CACCN

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Canadian Association of Critical Care Nurses

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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 education and networking and provide 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

Letter from the Chief Editor, CJCCN

To the Members of the CACCN and Readership of the CJCCN,

My first manuscript ever published was submitted to Dynamics – The Official Journal of the Canadian Association of Critical Care Nurses. The first communication I ever received from an editor was from the late Dr. Paula Price, PhD, RN. That first experience influenced my professional identity as a critical care nurse in two ways. First, that I had contributed to better understanding critical care nursing practice. And second, it magnified my commitment to both the CACCN and to the now, Canadian Journal of Critical Care Nursing (CJCCN).

While I did not officially meet Paula until many years later, her importance and relevance to both the CACCN and CJCCN was clear. During her tenure as the Editor of the CJCCN, she had an impact not only on the lives of patients and families experiencing critical illness – through the scholarship published in the journal – she diligently managed and maintained the primary vehicle for critical care nursing scholarship in Canada. News of her passing was devastating and the loss to critical care nursing in Canada, profound.

Since being appointed to the role of Chief Editor of the CJCCN in 2019, I have tried to maintain and guide the journal through a very tumultuous time. Not only were we struggling with an abrupt transition in journal leadership and direction, we also quickly found ourselves in the midst of the pandemic. During this time, with the support of the CACCN Board of Directors and Christine Halfkenny-Zellas as the COO, the Editorial Review Board, Heather (our managing editor), and Sherri at Pappin Communications, and the tremendous support of both Michelle House-Kokan and Myriam Breau as Co-Editors – I hope that I have made Paula proud. We have strengthened the foundation of the journal, we have made it more accessible through first, the new CJCCN website and second, open access. We have made efforts to strengthen the scholarship through revised processes and author expectations. We have also made a commitment to Francophone publications within the CJCCN.

As the leadership of the journal transitions once again, with Dr. Asha Pereira, PhD, RN, CNCC(C) as the Chief Editor – I am confident that the CJCCN is in fabulous and capable hands. I look forward to seeing how the journal continues to grow and our voice as Canadian critical care nurses is strengthened.

My sincerest thanks are directed to the CACCN Board of Directors, Christine, Michelle, Myriam, the ERB, Pappin Communications and to all who have contributed as authors and reviewers during my tenure as Chief Editor of the CJCCN.

Sincerely,

Brandi Vanderspank-Wright, PhD, RN, CNCC(C)
Chief Editor, CJCCN

Lettre de la rédactrice en chef de la revue CJCCN

Aux membres de l'ACIISI et au lectorat de la revue CJCCN,

Le premier manuscrit que j'ai publié a été soumis à Dynamics – le journal officiel de l'Association canadienne des infirmières et infirmiers en soins intensifs. La première communication que j'ai reçue d'une rédactrice en chef a été celle de la regrettée Dre Paula Price, PhD, RN. Cette première expérience a influencé, de deux façons, mon identité professionnelle en tant qu'infirmière en soins intensifs. Tout d'abord, le fait d'avoir contribué à une meilleure compréhension de la pratique infirmière en phase critique. Ensuite, elle a renforcé mon engagement envers l'ACCSI et la désormais revue Canadian Journal of Critical Care NursingMC (CJCCN).

Bien que je n'aie rencontré Paula officiellement que bien des années plus tard, son importance et sa pertinence pour l'ACIISI et la revue CJCCN étaient évidentes. Pendant son mandat de rédactrice en chef de la revue CJCCN, elle a eu un impact, non seulement sur la vie des patients et des familles atteints de maladies graves grâce à l'érudition des articles publiés dans la revue, mais elle a aussi géré et maintenu avec diligence le principal véhicule de recherche sur la pratique infirmière en soins intensifs au Canada. La nouvelle de son décès a été dévastatrice; profonde a été la perte pour la pratique infirmière en soins intensifs au Canada.

Depuis que j'ai été nommée au poste de rédactrice en chef du CJCCN en 2019, j'ai essayé de maintenir et de guider la revue pendant une période très tumultueuse. Non seulement nous étions aux prises avec une transition abrupte dans le leadership et la direction de la revue, mais nous nous sommes aussi rapidement retrouvés au milieu de la pandémie. Pendant cette période, avec le soutien du conseil d'administration de l'ASIICI et de Christine Halfkenny-Zellas en tant que directrice de l'exploitation, du comité de révision, de Heather et de Sherri chez Pappin Communications (notre rédactrice), ainsi qu'avec le soutien extraordinaire de Michelle House-Kokan et de Myriam Breau en tant que co-rédactrices, j'espère avoir rendu Paula très fière. Nous avons renforcé les fondements de la revue, nous

l'avons rendue plus accessible grâce, premièrement, au nouveau site Web de la revue CJCCN, et, deuxièmement, au format libre-accès. Nous avons fait des efforts pour renforcer l'érudition en révisant les processus et les expectatives des auteurs. Nous avons également pris un engagement envers les publications francophones au sein de la CJCCN.

Alors que la direction de la revue change une fois de plus, avec la Dre Asha Pereira, PhD, RN, CNCC(C) comme rédactrice en chef, je suis convaincue que la revue CJCCN est entre des mains fabuleuses et compétentes. J'ai hâte de voir comment la revue continuera de croître et comment notre voix en tant qu'infirmières canadiennes en soins intensifs sera renforcée.

J'adresse mes remerciements les plus sincères au conseil d'administration de l'ACIISI, à Christine, Michelle, Myriam, au Comité de révision éditoriale, à Pappin Communications et à tous ceux qui ont contribué en tant qu'auteurs et réviseurs pendant mon mandat de rédactrice en chef de la revue CJCCN.

Cordiales salutations,

Brandi Vanderspank-Wright, PhD, RN, CNCC(C)
Rédactrice en chef, revue CJCCN

The Canadian Journal of Critical Care Nursing
CACCN

To our Canadian Association of Critical Care Nurses Members and Canadian Journal of Critical Care Nursing™ Readership,

Over the past two years, the Editorial Team, in collaboration with the Editorial Review Board and the National Board of Directors of the Canadian Association of Critical Care Nurses (CACCN), have had conversations regarding The Canadian Journal of Critical Care Nursing™ (CJCCN). Our aim has been to ensure that the CJCCN continues to be a major vehicle for critical care nursing scholarship and knowledge dissemination in Canada and internationally. We have engaged in several transition initiatives to achieve this aim.

