et al., 2022; Saint-Arnaud, 2019). Provision of training to develop RNs' ethical competence with the tools they need to exercise their advocacy role during moral events, by acting in an uncomfortable ethical situation, should be provided. These tools would help RNs express their discomfort and their professional opinion with their colleagues and the care team. The pandemic has exacerbated and intensified the flaws already present in our health and social services network. It has also underlined the crucial role nurses play in the system, and the need to appreciate this role. It is an excellent argument for demanding better working conditions for nurses, and it is the duty of healthcare organizations and policy makers alike to ensure that the workplace is physically and psychologically safe.

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Conflict of Interest

The authors declare that there are no conflicts of interest.

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Intensive care nurse perspectives on family-centred rounds in adult critical care units

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Abstract

***Background**: Family-centred rounds (FCR) are a component of family involvement in critical care settings. Nurses' active participation is vital in implementing FCR. However, there is currently a lack of rigorous literature exploring nursing perspectives of FCR in adult critical care areas.*

***Purpose**: This study explored nursing perspectives of FCR in six adult critical care units across four Southwestern Ontario hospitals.*

***Methods**: A 56-question survey was distributed to critical care nurses working at six adult critical care units through an online Qualtrics® link. Nurses did not need to have experience participating in FCR to participate in this study.*

***Results**: Seventy percent of nurses (n = 135) were overall supportive of FCR. Nurses reported that processes, such as unit culture toward FCR, may impact how well nurses are able to incorporate families into FCR. The most significant advantage of FCR noted was the healthcare team could update family on the patient's condition. However, they reported time was a major structural barrier to FCR, and the overall greatest barrier noted was the inconsistent or unknown timing of rounds. Tests of association revealed that nurses' overall supportiveness of FCR was statistically significantly related to their ethnicity (p = .01) and hospital site (p = <.001).*

***Conclusion**: Most nurses are supportive of FCR overall. This research highlights their perceptions of the structures and processes that support them while implementing FCR and factors that may affect their support. It may contribute to developing evidence-based best practices for a higher-quality, standardized, family-centred rounding process.*

Keywords: family-centred nursing, clinical rounds, critical care nursing, intensive care units

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Implications for Nursing Practice

1. Healthcare practitioners working within adult critical care units should work toward formal implementation of family-centred rounds, as most nurses support this practice and felt that family members benefit and quality of care increases from family-centred rounds.
2. Developing a standardized structure for family-centred rounds, such as preemptively deciding what topics to discuss during rounds and providing an opportunity for families to ask questions after rounds, may increase nursing support for family-centred rounds and help providers manage their time better.
3. Supporting nurses through adequate staffing and additional support to reduce workload is imperative to provide sufficient time for nurses to involve families in family-centred rounds.

Background and Purpose

Healthcare practitioners working in critical care provide care for patients who have, or are at risk for sustained disease or injury (Canadian Medical Association, 2019). Many patients in critical care settings cannot speak for themselves for various reasons, leaving families to assume the lead role in voicing the patient's wishes in care planning and decision-making (Wong et al., 2020). Bedside rounds are a daily practice in which the interprofessional team meets to review clinical information about the patient and formulate a clinical impression to make decisions regarding the patient's treatments and plan of care (Au et al., 2017). FCR are similar to bedside rounds. However, they include the presence and participation of the family during rounds (Sisterhen et al., 2007). Family presence and participation allow families to contribute to the care planning process and clinical decision-making regarding their loved one's treatment plan (Au et al., 2017). This important opportunity to participate in rounds reinforces collaboration between the family and the healthcare team and contributes to positive patient outcomes (Heydari et al., 2020).

Considering nurses have an essential role in the execution of FCR, a thorough review of the current literature was performed following consultation from a university librarian. Some studies suggest that nurses are open and welcoming to FCR, while others disagree with this practice (Allen et al., 2017; Santiago et al., 2014; Schiller & Anderson, 2003). Some nurses report that FCR offers better communication with the family (Allen et al., 2017; Roze des Ordons et al., 2020), which can lead to a better understanding of the plan of care for that patient (Allen et al., 2017; Stelson et al., 2016). However, some nurses felt that FCR leads to a longer duration of rounds (Au et al., 2017; Santiago et al., 2014). They also felt there is less discussion and honesty about poor patient prognoses and sensitive information when the family is present (Au et al., 2017; Roze des Ordons et al., 2020; Santiago et al., 2014; Stelson et al., 2016). Less-experienced nurses are more positive toward FCR (Schiller & Anderson, 2003). Nurses support that first-degree biological relatives or the primary contact person for the patient should be invited to rounds, and they were comfortable with up to two family members present (Au et al., 2017). Most nurses believe that the role of the family during FCR is to listen, share patient information and ask questions, and some nurses thought they should participate in decision-making (Au et al., 2017). At the end of rounds, nurses find it helpful to provide a summary to the family using nonmedical terminology (Roze des Ordons et al., 2020).

There is not an abundance of literature that explores nursing perspectives of FCR in adult critical care areas, and Kydonaki et al. (2021) noted that the present research lacks rigour. In their recent integrative review, Kydonaki et al. (2021) discovered that available current research only comes from Canada or the United States and is of moderate to poor quality. Nurses can significantly influence how well FCR practices are implemented (Kleinpell et al., 2019; Thirsk et al., 2021). Although any healthcare provider can invite the family to join FCR, nurses are the providers who most often communicate with the family, so their engagement can either enhance or hinder family participation in FCR (Doucette et al., 2019). Therefore, this study explored nursing perspectives of FCR in six adult critical care units across four Southwestern Ontario hospitals. The specific research questions in this study were as follows:

1. What are nurses' perspectives of the structures (e.g., staff-to-patient ratios, location of rounds) that support best practices for FCR?
2. What are nurses' perspectives of the processes (e.g., unit culture of FCR, degree of family participation) that support best practices for FCR?
3. What do nurses perceive as the greatest advantages to implementing FCR?
4. What do nurses perceive as the greatest barriers to implementing FCR?
5. Is there a relationship between nurse-related factors (e.g., age, gender, years of experience) and nurses' overall supportiveness of FCR?

The Donabedian Framework was used to guide this study and it focused on three concepts – *structure*, *process*, and *outcome* – that work together to assess the quality of care (Donabedian, 1988). This research focused on how the concepts of *structure*, *process* and *outcome* related to FCR in adult critical care settings. Some of the *structure* variables in this study included the staff-to-patient ratios, duration of rounds, patient acuity, and number of family members present. Some of the *process* variables in this study included the patterns of invitations to join rounds, family comprehension of the patient's conditions and treatments, unit culture/attitudes toward FCR, nurse-family relationships, and nursing workload. The *outcome* variable examined in this study was nurses' overall supportiveness for implementing FCR in adult critical care units. This research explored the *structure* and *process* variables in more depth to contribute to the overall knowledge about best practices for FCR.

Methods and Procedures

The cross-sectional design of this research was mainly descriptive, although tests of association were used to determine which nurse-related factors were associated with nurses' overall supportiveness of FCR. The Consensus-Based Checklist for Reporting of Survey Studies was utilized (Sharma et al., 2021). A 56-question survey was used to gather data. The survey was adapted from Au et al. (2017), Hetland et al. (2017) and Hetland et al. (2018) with permission granted from both corresponding authors. Adjustments to these surveys included rephrasing questions to improve flow and expanding the demographics section. Questions were also added, based on the literature review, to address the research questions better (Allen et al., 2017; Cody et al., 2018; Kydonaki et al., 2021; Rasheed et al., 2021; Roze des Ordons et al., 2020; Santiago et al., 2014; Stelson et al., 2016). Face validity for the adjusted survey was assessed by three current critical care nurses who did not participate in data collection. A combination of Likert scale, multiple-choice, select-all-that-apply and open-ended questions were used to gather data within the survey. Open-ended questions in this study were limited to the demographic section of the survey to gather information such as age and gender. See Appendix A for the survey.

This study occurred in four urban Southwestern Ontario hospitals, including five adult intensive care units (ICUs), consisting of Level Two and Level Three ICUs, and one adult cardiac care unit. Critical care units range from four to 20 beds in capacity. To de-identify hospital sites, critical care units were randomly labelled as hospital sites one through six for analysis. To our knowledge, these sites do not formally and consistently use FCR at the time of data collection. Some sites had previously implemented FCR, but this practice dissipated once the COVID-19 pandemic began and had not been fully reimplemented. Therefore, we could not capture a site with formal and consistent use of FCR for this study. The inclusion criteria for this study were critical care registered nurses (RNs) currently working in one of the study sites, entitled to practise with no restrictions with the College of Nurses of Ontario, and able to understand English. This research explored nursing perspectives of FCR; therefore, nurses did not need to have experience participating in FCR to participate in this study. Nurses with post-graduate critical care preparation but not currently working in an adult critical care unit were excluded.

Ethical clearance and oversight were provided by a local university research ethics board and the hospital research ethics boards (REB# 22-177; REB# 23-457; REB# 30JAN2023). Data were collected between February and April 2023 using convenience sampling. The survey was accessed through an online link utilizing the university's Qualtrics® platform. The survey link was distributed to eligible participants through their institutional email addresses by a designated manager for each hospital. There was one initial recruitment email with two subsequent reminder emails, each sent two weeks apart, within a study period of six weeks per hospital site. Flyers were also posted on the eligible units with a QR code that participants could scan to access the survey. Participants were given the option to receive a $15 gift card as compensation for participating in the study. To restrict participants to one entry per person, participants were required to enter their institutional email address to claim their gift card.

A consent form was provided to each participant at the beginning of the survey. The survey was anonymous, but demographic information, including age, gender, ethnicity, and hospital site, was optional to mitigate the risk of triangulation. Data are reported in aggregate format to protect the identity of participants.

IBM Statistical Package for the Social Sciences Version 28 was used to organize and analyze the data and a statistician was consulted. Data analysis took place in two phases. First, all study variables were analyzed using descriptive statistics, including

frequencies and percentages for categorical variables, and means, standard deviation, and minimum/maximum values for continuous variables. The analysis ended with descriptive results for the first four research questions. Next, data from the final research question underwent a series of bivariate analyses to test for association. Bivariate tests (chi-square, Fisher's Exact, independent samples t-test, Mann-Whitney U) were used to determine if nurse-related factors were associated with nurses' overall supportiveness of FCR. There was only one significant bivariate result, which was then entered into a binary logistic regression model, and association and odds ratios were formulated. Parametric testing was used when all test assumptions were met. In cases where test assumptions were not met, non-parametric testing was used.