Highlights 2021

The CACCN launched a standalone CJCCN website: cjccn.ca. The website features current and archived publications. The website is also the primary home for all information pertinent to the CJCCN including updated information specific to publication in the journal (i.e., Guidelines for Authors) as well as our policies and procedures from manuscript submission and peer review through to press. CACCN members receive access to the CJCCN website and all journal issues freely through continued membership. The website also features advertising opportunities for 'print' and web banner advertisements.

Following the conclusion of the 2020 publication year, all CJCCN publications, with the exception of paid external subscriptions (i.e., libraries, etc.) are now provided in electronic format only, via the CJCCN website.

Announcements 2022

As we continue to move forward in meeting our aim of producing a high-quality, critical care nursing journal, we are announcing the following:

Open Access

Effective **January 31**, the CJCCN will be an open access journal. CACCN reviewed the journals of other 'like associations' and found the majority are now publishing in open access format. Members will no longer be required to sign into the CJCCN website to access the current journal and archived journals. We are still rebuilding the repository of archived journals from 2010 to the present. We hope to have this finalized in the next few months.

Chief Editor Appointment

Effective **May 1**, the CJCCN will welcome a new Chief Editor as the current Chief Editor transitions to the position of Vice-President on the CACCN Board of Directors.

We are pleased to welcome, **Dr. Asha Pereira, PhD, RN, CNCC(C)** from Winnipeg, Manitoba to the position of Chief Editor from May 1, 2022, to April 30, 2024.

Dr. Pereira is a PhD Nurse Scientist and was a Clinical Nurse Specialist for trauma. She brings over thirty years of nursing and critical care experience to the position. As well, she has been an active member of the CACCN for well over twenty-five years, serving in leadership roles throughout the Association, most notably as President of the National Board of Directors from 2006–2008, and Chair of the 25th Anniversary Dynamics of Critical Care Conference™ in Montreal in 2008.

During Canada's 150th anniversary, Dr. Pereira was named one of Canada's 150 "Nurses to Know", sharing the spotlight with a group of nurses who are strong public advocates and leaders in advancing a patient-centred approach to quality health care through traditional, innovative or interprofessional practices. These nurses inspire passion for nursing through their support of professional development by being mentors or advisors.

We are excited to welcome Dr. Pereira as Chief Editor of the Canadian Journal of Critical Care Nursing™ (CJCCN).

While we anticipate there will be other transitions forthcoming with the journal, we feel the continued success and impact of the CJCCN is essential not only in Canada but internationally as well. As the current Chief Editor of the CJCCN, I am excited to see what the future will bring!

Brandi Vanderspank

Dr. Brandi Vanderspank-Wright, PhD, RN, CNCC(C)
Chief Editor, Canadian Journal of Critical Care Nursing™

The Canadian Journal of Critical Care Nursing

Àux membres de l'Association canadienne des infirmières et infirmiers en soins intensifs et au lectorat de la revue Canadian Journal of Critical Care Nursing[MC] :

Au cours des deux dernières années, l'équipe de rédaction, en collaboration avec le comité d'examen de la rédaction et le Conseil d'administration national de l'Association canadienne des infirmières et infirmiers en soins intensifs (ACIISI), a entretenu des discussions concernant la revue *Canadian Journal of Critical Care Nursing*[MC] (CJCCN). Notre objectif était de faire en sorte que la revue CJCCN continue d'être un véhicule important pour la diffusion de textes érudits et de connaissances en soins infirmiers critiques au Canada et à l'étranger. Nous nous sommes engagés dans plusieurs initiatives de transition pour atteindre cet objectif.

Faits saillants 2021

L'ACIISI a lancé un site Web autonome : cjccn.ca. Le site Web présente les publications actuelles et archivées. Le site Web est également la principale source d'information relative à la revue CJCCN, y compris les renseignements actualisés spécifiques aux critères de publication dans la revue (par ex., les lignes directrices à l'intention des auteurs) ainsi que nos politiques et procédures, à partir de la soumission du manuscrit et de l'examen par les pairs jusqu'à l›impression de la revue. Les membres de l'ACIISI ont accès au site Web de la revue CJCCN et à tous les numéros de la revue gratuitement grâce à leur adhésion continue. Le site Web offre également des possibilités de publicité sous forme de bannières imprimées ou en ligne.

Deuxièmement, à l'issue de l'année de publication 2020, tous les numéros de la revue CJCCN, à l'exception des abonnements externes payés (par ex., les bibliothèques, etc.), sont désormais fournis en format électronique uniquement et ce, par l'entremise du site Web de la revue CJCCN.

Annonces 2022

Alors que nous continuons à progresser dans la réalisation de notre objectif de produire une revue de soins infirmiers spécialisés en soins intensifs de haute qualité, nous avons le plaisir de vous annoncer ce qui suit :

Format libre-accès

À compter du **31 janvier**, la revue CJCCN sera un journal à accès libre. L'ACIISI a examiné les revues d'autres associations similaires et a constaté que la majorité d'entre elles sont maintenant publiées en format libre-accès. Les membres n'auront plus besoin de se connecter au site Web de la revue CJCCN pour accéder aux numéros actuels de la revue actuelle et aux numéros archivés. Nous sommes toujours en train de reconstruire le référentiel des revues archivées de 2010 à aujourd'hui. Nous espérons que cela sera finalisé dans les prochains mois.

Nomination à la rédaction

À compter du **1er mai**, la revue CJCCN accueillera une nouvelle rédactrice en chef, car l'actuelle rédactrice en chef passe au poste de vice-présidente du conseil d'administration de l'ACIISI.

Nous sommes heureux d'accueillir la **Dre Asha Pereira, Ph.D, RN, CNCC(C)** de Winnipeg, au Manitoba, au poste de rédactrice en chef, du 1er mai 2022 au 30 avril 2024.

La Dre Pereira est une infirmière scientifique, titulaire d'un doctorat, et ancienne infirmière clinicienne spécialisée en traumatologie. Elle apporte à ce poste plus de trente ans d'expérience dans la pratique infirmière et en soins intensifs. De plus, elle est membre active de l'ACCIS depuis plus de vingt-cinq ans et a occupé des postes de direction au sein de l'association, notamment en tant que présidente du Conseil d'administration national de 2006 à 2008 et comme présidente du 25e anniversaire de la conférence « Dynamics » tenue à Montréal en 2008.

À l'occasion du 150e anniversaire du Canada, la Dre Pereira a été désignée comme l'une des 150 « infirmières à mieux être connue » du Canada, partageant ainsi la vedette avec un groupe d'infirmières qui sont des leaders et d'ardents défenseurs du public dans la promotion d'une approche axée sur le patient pour des soins de santé de qualité et ce, par le biais de pratiques traditionnelles, novatrices ou interprofessionnelles. Ces infirmières et infirmiers inspirent la passion de la pratique infirmière en soutenant le développement professionnel par leur rôle de mentors ou de conseillères.

Nous sommes ravis d'accueillir la Dre Pereira comme rédactrice en chef de la revue *Canadian Journal of Critical Care Nursing*MC (CJCCN).

Bien que d'autres transitions pour la revue soient anticipées, nous croyons que le succès et l'impact continus de la revue CJCCN sont essentiels, non seulement au Canada, mais aussi à l'échelle internationale. En tant que rédactrice en chef actuelle de la revue CJCCN, je suis impatiente de voir ce que l'avenir nous réserve !

Dre Brandi Vanderspank-Wright, PhD, inf., CNCC(C)
Rédactrice en chef, *Canadian Journal of Critical Care Nursing*MC

CACCN The Canadian Journal of Critical Care Nursing

Call for Interested Members

Deadline: March 31, 2022

Co-Editor, Canadian Journal of Critical Care Nursing (CJCCN)

The CJCCN is seeking interested members to apply for the position of Co-Editor, CJCCN.

Aim and Scope

The aim of the (CJCCN) is to publish innovative and current research as well as recent clinical evidence related to critical care nursing. The latter is inclusive of all contexts wherein individuals may experience critical illness including adult, pediatric and neonatal intensive care units, community, acute, tertiary, and quaternary settings, as well as rural and remote settings.

Submissions may include any of the following: clinical, education, leadership, management, research, quality improvement, and professional issues related to critical care nursing.

The journal is peer-reviewed through a double-blind process by experts in critical care nursing practice and research methodology.

Editorial Team

A Chief Editor and Editorial Review Board are appointed by the CACCN Board of Directors. The Chief Editor is the chair of the Editorial Review Board and reports to the Board of Directors.

The purpose of the Editorial Review Board is to ensure the clinical accuracy, relevancy and quality of all manuscripts published in *The Canadian Journal of Critical Care Nursing™ (CJCCN)*, formerly known as *Dynamics: The Journal of the Canadian Association of Critical Care Nurses.*

The Editorial Review Board ensures that manuscripts reflect a high standard of publication and represent diverse topics within the field of critical care nursing.

Appointment Period

The Co-Editor(s) are recommended by the Chief Editor and appointed by the Board of Directors of CACCN. The appointment will be made by signed Letter of Agreement for a period of **two years**. Reappointment for an additional term thereafter may be considered upon recommendation from the Chief Editor to the Board of Directors.

Role of the Co-Editor(s):

The role of the Co-Editor is **task oriented**, with **specific deadline requirements** and includes the following:

- in collaboration with the Chief Editor, assists with the editorial review and publication process for manuscripts submitted to the CJCCN including:
  - Desk review of manuscripts.
  - Assisting with copy-editing of accepted manuscripts.
  - Reviewing and approving final typeset proofs prior to publication.
- solicits manuscripts through general inquiry, letters, conferences (e.g., Dynamics), seminars, and professional contacts.
- provides support to the Chief Editor on the direction and focus of the journal.
- assists with revision of the editorial process as requested and when the Chief Editor is not available.
- attends monthly Editorial Meetings and meetings of the Editorial Review Board.

Time Requirements

Monthly

- approximately three (3) to six (6) hours per month
  - Editorial Meeting: one (1) monthly (1 hour)
  - Desk Review: one (1) to three (3) manuscripts monthly (1–3 hours)

Per Issue

- approximately 3 to 7 hours per issue (4 times annually)
  - Copy Editing: one (1) to three (3) hours per issue (1 - 3 hours)
  - Journal Proofing: one (1) hour per issue (4 hours total)

Recharge/Refresh

- the Editorial office is usually closed for the month of July.

Criteria for Co-Editors candidates includes:

- current membership with the Canadian Association of Critical Care Nurses (CACCN).
- master's prepared (minimum).
- working in or has significant experience in critical care or is associated with a critical care area.
- experience on an editorial review board and/or as a peer reviewer preferred.
- ability to meet set deadlines.
- enthusiasm to undertake the Co-Editor role by ensuring recognition of all aspects of the reality of the scope of the role and the work involved.
- fluency in English and French would be an asset.

Submission Requirements:

- Completion of the online application form.
- Share your reasons for applying for the Co-Editor position (maximum 500 words):
  - why you wish to be considered.
  - your experience with an editorial review board and/or as a peer reviewer.
  - what you hope to bring to the role.
  - ability to meet deadlines and the time commitment.
  - fluency in English and French, if applicable.
- Resume; CV (preferred)

How to apply:

Submissions for consideration of the Co-Editor position are completed via our online submission system:

https://www.xcdsystem.com/caccn/forms/index.cfm?ID=TcM5pnS

CACCN username and password will be required to complete the application.

Questions?

Contact caccn@caccn.ca or 866-477-9077

The Canadian Journal of Critical Care Nursing

Appel aux membres intéressé(e)s

Date limite : 31 mars 2022

Poste de co-rédacteur / co-rédactrice de la revue CJCCN

La revue *Canadian Journal of Critical Care Nursing* (CJCCN) recherche des membres intéressé(e)s à postuler pour le poste de co-rédacteur / co-rédactrice de la revue CJCCN.

But et champ d'application

La revue CJCCN a pour but de publier des recherches novatrices et actuelles ainsi que des preuves cliniques récentes liées à la pratique infirmière en soins intensifs. La revue englobe tous les contextes dans lesquels les individus peuvent être confrontés à une maladie critique, y compris les unités de soins intensifs pour adultes, pédiatriques et néonatales, les milieux communautaires, aigus, tertiaires et quaternaires, ainsi que les milieux ruraux et éloignés.

Les soumissions peuvent porter sur n'importe lequel des sujets suivants : questions cliniques, éducation, leadership, gestion, recherche, amélioration de la qualité et enjeux professionnels liés à la pratique infirmière en soins intensifs.

La revue est évaluée par des pairs, selon un processus en double aveugle, par des experts en pratique infirmière en phase critique et en méthodologie de recherche.