Data were screened for missing data. The percentage of missing data from each category was less than 5%, and data analysis proceeded for all questions using a completed case analysis (Jakobsen et al., 2017). The missing data were missing completely at random (Mack et al., 2018).

For the final research question, the independent nurse-related factors that were studied included *age*, *number of years as an RN*, *number of years in critical care*, *experience with FCR, gender*, *ethnicity*, *hospital site*, *highest level of education*, if they took a *family nursing course in school*, if they felt their *education prepared them for FCR*, and if they had any *intention to leave* their current critical care position within six months. Some categorical questions had small responses within certain groups, so they were combined or eliminated for data analysis.

The dependent variable that determined nurses' overall supportiveness of FCR was created to be a dichotomous *supportive/unsupportive* variable by combining three survey questions that assessed nurses' perspectives of whether family members should be provided with the option of joining critical care rounds, if they were comfortable having family members present during critical care rounds, and if they believed FCR should be implemented in their institution. The internal consistency of these three questions was measured by determining Cronbach's Alpha ($\alpha = 0.78$).

A posthoc power analysis, using the Power and Precision software program, indicated that a sample size of 88 study participants was needed. Therefore, the study sample of 135 participants provided sufficient statistical power for the analyses.

Results

There were 303 RNs who were eligible to participate, and 135 participants fully completed the survey, resulting in a 45% response rate. Some hospital sites had low response rates, so they were combined based on similarities in their ICU level designation, the population size of the area it served, and geographical location. For data analysis, *hospital sites 1, 2 and 3* were combined, and *hospital sites 4 and 6* were combined.

Table 1 presents the descriptive analysis of categorical study variables, consisting of demographic data used as independent variables in the bivariate analysis. Most of the sample identified as female ($n = 115$, 85.2%), white ($n = 121$, 89.6%) and

Table 1

Demographic and Other Characteristics of the Sample (n = 135)

Variable	*n*	%
Gender		
Male	18	13.3
Female	115	85.2
Other	1	0.7
Missing	1	0.7
Ethnicity		
White	121	89.6
Filipino	3	2.2
Latin American	1	0.7
Southeast Asian	3	2.2
South Asian	5	3.7
Other	2	1.5
Hospital Site		
1	34	25.2
2	36	26.7
3	6	4.4
4	4	3
5	41	30.4
6	13	9.6
Missing	*1*	*0.7*
Highest Level of Education	30	22.2
Diploma in Nursing	93	68.9
Baccalaureate Degree	5	3.7
Masters (MN/MScN)	1	0.7
Nurse Practitioner	6	4.4
Other*		
Did your schooling provide you with a course that focused on family nursing?		
Yes, in undergraduate studies	64	47.4
Yes, in graduate studies	5	3.7
No	66	48.9
To what extent do you believe your education prepared you to participate in family-centred rounds?		
Very prepared	13	9.6
Somewhat prepared	69	51.1
Somewhat unprepared	37	27.4
Very unprepared	16	11.9
Have you taken a course or training unrelated to your education listed above that has helped to prepare you for family member presence during critical care rounds?		
Yes	6	4.4
No	129	95.6
Do you intend to leave your current critical care nursing position in the next six months?		
Yes	15	11.1
No	120	88.9

*Other highest levels of education mostly consisted of Master's degrees outside of nursing

had a baccalaureate degree as their highest level of education (n = 93, 68.9%). The overall age, gender and ethnicity of the sample were relatively similar to the Canadian nursing population (Canadian Nurses Association, 2021; College of Nurses of Ontario, 2022; Premji & Etowa, 2014).

Figure 1 demonstrates nursing perspectives of *structures* that support best practices for FCR.

Of 135 participants, 80% (n = 108) felt that asking questions at the end of rounds was most appropriate. The majority (n = 122, 90.4%) of participants felt that the patient's age does not affect their decision to invite the family to critical care rounds. More than half of nurses (64.4%; n = 87) felt the patient's acuity does not affect their decision to invite family members to critical care rounds. Of those who did think the patient's acuity affected their decision, 33.3% (n = 45) thought that family should have increased presence for higher acuity patients.

Figure 2 demonstrates nursing perspectives of some *processes* that support best practices for FCR.

Figure 1

Likert Scale Structure Questions

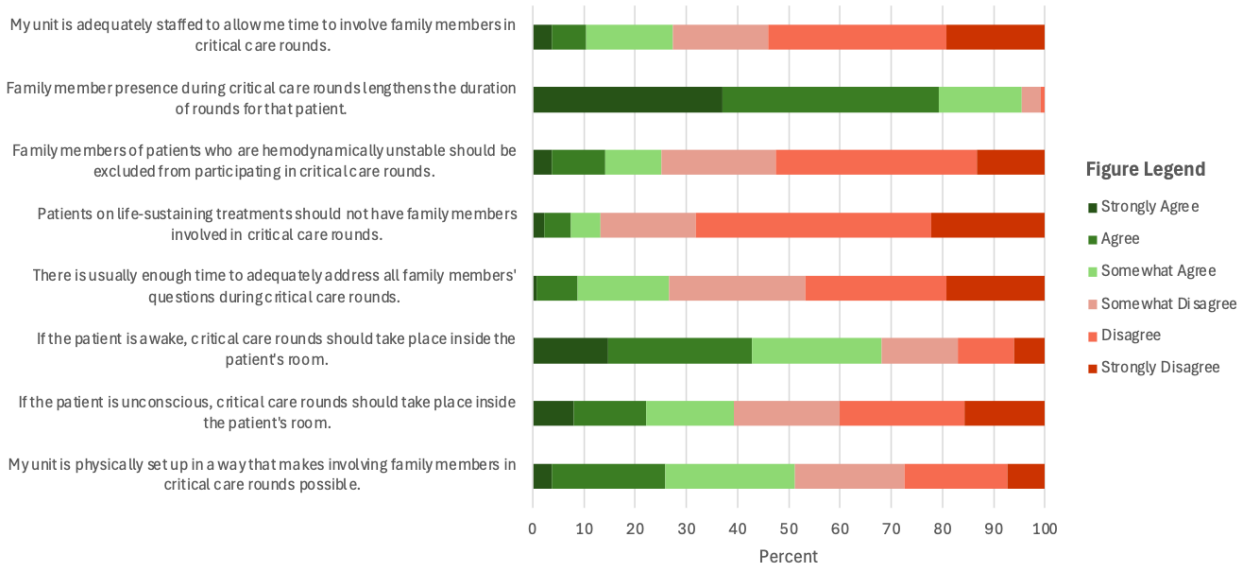
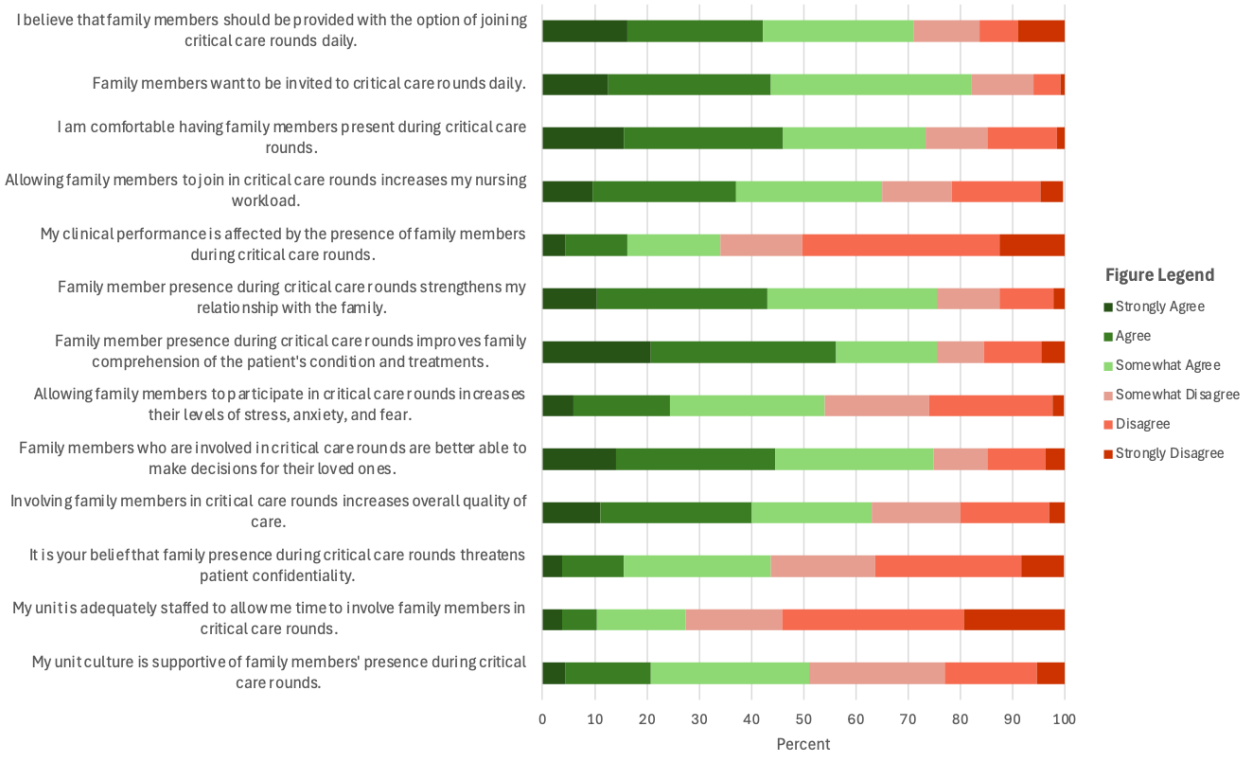


Figure 2

Likert Scale Process Questions



Regarding the role of the family during critical care rounds, participants endorsed listening (n = 126), sharing information about the patient (n = 97), participating in decision-making (n = 86), asking questions (n = 93), and advocating for the patient (n = 93). Participants reported they incorporate family into critical care rounds by providing a "lay person" summary during or after rounds (n = 82) and introducing the family to the healthcare team (n = 77). Most nurses felt that FCR decrease the frequency (72.6%; n = 98) and duration (66.7%; n = 90) of formal family meetings. See Figure 3 for what participants identified as the most appropriate setting for discussing specific topics with families.

The top three items found to be valuable about FCR were: the critical care team can update the family on the patient's condition (n = 100), the family can share valuable information about the patient (n = 84), and there is the opportunity to build a rapport with the family (n = 70). The top three items found to be barriers to FCR were: inconsistent and/or unknown timing of rounds (n = 95), family's baseline health literacy (n = 91), and extensive use of medical jargon within the healthcare team (n = 70).