Équipe de rédaction

Un rédacteur en chef et un comité d'examen de la rédaction sont nommés par le conseil d'administration de l'ACIISI,. Le rédacteur en chef est le président du comité de révision et relève du conseil d'administration.

L'objectif du comité d'examen de la rédaction est d'assurer l'exactitude clinique, la pertinence et la qualité de tous les manuscrits publiés dans la revue *Canadian Journal of Critical Care Nursing*[MC] (CJCCN), anciennement connu sous le nom de *Dynamics* : *The Journal of the Canadian Association of Critical Care Nurses.*

Le comité d'examen de la rédaction s'assure que les manuscrits reflètent un haut niveau de publication et représentent divers sujets dans le domaine de la pratique infirmière en phase critique.

Période de nomination

Le / la ou les co-rédacteur(s) / co-rédactrice(s) sont recommandé(e)s par le rédacteur en chef et nommé(e)s par le conseil d'administration de l'ACIISI. La nomination se fera par une lettre d'entente signée pour une période de **deux ans**. Le renouvellement de la nomination pour un mandat supplémentaire peut être envisagé sur recommandation du rédacteur en chef au conseil d'administration.

Rôle du co-rédacteur / de la co-rédactrice

Le rôle du co-rédacteur est **axé sur les tâches**, avec des **exigences spécifiques relatives aux** délais, et comprend les éléments suivants :

- En collaboration avec le rédacteur en chef, le co-rédacteur / la co-rédactrice aide à la révision éditoriale et au processus de publication des manuscrits soumis à la revue CJCCN, notamment :
  - Examen préliminaire des manuscrits.
  - Participer à la révision des manuscrits acceptés.
  - Examiner et approuver les épreuves typographiques finales avant la publication.
- Solliciter des manuscrits par le biais de demandes générales, de lettres, de conférences (par ex., Dynamics), de séminaires et de liaisons professionnelles.
- Apporter son soutien au rédacteur en chef en ce qui concerne la direction et l'orientation de la revue.
- Aider à la révision du processus éditorial sur demande et lorsque le rédacteur en chef n'est pas disponible.
- Assister aux réunions mensuelles de la rédaction et aux réunions du comité de révision éditoriale.

Temps requis

Tous les mois

- environ trois (3) à six (6) heures par mois
  - Réunion **éditoriale** : une (1) réunion mensuelle (1 heure)
  - Examen préliminaire : un (1) à trois (3) manuscrits par mois (1 **à** 3 heures)

Par numéro

- environ 3 à 7 heures par numéro (4 fois par an)
  - Révision de textes : une (1) à trois (3) heures par numéro (1 **à** 3 heures)
  - Lecture d'épreuve de la revue : une (1) heure par numéro (4 heures au total).

Pause

- Le bureau de la rédaction est généralement fermé pendant le mois de juillet.

Les critères pour les candidat(e)s postulant aux postes de co-rédacteurs / co-rédactrices comprennent :

- adhésion actuelle à l'Association canadienne des infirmières et infirmiers en soins intensifs (ACIISI).
- être titulaire d›une maîtrise (minimum).
- le candidat / la candidate travaille dans le domaine des soins intensifs ou possède une expérience significative dans ce domaine ou est associé(e) à un secteur de soins intensifs.
- expérience au sein d'un comité de rédaction et / ou en tant qu'examinateur de pairs, de préférence.
- capacité à respecter les délais établis.
- enthousiasme à assumer le rôle de co-rédacteur / co-rédactrice en veillant à reconnaître tous les aspects de la réalité englobant le rôle et le travail impliqué.
- la maîtrise de l'anglais et du français serait un atout.

Présentation de la candidature :

- Remplissez le formulaire de candidature en ligne.
- Expliquez les raisons pour lesquelles vous souhaitez postuler au poste de co-rédacteur / co-rédactrice (500 mots maximum) :
  - la raison pour laquelle vous souhaitez être pris(e) en considération.
  - votre expérience au sein d'un comité de rédaction et / ou en tant qu'évaluateur de pairs.
  - ce que vous espérez apporter au rôle.
  - votre capacité à respecter les délais et l'engagement de votre temps.
  - maîtrise de l'anglais et du français, le cas échéant.
- Curriculum vitae (de préférence)

Comment postuler :

Les candidatures pour le poste de co-rédacteur / co-rédactrice sont effectuées moyennent notre système de soumission en ligne :

https://www.xcdsystem.com/caccn/forms/index.cfm?ID=TcM5pnS

Le nom d'usager et le mot de passe de l'ACIISI sont nécessaires pour remplir la demande.

Questions ?

Adressez-vous à caccn@caccn.ca ou composez le 866-477-9077

Barriers and facilitators in the provision of palliative care in critical care: A qualitative descriptive study of nurses' perspectives

Lisa Vaughn, MN, RN, and Anna Santos Salas, PhD, RN

Abstract

Intensive care units are providing increasing amounts of palliative care. Accordingly, integrating palliative care as a component of comprehensive critical care has been identified as a necessity. The purpose of this study was to explore what critical care nurses perceive as barriers and facilitators in the provision of palliative care in the critical care setting.

We conducted a qualitative descriptive study between 2016 and 2017. Eleven critical care nurses, working within an intensive care unit in a tertiary care, Western Canadian hospital, participated in this study. Semi-structured individual interviews were conducted with each participant and data were interpreted using thematic analysis.

Key barriers and facilitators identified were related to communication, end-of-life decision making, the life-saving mentality of the ICU, exposure to palliative care education, and the strengths and perils of the critical care environment.

The results of this study provide insight into the initiatives and resources that are required to enhance the provision of palliative care in the critical care setting.

Keywords: *palliative care, end-of-life care*, *critical care, nurses, qualitative research, interviews*

Implications for Nurses

- An in-depth understanding of the critical care nurses' perspectives from a western Canadian province.
- Raises awareness of the importance of integrating a palliative approach to care in the critical care setting.
- Highlights gaps and needs in the provision of palliative care based on a deep portrayal of critical care nurses' experiences.
- Provides insight into what can be done to facilitate palliative care in critical care within a western Canadian intensive care unit context.

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The primary goal of intensive care is to help individuals survive an acute health crisis (Akgun et al., 2019). When this goal is no longer feasible, the focus of care transitions from cure to comfort (Mercadante et al., 2018). Palliative care can bridge the gap between comfort and cure (Baker et al., 2015). Palliative care is an approach that improves the quality of life of patients and their families, while facing the struggles associated with a life-limiting illness (World Health Organization, 2002). Caring for dying patients is an integral component of critical care (Kyeremanteng et al., 2020). However, intensive care staff report that there are barriers to quality palliative care that negatively affect patients and their families (Ganz & Sapir, 2019). These barriers and inconsistencies in the provision of palliative care to critically ill patients can potentially result in negative end-of-life experiences for the patients and their families. Commonly reported barriers in the critical care setting include communication gaps (Coelho & Yankaskas, 2017), difficult end-of-life decisions (Wiedemann et al., 2012), and minimal access to education (Wolf et al., 2019). Efforts have been underway to improve the quality of palliative critical care. Often, these are focused on the provision of palliative education to critical care staff (End of Life Nursing Education Consortium [ELNEC], 2017), adoption of useful models of care (Aslakson et al., 2014), and development of palliative critical care guidelines (National Coalition for Hospice and Palliative Care, 2018). Many studies have examined the barriers to palliative care in critical care, while a few have explored the facilitators. Most studies originate in the US, Australia, and Britain, with only a few done in the Canadian context. The Canadian Association of Critical Care Nurses (CACCN, 2011) states that critical care nurses are integral to enhancing the delivery of palliative care. However, to date, few studies have examined the perspective of Western Canadian critical care nurses (CCNs). Canadian CCNs are an important source of wisdom in conceptualizing a good death in the care of palliative care patients and their families (Vanderspank-Wright et al., 2019). In this article, we report findings from a qualitative study that explored critical CCNs' perspectives concerning barriers to and facilitators of palliative care in the critical care setting.

Methods

We designed a study to explore the following research question: "What do Critical Care Nurses perceive as barriers and facilitators in the provision of palliative care in the critical care setting?" The research objectives were: 1) to explore the barriers in the provision of palliative care in critical care from the perspective of CCNs, and 2) to examine the facilitators in the

provision of palliative care in critical care from the perspective of CCNs. This study received approval from the University's Health Research Ethics Board and operational approval from the local health authority.

We followed Sandelowski's (2000; 2010) qualitative descriptive methodology, an approach that provides opportunity to describe an experience from the perspective of those experiencing it and in the context within which it occurs. Descriptive qualitative methods are ideal when description of a phenomenon is the goal (Walker, 2012). While description and interpretation are always intertwined, this research methodology is highly descriptive in its approach. Description occurs when researchers provide "an accurate accounting of events" that in the eyes of those living through the experience is accurate (Sandelowski, 2000, p.336). The strength of a qualitative descriptive approach is the knowledge that is produced from findings that are more representative of the original data and data source (Sandelowski, 2010).

Participants

Participants were CCNs from a 27-bed intensive care unit (ICU) in a large tertiary hospital from a Western Canadian city. Purposive sampling was used to recruit participants with varying levels of experience and knowledge, using the following inclusion criteria: a CCN (Registered Nurse [RN] or Nurse Practitioner [NP]) who had at least one year of experience in critical care. We employed posters and invitation letters sent via email by a key contact person to accrue potential participants. The final sample consisted of 11 participants, four of whom were NPs and seven RNs. The participants' critical care experience ranged between 1 and 15 years. The sample size was determined by data saturation, the point at which no new ideas were evident in the transcripts (Malterud et al., 2016).

Data Collection

Data collection occurred from January 2016 to June 2017. Activities included 30- to 60-minute individual face-to-face, semi-structured interviews, field notes, and a reflexive journal. Interviews were conducted by the first author, an RN and former CCN, at a location that was convenient to participants. We examined the interview guides from similar studies for content and wording of open-ended questions and used these guides to inform our interview questions. The initiating interview question was, can you tell me about your experience of providing palliative care to patients in the intensive care unit? This question was followed by probing questions, which were focused on identifying potential facilitators and barriers to palliative care. Interviews were digitally audio-recorded and transcribed verbatim by a transcriptionist. The files were stored in the Health Research Data Repository (HRDR) at the authors' home institution.

Data Analysis

Data analysis occurred concurrently with data collection. NVivo© was utilized to organize data analysis processes. We used thematic analysis to identify themes and patterns among the narrative data. Thematic analysis serves to identify and report patterns within data (Vaismoradi et al., 2013). It involves taking apart raw data and converting it into meaningful data through the identification of common themes (Castleberry & Nolen, 2018). Transcripts were read as a whole, followed by a detailed line-by-line reading to extract predominant ideas and stories. Preliminary codes were generated that were then discarded or modified until the final codes were obtained. Codes were then synthesized into main themes. The primary author performed data analysis with feedback from the second author at various stages of the study.

Methodological Rigour

Lincoln and Guba (1985) present four criteria for establishing rigour: (a) dependability, (b) confirmability, (c) credibility, (d) and transferability. Strategies that were used in this study to enhance these qualities include: maintaining an audit trail through documentation of study processes, exercising reflexivity by keeping a reflexive journal, engaging in peer debriefing and member checking, and thick description of the study process and findings. Following completion of data analysis, nine participants were invited to participate in member checking (two had declined consent to being approached for feedback). Four participants responded and their feedback served to confirm the findings. Additionally, this study has been reported using the Consolidation Criteria for Reporting Qualitative Research (COREQ) checklist (Tong et al., 2007).

Findings

Participants articulated several barriers to and facilitators of palliative care in critical care. While the research question focused on the broader experience of palliative care, the nurses tended to focus on their experiences of providing end-of-life care. End-of-life care refers to care that is provided when a person's death is imminent (Health Canada, 2018). The most salient barriers and facilitators identified were related to communication, end-of-life decision making, the life-saving mentality of the ICU, palliative care education, and the critical care environment. We describe these below.

Communication

Several nurses expressed that conversations related to palliative care in critical care are often avoided: *"It seems like talking about death is a faux pas"* (P8). Others explained that when these conversations occur, they are not addressed early enough in a patient's illness trajectory. Participating nurses also expressed a concern that palliative care related communication between the health care team and the family is often inconsistent. One nurse recounted a specific experience that had been plagued by inconsistent communication:

> *"And the perspective of Surgery, was that the surgery was a success. And it was a success in terms of what they expected to happen was happening. So, it didn't necessarily mean the patient was actually going to recover, or that it did him any good…Surgery was just pleased that his ostomy was putting out stool…When everything else was falling apart. And I remember, the ICU resident went in and spoke to the family and said, "we need to change the focus of care." And the family seemed like they were kind of on board with that…. But every once in a while, a surgeon would walk in and be like, "Oh, yeah. We're really pleased with how this is going." And then they'd [the family] be confused"* (p.3).