Overall, 71.1% (n = 96) of participants felt that families should be provided with the option of joining rounds daily, 73.3% (n = 99) of participants felt comfortable having family members present during critical care rounds, and 59.3% (n = 80) reported that FCR should be implemented in their institution. Participants who were considered to be overall *supportive* of FCR (e.g., they agreed with at least two of the above questions) included 70.4% (n = 95) of the total.

Table 2 outlines the analyses completed to determine if there was a relationship between nurse-related factors and nurses' overall supportiveness of FCR.

A significant association was noted between ethnicity and supportiveness (p = .01, Phi = .221). Participants in the other ethnicity category are more supportive of FCR than those in the white category. One cell had a count of zero (other, unsupportive), so further statistical testing could not be conducted on this variable. Additionally, supportiveness was significantly related to the hospital sites ($\chi^2(2) = 16.02$, p = <.001). A binary logistic regression model was then used to analyze the hospital sites and supportiveness further, as shown in Table 3. The binary regression model used hospital site 5 as the reference group. The overall model was significant ($\chi2(2) = 15.406$, p = <.001). Data were categorized correctly 72.4% of the time. The model demonstrates that participants from hospital sites 1, 2, and 3 are 4.7 (95% CI = 2.045–10.844, B = 1.549, SE = .426, Wald $\chi^2 = 13.253$, p <.001) times more likely to be supportive of FCR compared to those from hospital site 5, and participants from hospital sites 4 and 6 are 5.4 (95% CI = 1.346–21.691, B = 1.687, SE = .709, Wald $\chi^2 = 5.660$, p = .017) times more likely to be supportive of FCR compared to those from hospital site 5.

There was no association between age and supportiveness (p = .412), or between number of years as an RN and supportiveness (p = .301). Participants' number of years in critical care was not significantly different between those who were supportive (mean rank = 64.82) or unsupportive (mean rank = 73.80), U = 145, z = -1.229, p = .219.

Discussion

Structures of FCR

The results demonstrate that most nurses in this study are supportive of FCR overall. However, nurses identified that time was a major structural barrier. Most nurses in this study noted that their unit was not sufficiently staffed to allow them the time to involve the family in rounds (72.6%), family involvement in rounds lengthened rounding time (95.6%), and that time limited their ability to address all family members' questions during rounds (73.3%). Adequate staffing in critical care units is not a newly identified concern in nursing (Thirsk et al., 2021). However, supporting patient care through adequate nursing staffing can assist them in involving families in critical care rounds, as it reduces nurses' workload, and the literature demonstrates that this is true for other family-centred care (FCC) initiatives (Hetland et al., 2017; Thirsk et al., 2021). Nurses participating in studies by Santiago et al. (2014) and Au et al. (2017) also expressed that FCR lengthens rounding. Although longer rounding times may be beneficial for the patient and family, Hetland et al. (2017) found that inadequate time affected nurses' willingness to involve families in FCC initiatives. Additional support for nurses is needed to allow them the time to involve families in FCR. Developing a standardized structure for FCR may help manage rounding time for nurses, other interdisciplinary staff, and families, so that all parties have an expected timeline in mind. Most nurses in this study (80%) believe that

Figure 3

Nurses' Perspectives of Topics to Discuss in Critical Care Rounds vs Family Meetings

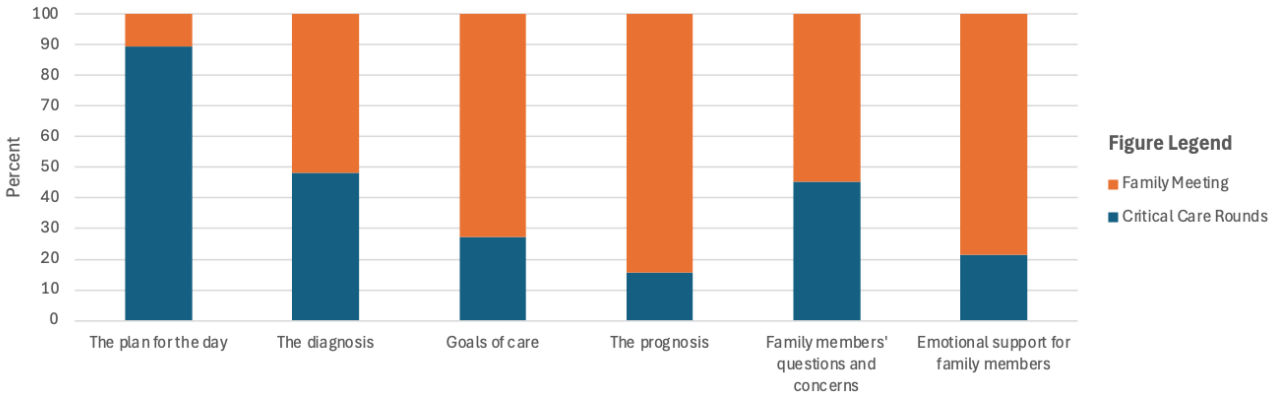


Table 2

Nurse-Related Factors, by Supportive Status (n = 135)

Variable	Unsupportive *n* (%)	Supportive *n* (%)	χ2 (df)	Phi	p
Experience with FCR			**2.493 (1)**		**.114**
Yes	24 (25.5)	70 (74.5)			
No	16 (39)	25 (61)			
Gender (*n = 134, 1 missing*)			**.024 (1)**		**.887**
Male	5 (27.8)	13 (72.2)			
Female	34 (29.6)	81 (70.4)			
Ethnicity				**.221**	**.010**
White	40 (33.1	81 (66.9)			
Other	0 (0)	14 (100)			
Hospital Site (*n = 134, 1 missing*)			**16.02 (2)**		**<.001**
Site 1, 2 and 3	15 (19.7)	61 (81.3)			
Site 4 and 6	3 (17.6)	14 (82.4)			
Site 5	22 (53.7)	19 (46.3)			
Highest Level of Education			**.961 (1)**		**.619**
Diploma	11 (36.7)	19 (63.3)			
BScN	26 (28)	67 (72)			
Other	3 (25)	9 (75)			
Family Nursing Course in School			**2.808 (1)**		**.094**
Yes	16 (23.2)	53 (76.8)			
No	24 (36.4)	42 (63.6)			
Education Prepared Them for FCR			**.013 (1)**		**.909**
Unprepared	16 (30.2)	37 (69.8)			
Prepared	24 (29.3)	58 (70.7)			
Intention to Leave				**.080**	**.376**
Yes	6 (40)	9 (60)			
No	33 (28.3)	86 (71.7)			

Note. A significance level of .05 was used.

Table 3

Supportiveness, by Hospital Site (n = 134)

Variable	n (%)	B (SE)	Wald χ^2	OR	95% CI	p
Hospital Site 5	41 (30.4)					
(Reference Group)						
Hospital Site 1, 2 and 3	76 (56.3)	1.549 (.426)	13.253	4.701	2.045–10.844	<.001
Hospital Site 4 and 6	17 (12.6)	1.687 (.709)	5.660	5.404	1.346–21.691	.017

Note. *n* = 134 as one participant left the *Hospital Site* blank. A significance level of .05 was used in the bivariate analysis.
SE = standard error; OR = odds ratio; CI = confidence interval.

taking questions from family members at the end of FCR is best, and this practice was well received by healthcare practitioners and families in Au et al. (2017), as well. Having dedicated time to ask questions at the end of rounds is a structural factor that could be considered when implementing FCR.

Processes of FCR

Most nurses in this study believe involving families in FCR can help them understand patients' conditions and treatments (76%) and allow them to make better care decisions for their loved ones (75%). Conversely, Au et al. (2017) found that some nurses had reservations about FCR because they felt that it confused families more than it improved their understanding. However, Heydari et al. (2020) found that families who help make decisions in their loved one's care felt more empowered, increasing their perceived quality of care. In the current study, most nurses (63%) felt that the overall quality of care increases when families are present during FCR, which suggests support for this process.

Nurses in this study felt that listening was the primary role for families during FCR. However, they ascribed other roles to families, such as sharing information about the patient, participating in decision-making, asking questions, and advocating for the patient during FCR, and this was supported in the published literature, as well (Roze des Ordons et al., 2020; Stelson et al., 2016). Another study reported that families also may consider themselves as passive listeners, reinforcing this perceived role (Au et al., 2017). Although listening is important, Au et al. (2017) suggested that role clarification is needed and should be implemented when introducing families to FCR, as nurses ascribed more roles to families than families perceived for themselves.

Nurses in this study were almost evenly divided on whether they felt that FCR increased stress, anxiety, and fear in families, and the literature also shows this divide (Au et al., 2017). The increase in knowledge gained from attending FCR may help families to understand the patient's condition better; however, nurses worry that this increased information might inflict fear or stress on families. In a literature review by Al-Mutair et al. (2013), families of patients in critical care reported that receiving information is one of their most important needs, and they felt this need is often unmet. Families felt that when nurses participated in FCC initiatives, it actually reduced their stress and anxiety (Doucette et al., 2019). Most nurses felt that there is decreased discussion of unfavourable information during FCR, and this seems to be unanimous across much of the present literature (Au et al., 2017; Roze des Ordons et al., 2020; Santiago et al., 2014; Stelson et al., 2016). Future research should investigate if the decreased discussion of unfavourable information is related to the feelings of stress, worry or anxiety that nurses felt they were exerting on families. It may also be beneficial for practitioners to preemptively decide what topics to discuss during FCR, as critical care units could gain increased support to implement FCR from nurses with this practice.

The nurses in this study had divided opinions on whether they felt their unit culture supported implementing FCR. This division could be detrimental to implementing FCR, as the support of the unit, including managers, directors, interdisciplinary staff, and other nurses, is crucial to successful implementation. A positive unit culture has been found to support nurses in implementing various FCC initiatives (Kleinpell et al., 2019; Thirsk et al., 2021). Factors that can influence a unit's culture include the nursing culture specifically, resistance to change, lack of support from upper management, and a lack of organizational resources, such as short staffing or high nurse-to-patient ratios (Heydari et al., 2020; Kleinpell et al., 2019).

Advantages and Barriers to FCR

To the authors' knowledge, literature that investigates nurses' perception of the greatest advantages and barriers to FCR is limited to one study (Roze des Ordons et al., 2020). The top advantage that nurses in this study identified was that the critical care team can update the family on the patient's condition. Regardless of FCR implementation status, families usually want frequent updates on the patient, especially if their status is changing (Wong et al., 2020). Having this daily access to information is found to be beneficial for both nurses and families (Roze des Ordons et al., 2020). The most prevalent barrier nurses in this study identified was the inconsistency or unknown timing of rounds. Healthcare providers have identified that family members can be frustrated with this unpredictability (Roze des Ordons et al., 2020), and families themselves have expressed frustration with this, as well (Cody et al., 2018; Roze des Ordons et al., 2020; Stelson et al., 2016). This barrier may be difficult to overcome depending on the other responsibilities of the physician aside from rounding. Increasing the amount of physician coverage, dispersion of responsibilities, and having a dedicated window for rounding may be helpful to develop more consistent rounding times.