Alternatively, participating nurses were adamant that effective communication is an essential facilitator of palliative care. The nurses explained that effective communication is open and honest, timely, and patient-centred. They emphasized that the goal of effective communication is to enter into a dialogue to identify what is most important to the patient in relation to end-of-life care and final wishes.

> *"So, he [Physician] had a conversation with her, while she was still intubated, and told her, "this is how it is," and he's like, "you're probably not gonna live through this." And she had written him a note, "can I have a beer?" So, they made a plan. The next day, they would extubate her. And he brought her out a beer. And she sat in her bed, and she was able to talk to her family a little bit. And take some sips of her beer. And she just passed away. And that was like the best death ever. 'Cause she was perfectly in acceptance, and she got what she wanted"* (p.7).

End-of-Life Decision Making

Participants reported that many palliative care discussions between patients, families, and the health care team in critical care focus on making decisions related to end-of-life care and withdrawing or withholding life-sustaining treatment. They also said that families are often heavily involved in making these final decisions. However, several nurses suggested that this responsibility can be a great burden on families, because it is often unexpected and crisis driven, creating feelings of stress, guilt, and doubt (P8; P10). Participants clearly articulated that end-of-life decision making, particularly related to withdrawing and withholding treatment, can be complex and difficult. Many nurses suggested that end-of-life discussions and decision-making can be thwarted by disagreements regarding directions of care, particularly between the medical team and the patient's family. One nurse recalled a particularly distressing confrontation with a patient's mother: "*His mother was like, shaking me. 'You can't pull the plug on [him]!' And it was awful. I felt so bad for them, but they had to understand, right? Like, there's nothing we can do*" (P2). Additionally, many of the nurses reported that a patient's care often remains on a blurred line between resuscitation and end-of-life care, in a state of limbo per se, in which no finite decision has been made. This creates more problems:

> *"What we were doing for this patient was not enough to save her life but [it was] too much that it was kind of putting her in a little bit of pain… But she's not intubated. We didn't line her. We didn't provide her any support for her blood pressure. She's super hypotensive, so I couldn't even give her pain medications. And so, I just felt like, either let's treat her or let's not, but I felt like we were kind of in the middle. And so, I felt very confused and distressed as to how I should proceed"* (p.6).

Alternatively, many nurses emphasized the importance of supporting patients and their families through a decision-making process, particularly regarding withdrawing and withholding life-sustaining treatments. One key to supportive decision-making is to allow a family the time they require to decide what they feel is best for their family member (P6). Additionally, many of the nurses identified the positive impact that advance care planning can have on end-of-life decisions.

> *"They can say, 'No, my mom was very adamant, you know. She wouldn't want to be on dialysis.' Or 'My dad, you know, told me, never, ever would he want to have CPR.' … I think those are the best conversations that can happen before the situation, because then that gives us a good understanding of what the patient would be comfortable with"* (p.9).

Life-Saving Mentality of the ICU

There was a consensus among the nurses that there is an innate culture of critical care that can both facilitate and hinder end-of-life care in the ICU. For example, the nurses explained that the ICU is grounded in a life-saving mentality, which can create a hierarchy of patient priority. They explained that once a decision is made to shift the focus of care to providing end-of-life care, often it seems that the patient becomes less of a priority compared to other patients on the unit. One nurse mentioned *"You've gotta see your resuscitations and your critically ill first or even your transfers out get seen first, like we just don't see our palliative patients as a priority"* (P10). The nurses in the study also associated this hierarchy of priority with the reality that critically ill patients will have priority over palliative patients with regards to bed occupancy. This meant that an imminently dying patient could be transferred out of ICU to make room for a critically ill patient. One nurse recalled working with a physician who was eager to move a palliative patient out of the ICU, rushing her, saying, *"'Get it going, let's go, why is he is still intubated? He's taking up a bed for people who need it more.'… We're just waiting for the kid's grandpa to come in. He's gonna be here at two o'clock. [The physician said] 'We don't have 'til two o'clock. We have people waiting for ICU beds'"* (p.3).

Many of the nurses said that the recent introduction of designated palliative care beds to the hospital had been beneficial, but not quite adequate to meet the needs of their palliative patients [P3]. The nurses said that they often experience substantial conflict between wanting to keep a patient who is imminently dying in the ICU versus the harsh reality of needing to free up the beds for incoming critically ill patients. One nurse explained, *"It's almost more distressing when you move someone. And then, hours later, they pass. Like, it just seems like why put them through that stress, when it was only a few hours later"* (P3).

Overall, participants said they prefer to care for an imminently dying patient in the ICU rather than transferring such a patient to another unit. Additionally, many nurses spoke about the challenges of "shifting hats" from providing aggressive lifesaving and life-prolonging interventions to providing palliative care. For instance, one nurse shared, *"when you switch to a palliative patient, it's almost like there's the big backpack of ICU that you are carrying; you just take it off and put it in the corner"* (P5). Although they often struggle with having to shift the focus of care, the nurses showed pride in their ability to do so: *"I'm proud of the nurses for being able to switch hats so quickly, and move into providing comfort and basic care, to provide dignity and a good death"* (p.4).

Palliative Care Education

Several of the nurses identified that minimal access to palliative care education is a barrier to palliative care in the ICU. Some of the nurses said that everything they know about palliative care is what they've learned on the job rather than anything they were formally taught. As one nurse said, *"You know, it's something that you just gain with experience"* (P1). Several nurses expressed a desire for education on how to engage in serious illness conversations with patients and their families (P1; P7; P9). Another nurse suggested putting a component of palliative care education into the ICU school education:

> *"I think if they did even just a small little tidbit of, 'Okay, sometimes you're gonna be withdrawing on your patient, and this is what you should be expecting…' When you're new, you're all gung-ho, caring for like the super sick patients that you're trying to provide all the interventions for…But then, you'll get the one patient that you're withdrawing on, and… it's hard to make that transition quickly"* (p.7).