Nurses' Supportiveness of FCR and Nurse-Related Factors

Nurse-related factors were compared to nurses' overall support toward FCR. Ethnicity was significantly related to supportiveness toward FCR, with a more positive perspective coming from ethnicities other than white. The participants in this study mainly identify as white (89.6%). However, Canadian RNs are disproportionately white (Jefferies et al., 2019), and only about 15% of all Canadians in the nursing profession belong to a visible minority (Premji & Etowa, 2014). Visible minority RNs in Canada are under-represented in advanced practice or specialty nursing areas (Premji & Etowa, 2014). However, there is little to no difference in the knowledge or skills used between whiteΔ and visible minority RNs (Cruz & Sawchuk, 2021). To our knowledge, no articles compared the ethnicity of RNs to their overall perspective of FCR in adult critical care units. However, Quindemil et al. (2013) note that many non-Western cultures attest to collectivism rather than the individualistic approach undertaken by most Western cultures. Many non-Western cultures do not view the patient as an autonomous entity, but rather as part of a family network (Quindemil et al., 2013). This may provide some explanation as to why non-white ethnicities in this study are more supportive of FCR. However, more insight could be obtained through a qualitative lens. Future research could also investigate which non-white ethnicities are the most supportive, as non-white ethnicities were combined for statistical analysis due to their limited representation.

There was a significant relationship between which hospital site nurses worked at and their overall supportiveness of FCR. The nurses employed at *hospital sites 1, 2, 3, 4 and 6* were more supportive of FCR than those at *hospital site 5*. Interestingly, *hospital site 5* had a very high response rate (82%) compared to the other hospital sites. This finding could indicate that different hospital sites may support FCC initiatives better, including FCR, in their daily practice. Hospital support could include utilizing on-site educators or offering continuing education to their staff. At an organizational level, they could have differing levels of access to resources that promote FCR, such as higher staffing levels, decreased nursing workloads, decreased patient acuity, and a more supportive unit culture. They may also have more support staff, which could decrease nursing workload. This study did not gather site-specific data regarding the organizational and unit structures. It is, therefore, unclear what is causing this discrepancy between institutions, although this could indicate that inconsistencies in nursing support of FCR across the published literature may be institutionally dependent (Allen et al., 2017; Au et al., 2017; Stelson et al., 2016).

Many factors in this study did not reveal significant associations. However, the results are still worth acknowledging and interpreting beyond statistical significance. The study sampled nurses who had and did not have experience participating in FCR and compared their support toward FCR. There was no significant difference in the overall supportiveness between these two groups. To our knowledge, previous research has examined only the perspectives of nurses with FCR experience. This result demonstrates that after experiencing FCR, perspectives do not significantly change. Also, the age of participants, years of experience as an RN, and years in critical care all had no significant effect on nurses' supportiveness toward FCR. Conversely, previous literature found nurses with less experience to be more positive toward FCR (Santiago et al., 2014; Schiller & Anderson, 2003) and support a more inclusive role for the family during FCR (Au et al., 2017). This finding may suggest that views of FCR are shifting to become more inclusive, regardless of age or experience. Lastly, this study produced nonsignificant results when investigating if education contributes to nurses' overall supportiveness of FCR. Hetland et al. (2017) found that those with advanced nursing degrees were more likely to incorporate family into their standard care. Although not significant, there was a trend of increasing supportiveness of FCR with increasing levels of education from those nurses with a Diploma (63.3% supportive), a baccalaureate degree (72% supportive) and other degrees, including master's and nurse practitioner designation (75% supportive).

Limitations

A limitation of this study is that it focused on nursing perspectives of FCR, so there were some participants who had never experienced FCR who participated in this study. This lack of experience may have impacted their perspectives of FCR. Also, the sample only represents Southwestern Ontario. Therefore, results may not be generalizable to the rest of Canada or other countries. Additionally, the sample in this study predominantly identified as female and white, and even though it may be representative of the population, it is difficult to generalize findings to the minority groups.

The survey tool has limitations, as it underwent limited reliability and validity testing. This was due to the survey design being mainly descriptive. A Cronbach's alpha was determined when creating the *supportiveness* variable, and face validity was obtained by three different critical care RNs regarding the overall survey.

Conclusion

This study highlighted nursing perspectives of FCR in six adult critical care units across four Southwestern Ontario hospitals. Most critical care nurses in this study were overall supportive of FCR. Nurses reported that a lack of time was identified as a large structural barrier. Supporting nurses through structural resources, such as adequate staffing and a standardized structure of rounds, may be beneficial. Nurses felt that families who participated in FCR could make better care decisions, and the overall quality of care increased. Processes, such as the perception of increased family stress and anxiety, may impact nurses' willingness to incorporate families into FCR. Developing a standardized structure for family-centred rounds, such as preemptively deciding what topics to discuss during rounds and providing an opportunity for families to ask questions after rounds, may help increase nursing support for FCR and help providers manage their time better. Nurses noted that the greatest advantage of FCR was that the healthcare team could update the family on the patient's condition, and the greatest barrier was the inconsistent or unknown timing of rounds. Finally, it highlighted that participants' ethnicity and the hospital site where they are employed are statistically significantly associated with their overall supportiveness of FCR. Future research should investigate factors that may contribute to these significant results. This research helped to fill the knowledge gap regarding nursing perspectives of FCR in adult critical care units. It will help future researchers develop evidence-based best practices for a higher quality, standardized, family-centred process for patient care rounds.

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Appendix A

Healthcare Provider Survey

Consent Form presented here

This survey was adapted from the Healthcare Provider Survey used in Au et al. (2017) and from the QFIFE survey used in Hetland et al. (2018) and Hetland et al. (2017).

1. Are you a critical care trained registered nurse currently working in an adult critical care unit at one of these four hospitals [redacted]?
   - ☐ Yes
   - ☐ No

For the purpose of this research, family-centred rounds are defined as critical care patient rounds where family members are present and actively participating.

2. Have you had the opportunity to participate in critical care patient rounds where family members were present and actively participating (family-centred rounds)?
   - ☐ Yes
   - ☐ No

If yes, please continue to tell us about your experience with family-centred rounds. If no, please continue and tell us your thoughts and expectations of family-centred rounds.

3. I believe that family members should be provided with the option of joining critical care rounds daily.
   - ☐ Strongly disagree
   - ☐ Disagree
   - ☐ Somewhat disagree
   - ☐ Somewhat agree
   - ☐ Agree
   - ☐ Strongly agree

4. Family members want to be invited to critical care rounds daily.
   - ☐ Strongly disagree
   - ☐ Disagree
   - ☐ Somewhat disagree
   - ☐ Somewhat agree
   - ☐ Agree
   - ☐ Strongly agree

5. I am comfortable having family members present during critical care rounds.
   - ☐ Strongly disagree
   - ☐ Disagree
   - ☐ Somewhat disagree
   - ☐ Somewhat agree
   - ☐ Agree
   - ☐ Strongly agree

6. Allowing family members to join in critical care rounds increases my nursing workload.
   - ☐ Strongly disagree
   - ☐ Disagree
   - ☐ Somewhat disagree
   - ☐ Somewhat agree
   - ☐ Agree
   - ☐ Strongly agree

7. My clinical performance is affected by the presence of family members during critical care rounds.
   - ☐ Strongly disagree
   - ☐ Disagree
   - ☐ Somewhat disagree
   - ☐ Somewhat agree
   - ☐ Agree
   - ☐ Strongly agree

8. Family member presence during critical care rounds strengthens my relationship with the family.
   - ☐ Strongly disagree
   - ☐ Disagree
   - ☐ Somewhat disagree
   - ☐ Somewhat agree
   - ☐ Agree
   - ☐ Strongly agree

9. Family member presence during critical care rounds improves family comprehension of the patient's condition and treatments.
   - ☐ Strongly disagree
   - ☐ Disagree
   - ☐ Somewhat disagree
   - ☐ Somewhat agree
   - ☐ Agree
   - ☐ Strongly agree

10. Allowing family members to participate in critical care rounds increases their levels of stress, anxiety, and fear.
   - ☐ Strongly disagree
   - ☐ Disagree
   - ☐ Somewhat disagree
   - ☐ Somewhat agree
   - ☐ Agree
   - ☐ Strongly agree

11. Family members who are involved in critical care rounds are better able to make care decisions for their loved ones.
   - ☐ Strongly disagree
   - ☐ Disagree
   - ☐ Somewhat disagree
   - ☐ Somewhat agree
   - ☐ Agree
   - ☐ Strongly agree

12. Involving family members in critical care rounds increases overall quality of care.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

13. Family presence during critical care rounds threatens patient confidentiality.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

14. My unit is adequately staffed to allow me time to involve family members in critical care rounds.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

15. My unit culture is supportive of family members' presence during critical care rounds.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

16. Which "family" members should attend critical care rounds?
- ☐ Close biologic relatives only (including spouse, parents, children, and siblings)
- ☐ Close and extended biologic relatives (including cousins, grandchildren, aunts and uncles)
- ☐ All biologic relatives and close friends
- ☐ Only those specified by the primary family contact or patient

17. What is the maximum number of family members that you are comfortable with joining critical care rounds?
- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ As many as can fit into the physical rounding space comfortably

18. What is the role of family members who join critical care rounds? (Select all that apply)
- ☐ Listening
- ☐ Sharing information about the patient
- ☐ Participating in decision-making
- ☐ Asking questions
- ☐ Advocating for the patient
- ☐ Other (please specify): _____

19. At what time is it appropriate for family to ask questions during critical care rounds?
- ☐ At the beginning of rounds
- ☐ At any time during rounds
- ☐ At the end of rounds
- ☐ At another time outside of rounds

20. How do you determine which family members should be invited to critical care rounds? (Optional)

21. Does the age of the patient affect your decision to invite the family to critical care patient rounds?
- ☐ Yes, I think that family should be more present for **younger** patients
- ☐ Yes, I think that family should be more present for **older** patients
- ☐ No, the age of the patient does not affect my decision to invite family to critical care patient rounds

22. Does the acuity of the patient affect your decision to invite the family to critical care patient rounds?
- ☐ Yes, I think that family should be more present for **higher** acuity patients
- ☐ Yes, I think that family should be more present for **lower** acuity patients
- ☐ No, the acuity of the patient does not affect my decision to invite family to critical care patient rounds

23. Family member presence during critical care rounds lengthens the duration of rounds for that patient.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

24. Family members of patients who are hemodynamically unstable should be excluded from participating in critical care rounds.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

25. Patients on life-sustaining treatments should not have family members involved in critical care rounds.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

26. Family member presence during critical care rounds decreases the likelihood of discussing unfavourable information.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

27. There is usually enough time to adequately address all family members' questions during critical care rounds.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

28. Family member presence during critical care rounds decreases the **frequency** of formal family meetings.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

29. Family member presence during critical care rounds decreases the **duration** of formal family meetings.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

30. If the patient is awake, critical care rounds should take place inside the patients' room.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

31. If the patient is unconscious, critical care rounds should take place inside the patients' room.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

32. My unit is physically set up in a way that makes involving family members in critical care rounds possible.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

33. Family member presence during critical care rounds decreases the amount of teaching to medical students and novice nurses provided by physicians during rounds.
- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

34. When comparing talking to families during critical care rounds to a family meeting, which setting is better for discussing the following (check one box per item):

Topic	Critical Care Rounds	Family Meeting
The plan for the day	☐	☐
The diagnosis	☐	☐
Goals of care	☐	☐
The prognosis	☐	☐
Family members' questions and concerns	☐	☐
Emotional support for family members	☐	☐

35. What do you perceive as the value of having family join critical care rounds? (Select top three)

- ☐ Opportunity to build rapport with the family
- ☐ The family can see how the critical care team works together
- ☐ The family can share valuable information about the patient
- ☐ The family can provide their impression of the patient's condition
- ☐ The critical care team can update the family on the patient's condition
- ☐ The family can participate in formulating the plan
- ☐ The critical care team does not need to talk with the family later
- ☐ Family meetings become unnecessary
- ☐ Other (please specify): _____

36. What factors help you to involve family members in critical care rounds? (Optional)

37. What do you perceive as the greatest barriers for families to join critical care rounds? (Select top three)

- ☐ A language barrier between the family and the healthcare team
- ☐ Family's living proximity to the hospital
- ☐ Family's access to transportation to the hospital
- ☐ Family's baseline health literacy
- ☐ Inconsistent and/or unknown timing of rounds
- ☐ Physician accents or low tone of voice
- ☐ Extensive use of medical jargon within the healthcare team
- ☐ Physician-dependent inconsistency in family involvement and rounding structures
- ☐ Other (please specify): _____

38. What barriers do you face as a nurse when trying to involve family members in critical care rounds? (Optional)

39. What concerns you most about involving family members in critical care rounds? (Optional)

40. What do you do to incorporate family into critical care rounds? (Select all that apply)

- ☐ Call family to let them know what time we will be rounding on the patient
- ☐ Introduce the family to the healthcare team
- ☐ Elicit questions from the family
- ☐ Avoid using medical jargon when speaking to other healthcare providers
- ☐ Provide a "lay person" summary during or after rounds
- ☐ I do not do anything differently
- ☐ Other (please specify): _____

41. In what ways has the COVID-19 pandemic affected family members' presence during critical care rounds? (Select all that apply)

- ☐ Limited number of visitors
- ☐ Restricted visiting hours
- ☐ Enforced vaccination status of visitors
- ☐ Decreased invitations to attend rounds
- ☐ Virtual family presence during rounds
- ☐ It has not affected family presence on rounds
- ☐ Other (please specify): _____

42. How has the COVID-19 pandemic affected your perceptions of family-centred rounds? (Optional)

43. Do you believe that family-centred rounds should be implemented (or reimplemented) in your institution?

- ☐ Yes
- ☐ No

44. What is your age? (optional) ___

45. What gender do you most identify with? (optional) _____

46. What is your ethnicity: (optional)

- ☐ White
- ☐ South Asian (e.g., East Indian, Pakistani, Sri Lankan)
- ☐ Chinese
- ☐ Black
- ☐ Filipino
- ☐ Latin American
- ☐ Arab
- ☐ Southeast Asian (e.g., Vietnamese, Cambodian, Laotian, Thai)
- ☐ West Asian (e.g., Iranian, Afghan)
- ☐ Korean
- ☐ Japanese
- ☐ Indigenous (e.g., Metis, Inuq (Inuit), First Nations)
- ☐ Other (please specify):_____

47. Number of years in practice as a registered nurse: _____

48. Number of years in practice in critical care: _____

49. Which hospital site are you from? (optional)

- ☐ [redacted]
- ☐ [redacted]
- ☐ [redacted]
- ☐ [redacted]
- ☐ [redacted]
- ☐ [redacted]

50. What nurse-to-patient ratio is most often assigned to nurses on your unit?

- ☐ 1 nurse to 1 patient
- ☐ 1 nurse to 2 patients
- ☐ 1 nurse to 3 patients
- ☐ 1 nurse to 4 patients

51. What is your highest level of education?

- ☐ Diploma of Health Science in Nursing
- ☐ Bachelor of Science in Nursing Degree (BScN)
- ☐ Master of Nursing (MN)/Master of Science in Nursing Degree (MScN)
- ☐ Primary Health Care Nurse Practitioner Graduate (NP)
- ☐ Doctor of Philosophy Degree in Nursing (Ph.D.)
- ☐ Other (please specify): _____

52. Did your schooling provide you with a course that focused on family nursing? (Select all that apply)

- ☐ Yes, my undergraduate studies had a family nursing course
- ☐ Yes, my graduate or post-graduate studies had a family nursing course
- ☐ No

53. To what extent do you believe your education prepared you to participate in family-centred rounds?

- ☐ Very prepared
- ☐ Somewhat prepared
- ☐ Somewhat unprepared
- ☐ Very unprepared

54. Have you taken a course or training unrelated to your education listed above that has helped to prepare you for family member presence during critical care rounds?

- ☐ Yes – if so, please list the name of the course: _____
- ☐ No

55. Do you intend to leave your current critical care nursing position in the next six months?

- ☐ Yes
- ☐ No

56. Do you want to submit your answers to this survey?

- ☐ Yes
- ☐ No

57. Do you want to be contacted again for follow-up research in the future?

- ☐ Yes
- ☐ No

58. Would you like to receive a $15 Tim Hortons or Starbucks gift card as compensation for your time?

- ☐ Yes
- ☐ No

THANK YOU for participating in the survey, we highly value your opinions.

Family member experiences with adult ICU multidisciplinary rounds: Transition from observers to participants

By Tannis Sidloski, MN, RN, CNCC(C), Marie Edwards, PhD, RN, Donna Martin, PhD, RN, and Kendiss Olafson, MD, FRCPC, MPH

Abstract

***Background & Purpose**: Family members' participation in multidisciplinary rounds (MDR) is an accepted practice in neonatal and pediatric intensive care units (ICUs) with evidence this practice is occurring in adult ICUs. The purpose of this study was to explore family members' experiences with participating in MDR in one Canadian adult ICU.*

***Methods**: Using qualitative interpretive description, family members of critically ill patients were interviewed about their MDR experiences. Interviews were digitally recorded and transcribed verbatim. Impressions from interviews were logged in field notes. Transcripts were coded, with data explored for patterns, similarities and differences, and relationships across interviews.*

***Results**: Seven family members agreed to participate. Three themes were identified: (i) finding your footing – learning how to participate in MDR; (ii) part of the team – feeling included and part of the team in MDR; and (iii) in the know – the benefits of sharing information in MDR. Participants spoke about their eagerness to participate, a need for support to understand how to participate, benefits of participation, and what they learned from and contributed to MDR.*

***Conclusion**: Families valued the opportunity to participate in MDR. Participation may be enhanced with team education, formal orientation for families to ICU and MDR, and the use of checklists and daily goals sheets in MDR.*

Keywords: multidisciplinary rounds, family, participation

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Implications for Nursing

- Family members valued the opportunity to participate in multidisciplinary rounds in the ICU, but require support to understand how best to participate.
- Family members gained knowledge from participating in MDR and felt they contributed knowledge of the patient to the discussion.
- Family member participation would be enhanced through team education, formal orientation to MDR, and the use of checklists and daily goal sheets in MDR.

The intensive care unit (ICU) environment and experience can be overwhelming and incomprehensible for family members of critically ill patients. As the benefits of patient-centred and family-centred care are better understood, new and creative ways to include family members in care and care decisions are explored. In 2007, the American College of Critical Care Medicine Task Force (Davidson et al., 2007) clinical practice guidelines for family-centred care in ICUs recommended family participation in multidisciplinary rounds (MDR). Pediatric and neonatal ICU settings were early adopters of this practice, with evidence that parents desire to participate in MDR, express satisfaction with rounds participation, view rounds as a good source of information, feel respected at rounds, and value the opportunity to discuss care plans during rounds (Burns et al., 2017; Glick et al., 2020; Kuo et al., 2012; McPherson et al., 2011; Rappaport et al., 2012; Rea et al., 2018; Woldring et al., 2023). As studies are emerging from adult ICUs, family participation in rounds has been shown to increase family satisfaction, decrease anxiety for families, and improve communication between families and the healthcare team (Calderone et al., 2022; Kydonaki et al., 2021).

Despite evidence of the benefits of inclusion of families in MDR, an international survey of member countries of the World Federation of Societies of Intensive and Critical Care Medicine (n = 345 respondents from 40 countries) found that only 16% of respondents reported fully adopting family-centred rounds, with 28% indicating these rounds were "somewhat in place" and 56% indicating family-centred rounds were not in place (Kleinpell et al., 2018, p. 254). In an observational study across adult ICUs in seven hospitals in Canada, only 23% of families participated in rounds (Au et al., 2018). More research is needed to describe the experience of families participating in MDR in adult ICUs to understand better how to implement family-centred MDR effectively, including barriers and facilitators to family participation (Calderone et al., 2022).

In our experiences as clinicians and researchers with careers spanning decades, we have long recognized the value of family inclusion in patient care. We have witnessed the positive impact of family involvement on the health and well-being of the critically ill patient and on our ability to provide care consistent with patient values and beliefs. All patient-centred and family-centred interventions, however, must be grounded in the feedback and experience of patients and their families. The purpose of this study was to explore the experiences and

perspectives of family members of critically ill patients on participating in MDR in an adult ICU.

Research Approach and Methods

The qualitative research approach of interpretive description was used in this study. Developed by Thorne (2016), this approach focuses on studying human experiences in a way that links findings to clinical practice. Additional information about interpretive description is provided in the data analysis section.