The Critical Care Environment

Many of the nurses said that specific components of the ICU environment can both impede and improve palliative care. They highlighted that the heavy use of technology, lack of privacy, and the noisy bustling atmosphere of the ICU environment can hinder palliative care experiences [P4]. One nurse pointed out *"there is nothing particularly warm or comfortable in the ICU, but the biggest problem isn't comfort, it's lack of familiar surroundings"* (P1). Nurses emphasized the importance of offering comfort to patients and their families such as refreshment carts. They also supported the need to personalize the space by decorating a patient's room with family photos and personal mementos. Additionally, they noted that it is important to create an environment that enables family presence at end of life. One nurse recalled caring for a particular patient:

> *"She was quite a young woman who had epilepsy for most of her life. She had a prolonged grand mal seizure, and as a result her brain was just not functioning. So, her husband, who was fantastic, just wanted to be close to her. So, my colleagues and I made it so that we could scootch her over in bed enough so that he could crawl beside her… I don't know if she could feel that he was there, but I think it made it better for him"* (p.4).

Additionally**,** nurses identified that the inherent interdisciplinary nature of the ICU creates an environment that facilitates palliative care. The nurses frequently referred to the strengths of specific members of the multi-disciplinary team, such as NPs, spiritual care practitioners, social workers, and respiratory therapists. For instance, one nurse recalled a young Indigenous woman who had lived a hard life and was dying of liver failure:

> *"She was estranged from all of her family, and one of our aboriginal counsellors stayed at her bedside all night and sang to her, and sang to her while she died, and that just had such a profound impact, that nobody else was really even going in the room. But this woman sat with her. She didn't know her and sang to her all night"* (p.10).

Several of the nurses identified that the one-to-one nurse-patient ratio of ICU facilitates nurses to form strong therapeutic emotional connections with many of the palliative patients and their families. They shared many experiences of bonding and crying with families over the loss of a loved one. Participants recalled the strong impact made on them by some patients and families, often describing them as unforgettable. For instance, one nurse explained, *"I have this little group of patients that follow me around in my head, both goods and bads that help me adjust how I approach things now. They're like my teachers with palliative care"* (P10). This profound connection between nurse and patient, has deep implications for nurses who provide palliative care in any setting.

Overall, participating nurses had a clear understanding of what impedes and what facilitates palliative care in critical care. They were adamant that for the sake of patients and their families, the barriers to palliative care need to be addressed.

Table 1

Barriers and Facilitators in the Provision of Palliative Care in Critical Care Overview of Themes

Theme	Examples of Barriers	Examples of Facilitators
Communication	Does not occur early enough, **i**nconsistent	Open, honest, timely, patient and family-centred
End-of-Life Decision Making	The burden of decision making on family, disagreements regarding the direction of care	Advance care planning**,** family support, appropriate timing
Life-Saving Mentality of ICU	Life-saving mentality, hierarchy of patient priority, moral distress	Debriefing sessions, access to counselling, "shifting hats"
Palliative Care Education	Lack of palliative care education and training	Access to palliative care education and training
The Critical Care Environment	Noise, technology, lack of privacy	One-on-one nursing care, family presence, extra comforts, interdisciplinary nature of the ICU

Discussion

Study findings revealed that participating nurses were highly committed to improving the quality of palliative care provided in critical care. The themes in this study mirror similar findings reported in the critical care literature. Additionally, the findings of this study support that efforts must be focused on developing and engaging in processes that serve to enhance palliative care in critical care. Although not an exhaustive list, such efforts should include early integration of the palliative approach, supporting effective communication and decision making, providing palliative education to critical care staff, and promoting an environment that is conducive to quality end-of-life experiences. Below, we discuss each of these implications.

Early Integration of a Palliative Approach

Early integration of a palliative approach in critical care promotes quality of care, enhances quality of life, and improves the experiences of patients, families and health care providers (Lakin et al., 2016). Processes need to be in place to assist ICU clinicians to proactively identify patients and families who would benefit from a palliative approach. Several evidence-based palliative screening tools have been developed to identify people who would benefit from palliative care services (McCarroll, 2018). These screening questions focus on criteria such as the onset of a new or advanced diagnosis, presence of co-morbidities and chronic illness, frequency of hospital and ICU admissions, complex symptom and care needs, lack of social supports.

Another strategy to support early integration of palliative care in the ICU is to garner support from local palliative care leaders. This could manifest in the form of collaboration with local health authorities and governmental bodies to establish strategic planning and goals that would address the palliative care needs of critical care. Other palliative care leaders who can support critical care include the interprofessional palliative specialist team. The nurses in this study said that, more frequent consultations with palliative care specialists would improve the quality of palliative care provided to critical care patients. These teams have the expertise to support intensive care teams in developing their primary palliative skills and recognizing when specialist palliative care support is required (McAndrew et al., 2021). Other strategies to support palliative care in the ICU include establishing designated ICU palliative care champions and mentors to support ICU staff and utilizing a palliative care checklist to serve as a reminder to ICU health care providers to address palliative care topics during treatment planning (Kyeremanteng et al., 2020; McAndrew et al., 2021).

Supporting Effective Communication and Decision Making

Active participation in health care decisions is impossible for many critically ill patients because of their impaired capacity (Goldfarb et al., 2017). As such, the health team often relies heavily on direction from the patient's family. Effective communication between the health care team and families is crucial (Hinkle et al., 2015). Families who participate in frequent family conferences and collaborative decision making, experience greater satisfaction with care, less conflict, and are more often able to reach a consensus regarding the direction of patient care (Hwang et al., 2014). Effective communication with patients and their families is a well documented challenge in the ICU that has been further exacerbated by the recent pandemic. For instance, current visitation restrictions in response to the COVID-19 pandemic prevent families from being actively engaged in communication and hinder their ability to advocate and be a potent reminder of the patient as a whole person (Akgun et al., 2019). The COVID-19 pandemic has brought to light how essential it is to establish and leverage effective communication strategies that support quality palliative care in the ICU (McAndrew et al., 2021). Such strategies include conducting an initial assessment of communication preferences and needs (Akgun et al., 2019); assigning a team member(s) to act as the primary outreach representative each day (Kerckhoffs et al., 2019); holding family meetings as early as possible and at regular intervals thereafter (Akgun et al., 2019); using internet-based solutions, such as video conferencing (however, it is important to identify situations in which family members lack access to reliable internet access, devices, or technological literacy; Hart et al., 2020; Neville, 2020); and engaging palliative care specialists as partners in communication. Another important strategy is to leverage the communication skills of ICU nurses. For instance, O'Donnell et al., (2020) established a successful Critical Care Nurse Communicator Program in the Trauma Life Support Center at the University of Wisconsin, in which an experienced ICU nurse with additional palliative care training staffs the ICU seven days per week to support effective communication and allocation of resources for patients and families.