Study Setting

The study unit is a 10-bed mixed medical-surgical ICU located in an urban acute care hospital (i.e., non-tertiary centre) in Western Canada. Family presence during rounds is endorsed by the local critical care program and was routine practice in this unit for a few years prior to the study. This practice became disrupted during visitor restrictions with the COVID-19 pandemic. As recruitment commenced, two essential care providers were permitted to visit if it was confirmed that the patient did not have COVID-19. Family members had the option to participate in MDR in person or virtually.

Recruitment and Interviews

Following review and approval from a University of Manitoba Research Ethics Board (HE2021-0127) and the hospital's research access committee, recruitment posters with the first author's contact information were placed in the study ICU's family waiting room and handed out by members of the staff to family members participating in MDR. Interested family members either contacted, or agreed to be contacted by, the first author. After obtaining informed consent, an interview time was determined. All interviews occurred via telephone and were digitally recorded and transcribed verbatim. Collection of demographic data occurred at the beginning of the interviews. Interview questions created through a review of the literature were used to guide the semi-structured interviews (see Appendix A). Field notes were recorded after each interview to capture the first author's impressions of the interview. Based on field note observations of confusion with one question, the question was altered to make it clearer for participants and to elicit their assessments better of what worked well and what could be improved with MDR.

Data Analysis

A goal of interpretive description, through sorting, organizing, and analyzing the data, is to identify "recurrent patterns, or shared realities, within [human] experiences" (Burdine et al., 2021, p. 336). Relationships between data sections within and across data sources are identified and then researchers consider "the manner in which these relationships play out (or don't) across the … wider data set" (Thorne, 2016, p. 152). Thorne (2016) refers to this as "making sense of pattern" (p. 163).

Demographic data were analyzed by calculation of frequencies, means, and ranges. Data analysis for interview data followed the steps outlined by Thorne (2016). Data were sorted and organized, starting with line-by-line coding by the first and second authors with the recording of notes in the margins of the transcripts as words, phrases, or ideas stood out. The first and second authors met to discuss their independent coding of the first two transcripts, flagging data excerpts that appeared "meaningful" (Thorne, 2016, p. 162) and attending to the similarities and differences in participants' descriptions of their experiences with MDR. This discussion informed the coding for the remaining data. As the whole set of transcripts were reviewed and coded, and field notes reviewed, patterns and relationships in the data were identified, discussed, and explored and themes were agreed upon to represent these patterns.

Findings

Characteristics of the Sample

A convenience sample of seven participants, five women and two men, was recruited for this study over a period of 7 months. The mean participant age was 57.3 years (range 33–85 years). One participant had completed high school and six participants had completed a college or university diploma or degree. Participants were partners (n = 2), adult children (n = 3), and extended family members (n = 2) to the critically ill patient, and most attended MDR in person (n = 6), while one participated only virtually. Four additional family members were interested in study participation but, ultimately, declined, as they felt overwhelmed with the ICU experience and wanted to focus on their ill family member.

Themes

A recurring point of discussion before, during, and after the interviews, as noted in the field notes, was the significant stress or anxiety participants reported surrounding their family members' illness and ICU stay. Participants described the experience of having a family member in the ICU as challenging, using words like "*confusing*", "*isolating*", and "*overwhelming*". As one participant noted:

> *"The intensive care unit was like a black box that the patient would disappear into. You'd get to visit for short periods of time, but, you know, it was very confusing, a very alien environment. And you don't really know what's going on. And that itself is just very anxiety provoking." (Participant 7)*

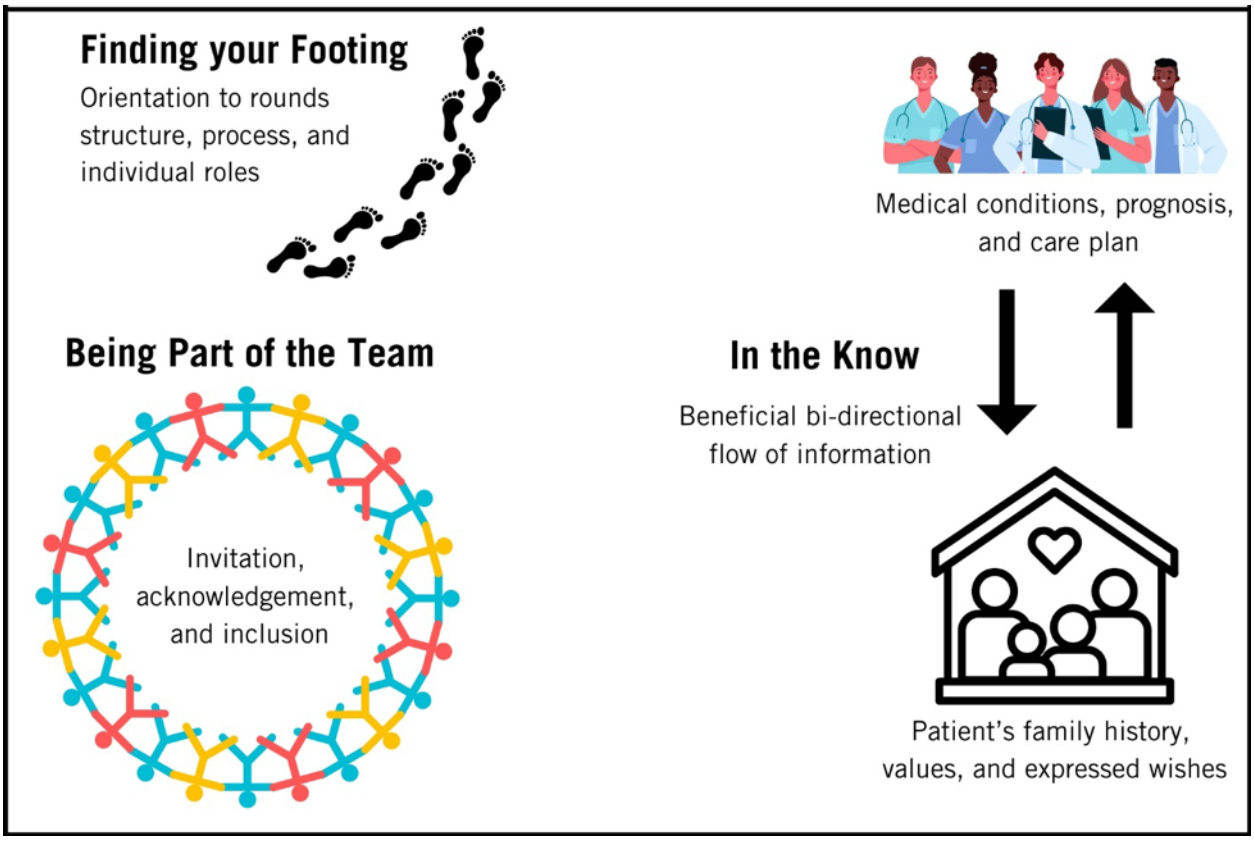
All participants viewed MDR participation positively and reported that it decreased the anxiety, confusion, and uncertainty of the ICU stay. Three themes were identified through the data analysis process: 1) finding your footing – learning how to participate in MDR; 2) part of the team – feeling included through participation in MDR; and 3) in the know – the benefits of sharing information in MDR. Each theme is described below. The authors developed an infographic to summarize and depict themes identified in this study (Figure 1).

Theme 1: Finding Your Footing – Learning How to Participate in MDR

All participants identified that they were invited to attend MDR by at least one nurse or physician in the ICU. Three participants who had past experiences with ICU environments through employment in healthcare settings described having a general understanding of team members' roles and expectations. Even with this knowledge, they reported emotional challenges being "*on the other side*" of the rounds table. The remaining four participants reported that the invitation to rounds was unexpected.

Figure 1

Transition from Observers to Participants



One participant described the invitation to attend as follows:

> *"On Monday morning I was there at 9 o'clock and I was sitting looking at [patient's name] through the glass. And the nurse came over to me and said, 'Would you like to come over and listen to the rounds?'" (Participant 5)*

The four family members with no prior knowledge of MDR expressed initial uncertainty regarding attending rounds in terms of the process, their role, and expectations around what was appropriate to say or ask, but all agreed to attend. One participant stated the following:

> *"I was hesitant to agree to this [MDR attendance] just because it is a kind of traumatizing situation to begin with. And I didn't know what it really meant when I was offered to be part of rounds…" (Participant 2).*

Once at MDR, all participants indicated they were not introduced to the team members present.

> *"It would have been nice if they kind of, you know, let the person know who they are. The doctor definitely did, but no one else did." (Participant 2).*

The four participants without healthcare backgrounds were also unsure of how best to contribute to MDR and what questions to ask.

> *"[Y]ou never know what kinds of questions to ask, right. Like I am not a doctor, so I don't know what kinds of questions to ask in relation to what was going on with my [family member]." (Participant 3)*

> *"But – I just feel, you know, it's an awkward situation. You are in front of a bunch of highly qualified people and you are like – you don't want to interrupt or ask silly questions. And – along with being overwhelmed, so, you don't really think of the questions until later." (Participant 2)*

Most participants reported that comfort with the rounds process increased after their first experience, and they learned MDR structure, process, and expectations.

Participants offered suggestions for how to prepare family members for MDR and increase their comfort in participating. Participants felt introductions to the ICU staff present at rounds, along with their roles, would be helpful for family members. They also suggested that written information in the form of a brochure with information on the MDR structure and process, effective participation, and question examples would assist family members in finding their footing during MDR.

Theme 2: Part of the Team – Feeling Included Through Participation in MDR

All participants described how the invitation to, and the experience of listening and participating in MDR promoted feelings of inclusion and value. These actions communicated that families were an important part of the team. One participant identified that MDR participation made her feel "part of the loop, you know, you're not isolated" (Participant 7). Another described feeling like "your opinion matters, and the fact that you have all

the information matters to them" (Participant 4). A third participant described how sitting amongst the team members and listening to the discussion conveyed that they were "part of the team." (Participant 6)

Participants felt welcomed and included in MDR when team members greeted them and made space for them at the rounds table.

> *"They are all standing in a circle around a table, and they just fit me in between whoever is there, and I stand with them, and everybody, you know, nods and says good morning." (Participant 5)*

They also felt included when the team members used understandable language. One participant with past healthcare experience was impressed with the team's efforts to be "*aware*" of family members' backgrounds and to vary the way they spoke to different members of the family, speaking to one member of the family "*at a level that they would understand*" and then talking to the participant at a different level given their healthcare background (Participant 6). Finally, participants felt included and valued at rounds when team members checked in with them to see if they had questions. One family member noted as follows:

> *"I just think you feel valued, and you feel like you would be able to be heard and ask questions. And yeah, it just makes sure you are well informed, and your questions are answered." (Participant 4)*

Participants did not have new suggestions for the rounds process to aid in family member inclusion, instead they reinforced their positive experiences that promoted feeling part of the team. As noted above, they appreciated an individual invitation and welcome to rounds, the use of understandable terminology, and having the opportunity to ask questions about the information discussed.

Theme 3: In the Know – The Benefits of Sharing Information in MDR

Participants valued a bi-directional sharing of information during MDR, where family members learned about their loved one's health status, prognosis, and plan, and also had an opportunity to share information about their loved one with the healthcare team.

Learning from the team in MDR. All participants identified that there were clear benefits to receiving information at MDR. As one participant noted, learning more about the patient's health condition and the plan of care helped one to "*be in the know*" and took away "*the mystery of what's going on*" (Participant 3). For another participant, learning from the team was reassuring:

> *"Very reassuring to see that, you know, there's so much detail going on. And that with each patient they take quite a long time, you know, with each patient. And you could see all the details. They were leaving no stone unturned. They talk about the number of IV lines. They talk about the fluid balance. You know… these sorts of things. So, it's reassuring to know that there's a level of detail in the care of your sick family member." (Participant 7)*

Attendance at MDR provided participants with information about the health status of their family member and the goals of care for the day and created opportunities for them to ask the healthcare team questions. While most participants indicated they initially participated by listening to the MDR discussion, as their comfort increased they reported raising questions to clarify prognosis, details of the plan (e.g., specifics about timelines), the pros and cons of a possible treatment, or the outcome of a specialist consult. Some participants identified that the interactions they had with the attending physician at the end of the rounds were particularly valuable for learning from the team, as the physician summarized the rounds discussion and goals for the day and checked in with family members to see if they had any questions.

Knowledge gained through attendance at MDR helped inform family members' decision making and enabled them to update family members on the current situation and plan for the patient. As one participant explained:

> *"I think it is very important to be part of rounds, actually. I think as a family member…our family is huge… so, there was a lot of people involved. And I think having someone be there and then being able to relay the information... You know, 30 people cannot be sitting at rounds. But I think it helps for them to know the plan and kind of feel a little bit more, I don't want to say at peace, but at least accepting or knowing what the doctor and the team are doing for the day." (Participant 6)*

Sharing knowledge of the patient with the MDR team. All participants identified that the flow of information was not one way at MDR, as family members possessed knowledge of the patient's life, health history, values, expressed wishes, and current health condition that may not be reflected in the medical record. By answering questions and sharing information about the patient with the healthcare team at rounds, participants were able to increase the team's knowledge of the patient, add additional context for decision making, and ensure patient wishes were made known. Participants were grateful for the opportunity to share their knowledge of the patient at MDR and felt good about their contribution when it informed care.

> *"Because that is – that is a very good feeling when there is a piece of information that they don't know from the family history or the patient's history. And you say, 'Oh, this happened to him.' And sometimes that will actually change their decision making. And knowing that they're grateful. And you do feel like you actually have participated in their care." (Participant 7)*

One participant noted that inviting family members to MDR was a potential time saver, as all present at MDR heard the same information, decreasing the need for families to seek out a specific team member to get answers to their questions.

Discussion

Family participation in ICU MDR is recommended as an important component of family-centred care (Calderone et al., 2022; Davidson et al., 2007; Kydonaki et al., 2021; Woldring et al., 2023). Experience in adult ICUs, however, is currently

limited and more information is required to optimize family participation in this setting. In this study, families valued the opportunity to participate in MDR and share information with the healthcare team and highlighted important factors that contributed to successful participation.

Participants articulated benefits of MDR participation: feeling included and valued by the healthcare team; gaining a better understanding of their critically ill relative's health condition; and having opportunities to relay important information to the healthcare team. These findings align with other studies in both pediatric and adult ICU settings (Calderone et al., 2022; Kydonaki et al., 2021; Woldring et al., 2023). A systematic review of family experiences in pediatric family-centred rounds in ICUs concluded that parents who attended rounds felt respected by the healthcare team and had greater knowledge of the patient situation and plan of care compared to those who did not attend (Rea et al., 2018). An integrative literature review identified that family participation in adult ICU MDR improved families' understanding of their sick relative's clinical situation (Kydonaki et al., 2021). Cody et al. (2018), using interviews with 19 family members in two American medical adult ICUs, found that MDR attendance enabled family members to "make a connection" (p. 18) with the healthcare team. A qualitative Canadian adult ICU study involving 29 family members reported that, through attending rounds, family members had improved access to information, a greater understanding of the ICU stay, and a sense of inclusion (Roze de Ordons et al., 2020).

In this study, participants indicated that they did not always know how to participate effectively in MDR, which is consistent with prior published research (Au et al., 2017; Roze des Ordons et al., 2020). It has been recommended that families be provided information about MDR purpose and processes and the benefits of participating in them, and this information should be provided early and repeatedly after ICU admission (Au et al., 2021; Davidson, 2013; Seaman et al., 2017; Stickney et al., 2014). Written information regarding MDR can be provided in a paper or electronic brochure (Au et al., 2021; Kynoch et al., 2016) and should include a definition and purpose of MDR, a list of the titles and roles of team members present at rounds (Au et al., 2021; Lane et al., 2013), an outline of the MDR process (Au et al., 2021; Lane et al., 2013), with details including rounds timing and virtual options. At the beginning of MDR, team member introductions should occur (Au et al., 2021; Cody et al., 2018; Davidson, 2013).

In this study, participants recommended information be provided regarding the types of questions to ask at rounds. The healthcare team can encourage family members to think about and write down their questions before they attend rounds (Au et al., 2021), while examples of common questions could be included in the information brochure. In one American pediatric ICU initiative, families' concerns and questions were identified at the start of rounds, which allowed the questions to be incorporated into the round's discussion immediately, thereby ensuring that family needs and concerns were addressed (Gal et al., 2024).

Participants valued being provided an understandable MDR summary that included patient plans and goals for the day. Daily goals sheet implementation is associated with improved team communication (Kim et al., 2010), improved team understanding of the care plan (Justice et al., 2016), and consistency in information sharing between team members. Although not discussed by the participants in this study, prior research recommended that a clear and consistent structure to MDR may enhance the MDR experience for all involved (Holodinsky et al., 2015). Process checklist utilization can enhance consistent communication, support continuity of care, and support family inclusion in MDR (Boydston, 2018; Lane et al., 2013), while decreasing fear and anxieties of family members and supporting MDR quality improvement (Davidson, 2013; Holodinsky et al., 2015).

Essential to any change in culture or clinical practices related to MDR is healthcare team awareness of family members' needs and the benefits of family participation in MDR. Staff input on how to effectively involve and support families in MDR is important (Jacobowski et al., 2010). Small continuous quality improvements through Plan-Do-Study-Act (PDSA) cycles can enhance communication and family participation in MDR (Gardner et al., 2022). Research related to family members' virtual participation in rounds in ICUs is emerging now and this is another area that requires exploration (Fiest et al., 2022; Ramirez et al., 2024).

The study's strengths include the rich data generated from the semi-structured interviews. To minimize the impact of preconceived perspectives of the research team on study findings, we utilized a standard set of questions developed from a review of the literature within this interview format. Limitations to this study include the small sample size, the high education level in the sample, and the single research site. COVID-19 disrupted usual ICU practices with visitor restrictions that impacted recruitment to this study. Using the findings from this and other studies, a future cross-sectional survey could be designed and implemented to describe family members' experiences of MDR from multiple adult ICUs across Canada.

Conclusion

Although knowledge and experience are limited, family participation in MDR is recommended as an element of family-centred care in the ICU (Calderone et al., 2022; Davidson et al., 2007; Kydonaki et al., 2021). This study provides important information regarding family experiences and perspectives of participation in MDR in acute care adult ICUs. Although gaps in orientation to ICU and MDR processes led participants initially to feel apprehensive regarding their role in MDR participation, they ultimately felt welcomed, found benefit, and valued participation in MDR. MDR provided families with a forum to gain and share knowledge and participants provided important suggestions to facilitate their transition from observers to participants. Understanding how to enhance active family participation in MDR in all ICU settings is an essential part of providing high-quality patient- and family-centred care that will ultimately benefit the patient, family, and healthcare team.

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Appendix A

Semi-Structured Interview Guide

Please tell me about your family member's stay in ICU. Please provide general information.

• What has the stay in ICU been like? (or what was the stay in ICU like if patient is no longer in the unit at the time of the interview?)?

Questions Regarding Rounds

1. How did you first hear about multidisciplinary rounds (MDR)?

2. What made you decide to attend rounds? How often did you (or do you) attend? On average, how much time do (or did) you spend in rounds?

3. Were (or are) you able to take part in-person or was it (or is it) virtual participation?
• Tell me about how that (virtual participation) was organized.

4. Who do you remember as being part of MDR?
• Who was on the team attending MDR?
• What do you remember about the various people's roles?

5. What did you initially expect from MDR?
• Were those expectations met?

6. What were (are) your impressions of MDR?
Prompts
a. Did (do) you feel welcomed?
b. How were (are) you included? (Or: Did you participate in rounds? How did you participate?)
c. Were you satisfied with the ways you were included? Why or why not?
c. Did (does) anything surprise you about rounds?

7. Please tell me about the information you received.
Prompts
a. What was the nature of the information?
b. Who provided the information?
c. Was the information understandable?
d. Did anyone provide clarification for you? Who clarified the information?
e. Was the information provided the information you feel (or felt) you needed to help you while your family members is (or was) in ICU? Why or why not?

8. Please share what type of information you asked the team for in rounds.
a. If you didn't ask for any information: Can you please tell me why you did not ask for information?

9. How did you feel about this experience of attending/participating in MDR?

10. Is there anything that could have made this experience better?
a. What did you find most helpful about the experience of attending rounds and why?
b. What did you find least helpful about the experience of attending rounds and why?
c. Could you offer any suggestions for how rounds could be improved?

11. From your perspective, has participation in MDR helped you through this experience of having a loved one in ICU?
Prompts: If so, how has it helped? If not, could you describe why not?

12. Has it helped you cope with this ICU experience? Please explain why or why not.

Final Question: Is there anything else you would like to share with me about your experience in MDR?

MEDICATION SAFETY PRACTICE CORNER

Reducing patient harm from hypernatremia

By Lynn Riley, RN, Carolyn Hoffman, RN, and Dorothy Tscheng, RPh

Riley, L., Hoffman, C., & Tscheng, D. (2025). Medication safety practice corner: Reducing patient harm from hypernatremia. *The Canadian Journal of Critical Care Nursing, 36*(1), 45–49. DOI: 10.5737/23688653-36145

ISMP CANADA Report a med error

In this regular column, ISMP Canada will feature a critical care-related medication story and share practical learning for critical care nurses.

Sodium abnormalities are among the most common electrolyte disorders. A previous Medication Safety Practice Corner focused on hyponatremia; this one highlights safety risks related to intravenous (IV) fluids and hypernatremia (Harber et al., 2024). Hypernatremia is associated with an increased rate of patient morbidity and mortality (Patel et al., 2023). The prevalence of hypernatremia in the intensive care setting is about 10 times higher than in the emergency department (Yun et al., 2023). Understanding the risks associated with administering IV fluids, ensuring early recognition of hypernatremia symptoms, incorporating key parameters for continuous monitoring, and embedding strategies for safer systems are essential for patient safety.

Incident Examples

- A patient admitted with hyponatremia was treated with sodium chloride (NaCl) 3%, without specification of parameters that would prompt stopping the infusion or orders for blood work monitoring. After several hours and assessment by a specialist, the IV fluid was changed to dextrose 5% in water (D5W) and stat bloodwork was drawn to address concerns about hypernatremia.
- A patient was admitted with acute hypernatremia, for which D5W was prescribed. An error in IV fluid selection led to the patient receiving D5W with 0.45% NaCl, which exacerbated the hypernatremia.

Background

Hypernatremia is defined as serum sodium greater than 145 mmol/L (Yun et al., 2023). Acute hypernatremia is generally caused by water loss and/or sodium gain in a period of less than 48 hours (Yun et al., 2023). Figure 1 describes select causes of water loss and sodium gain (Patel et al., 2023). Table 1 highlights select IV fluids and their sodium content.

Water loss may be attributed to:

- Inadequate fluid intake (resulting from physical or neurological impairment)
- Vomiting
- Diarrhea
- Diabetes insipidus
- Osmotic diuresis (related to diuretics or hypertonic fluids)

Sodium gains may be attributed to:

- Excess salt intake
- Medications containing sodium or altering sodium excretion
- Intentional infusion of hypertonic IV fluids (see select fluids in Table 1)
- Unintentional administration of a hypertonic solution due to a selection error

In the critical care setting, hypernatremia is often caused by healthcare interventions. Individuals who are unable to communicate their thirst or independently access water, including intubated patients, older adults with altered sensorium and infants are at particular risk of sodium disturbances (Seay et al., 2020). Early recognition of symptoms is critical to identifying and addressing the underlying causes of acute hypernatremia. Critical care nurses play a key role in this process. Tables 2 and 3 describe typical presentations in adults and infants.

Discussion

Overcorrection of hyponatremia (generally defined as an increase in serum sodium by more than 12 mEq/L in the first 24 hours, or more than 18 mEq/L within the first 48 hours [Yang et al., 2022]), accounted for the majority of the incidents in a recent analysis of reports describing hypernatremia that were submitted to the Canadian Medication Incident Reporting and Prevention System (ISMP Canada, n.d.). The remainder of the incidents describing hypernatremia fell into two categories.

- Inadvertent selection and administration of hypertonic fluids, primarily NaCl 3% instead of the intended isotonic fluid.
- Rate and volume administration errors with NaCl 3% infusions, related to non-availability of this fluid profile in the smart pump library.

Key contributing factors to incident reports included:

- lack of clarity in the medication order as to the intended duration of treatment
- lack of serum sodium monitoring
- under-appreciation of the sodium content in the IV fluid and its effect
- storage of hypertonic IV solutions near commonly ordered IV solutions

It is important to note that, in addition to the selection of the wrong fluid, a correctly selected fluid, accurately administered, can also cause hypernatremia in certain cases, depending on the clinical circumstances.

Figure 1

Select Causes of Water Loss and Sodium Gain

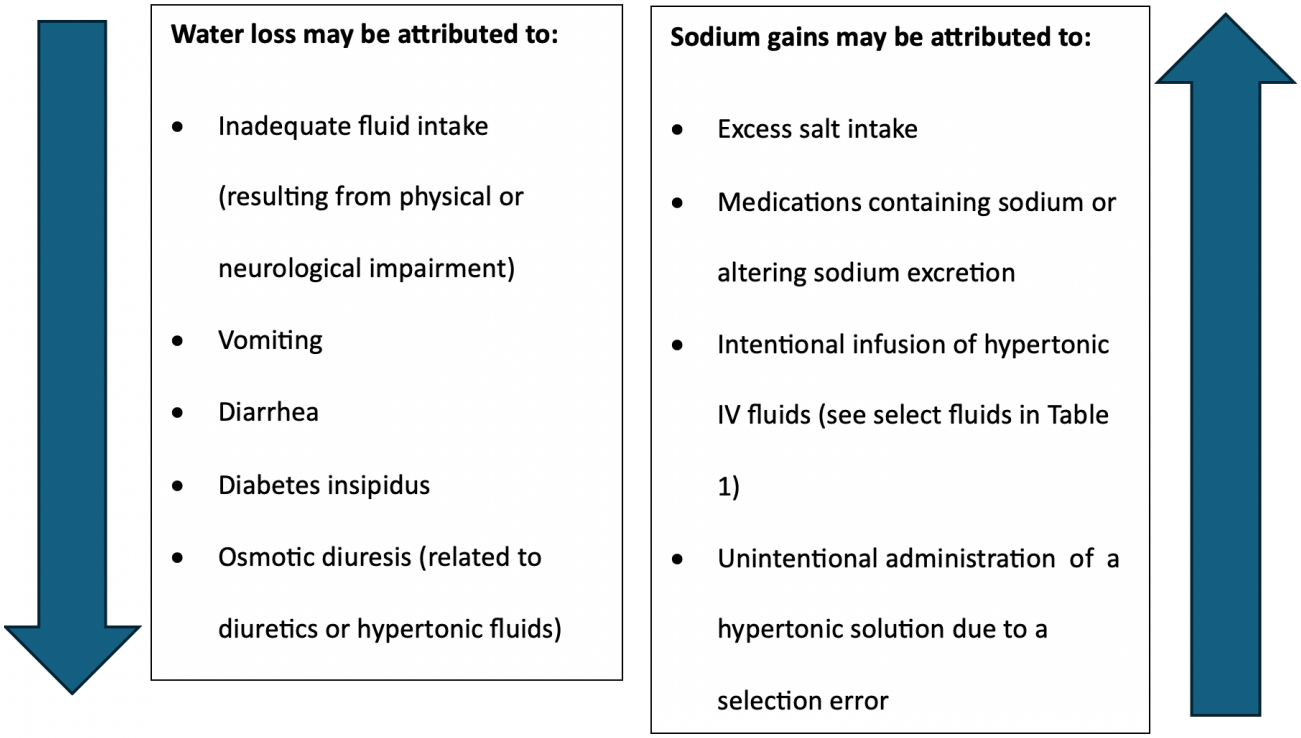

Table 1

Select Intravenous Fluids and Their Sodium Content

Intravenous Fluid (Colloquial Names)	Sodium Content (mmol/L)
Sodium chloride 3%	513
Sodium chloride 0.9% (normal saline or NS)	154
Dextrose 5% and sodium chloride 0.9% (D5W NS)	154
Ringer's lactate (LR, RL)	130
Dextrose 5% and sodium chloride 0.45% (D5W ½ NS)	77
Dextrose 5% in water (D5W)	0

(ISMP Canada, 2024, Moritz et al., 2022)

Table 2

Typical Signs and Symptoms of Acute Hypernatremia in Adults

Cognitive Dysfunction	Dehydration or Volume Depletion
• Altered level of consciousness • Nystagmus • Myoclonic jerks • Nausea or vomiting	• Changes in orthostatic blood pressure • Tachycardia • Oliguria • Dry oral mucosa • Intense thirst

(Yun et al., 2023)

Table 3

Typical Signs and Symptoms of Acute Hypernatremia in Infants

Early Signs and Symptoms	Late Signs and Symptoms
• Ineffective, infrequent nursing • High-pitched crying • Loss of body weight • Dry diaper for 6 hours or more • Poor skin turgor, dry lips • Sleepiness while feeding	• Lethargy • Sunken fontanelles • Seizures • Hypo- or hyper-thermia • Apnea, cyanosis • Bradycardia

(del Castillo-Hegyi et al., 2022)

Key Practice Tips for Critical Care Nurses

Recommendations shared below address systems level opportunities, in addition to specific unit-level strategies to reduce the risk of hospital-acquired hypernatremia.

- Advocate for a standardized order set for NaCl 3%. The order set should include start and stop (or reassessment) times, as well as required blood work and review of laboratory values.
- Work with the smart pump library team to build a fluid profile for NaCl 3%, reflecting the organization's standardized order set, for inclusion in smart pump software, so that teams can apply the system's safety features when administering this fluid.
- Work with nursing leadership, pharmacy/stores, and biomedical engineering to reduce selection errors.
  - Streamline inventory management and the organization and labelling of IV fluids in all nursing units. Further recommendations are available in this ISMP Canada bulletin: https://ismpcanada.ca/bulletin/intravenous-fluid-storage-preventing-selection-errors/#recommendations
  - Consider implementing bar coding and closed loop medication management systems.
- Promote effective and timely communication of serum sodium levels with the nursing team, physicians, and pharmacists to avoid overcorrection of sodium levels (Sonani et al., 2023).
- Review appropriateness of IV fluid orders in relation to the patient's condition, age, and weight (especially in the pediatric population) (ISMP Canada, 2024).
  - Consider the indication and volume for the selected IV fluid.
  - Recognize that rapid overcorrection of sodium levels with NaCl 3% can lead to harm.
- Monitor vital signs, laboratory results, and volume status to prevent acute hypernatremia.
- Observe and assess for signs and symptoms of acute hypernatremia.
- Engage family and care partners in the care plan and encourage them to ask questions or express concerns. Family members are often better able to identify subtle changes in a patient's condition and demeanour than health care providers (ISMP Canada, 2024).
- Immediately report critical laboratory results and/or signs and symptoms possibly related to acute hypernatremia (Tables 2 and 3) to the most responsible physician, in accordance with organizational policy.
- Share this Medication Safety Corner at safety huddles.

Conclusion

Untreated acute hypernatremia is associated with high rates of patient mortality (Yun et al., 2023). Building safer systems, including robust smart pump libraries and IV fluid storage areas organized to reduce selection errors, is essential to keeping patients safe. In addition, ensuring appropriate clinical assessment and monitoring by the nursing team and caregivers will facilitate early identification of hypernatremia and reduction of preventable patient harm.

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