Palliative Care Education

Health care providers need to be adequately trained to provide the highest standard of palliative care to patients and their families (Canadian Institute for Health Information [CIHI], 2018). The COVID pandemic has resulted in high volumes of severely ill patients requiring advanced life sustaining treatments in intensive care units, further highlighting that every clinician needs knowledge and skills in the fundamentals of palliative care (Akgun et al., 2019; Rosa et al., 2020). Many authors suggest that palliative education should be introduced earlier within the nursing undergraduate programs so that palliative care is not a foreign concept as nurses begin their careers (Kaasalainen et al., 2015). Health Canada (2018) identifies that palliative care education targeting the continuum of care across all settings is crucial for effective delivery and sustainability of palliative care in Canada. Additionally, the CACCN (2011) has mandated that CCNs be able to support patients in their transition to end-of-life. This is a gap that needs to be addressed as many CCNs report that they have inadequate palliative care training to meet the needs of patients and families (Anderson et al., 2016). There are several challenges to providing palliative care education to health care providers including a lack of standardization, funding, and staffing shortages (CIHI, 2018). Health Canada's (2019) Action Plan on Palliative Care calls us to make palliative care education a priority, "to support health system quality by improving palliative care skills and supports for health care providers, families, caregivers, and communities" (p. 3).

CCNs should receive palliative care education specifically related to communication skills, inter-professional collaboration, and palliative symptom management (ELNEC, 2017). In the United States, programs to address the palliative education needs of CCNs have been developed (ELNEC, 2017). Similar ICU-specific educational programs have yet to be developed in Canada. However, there are valuable palliative care educational opportunities available in Canada, such as educational resources offered through the Canadian Virtual Hospice, Pallium's Learning Essential Approaches to Palliative Care courses, and several courses offered through Victoria Hospice. There are also several palliative care guidelines that CCNs can refer too, such as the Registered Nurses Association of Ontario's (2020) "A palliative approach to care in the last 12 months of life", and the palliative care competency frameworks developed by the Nova Scotia Health Authority (2017), British Columbia Center for Palliative Care (2018), Ontario Palliative Care Network (2019), and the Covenant Health Palliative Institute (2020).

Critical Care Environment

The balance between technology and calm, interventions and presence, isolation and vigilance, efficiency and time for pause, and communication and silence make critical care a challenging environment for palliative care (Fournier, 2017). CCN's have repeatedly demonstrated their skills of navigating these environment-related challenges by minimizing as much of the ICU as possible, such as removing unneeded medical equipment, discontinuing invasive lines, and slowing the overall tempo and pace of activity in a patient's room (Efstathiou & Walker, 2014). Establishing a supportive environment that is conducive to end-of-life care has been further complicated by the isolating effects of the COVID-19 restrictions. To counter the negative impact of COVID-19, one hospital ICU introduced a video-conferencing strategy to promote patient-family connection. This consisted of adding to every patient's room a computing device with video-conferencing capabilities. During morning rounds, the last item on the ICU checklist was to make sure videoconferencing between patients and their families had occurred once a day, even if it was just five minutes long and all the family members could see is their loved one intubated, sedated, and prone (Neville, 2020). This is a strategy that can be used to support quality palliative care in the ICU even beyond the pandemic, particularly for families who are unable to visit their loved one due to geographical, health, or financial constraints.

Other supportive environmental elements that promote quality end of life have been identified. These include ensuring that the patient's room is clean and devoid of clutter; making the patient's bed a space of comfort through the use of extra pillows and blankets; ensuring that the patient is accessible to the family so that they can visit with and be encouraged to touch and to support the patient; maintaining an environment that is calm; eliminating distressing sounds such as alarms; providing a private room to accommodate larger numbers of visitors and to ensure privacy; encouraging family members to bring in photographs and other special objects to transform the space into a personalized environment; and ensuring that there are adequate locations for the family to sit and rest with the patient (Fournier; 2017; McCallum & McConigley, 2013;). Additionally, several of the nurses in this study stressed that greater effort needs to be placed on providing "extra little comforts" to family members of imminently dying patients. For this purpose, many health care locations have developed comfort carts that are brought to the rooms of imminently dying patients.

There is a delicate balance between providing life-saving technology and providing comfort and peace when it is the right time. The resource-intensive services of critical care are extremely costly to the health care system and, as such, are generally reserved for patients in dire need of critical care interventions (CIHI 2016). If an imminently dying patient is occupying a critical care bed, this means that another critically ill patient's admission to the ICU is either being refused or delayed, which has been shown to increase a patient's risk of mortality (Robert et al., 2012). The recent strains on health system capacity due to the pandemic has further compounded this issue raising ethical questions about rationed care (Rosa et al., 2020). This raises an ethical dilemma related to the principle that all patients should have equitable access to health care (Bandrauk et al., 2018). Several of the nurses said that the recent introduction of designated palliative care beds to the hospital had been beneficial, but not quite adequate to meet the needs of their palliative patients. Many of the nurses in this study expressed concerns over having to transfer imminently dying patients out of the ICU to other units. Study findings reveal the importance that critical care environments be able to accommodate the needs of patients requiring end-of-life care. As such, this is an issue that requires further exploration.

Limitations

The scope of this study was limited to understanding the perceptions of CCNs within the local context and before the outset of the COVID-19 pandemic. Our results may not reflect the perceptions of nurses working in other settings or the pandemic-related nurses' experiences concerning palliative and end-of-life care. Also, the perspectives of other members of the interdisciplinary team and family members were not explored and might differ from the ones found in this study. There is also a potential for researcher bias in interpreting the data. Strategies were in place to strengthen the rigour of this study. We hope these findings will create opportunities for reflection among critical care nurses and allied health providers concerning actions that can be taken to improve the end-of-life experiences of patients and their families.

Conclusion

The need to deliver palliative care is increasingly common in critical care. However, there are many barriers and facilitators that influence palliative care experiences in the critical care setting. Understanding these barriers and facilitators from the perspective of the CCNs provides insight and direction into what supports are required to improve the quality of palliative care in the critical care context and in the midst of the current pandemic and beyond. For end-of-life care, the range of

our capabilities has become restricted. With a little effort and courage, we can still perform the small acts of kindness that we already know make a big difference (Neville, 2020). This study will provide some direction and insight into this very important component of critical care.

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The development and implementation of an evidence-based risk reduction algorithm for post-extubation dysphagia in intensive care

By Jennifer Barker, MHSc, SLP, Morgan Davidson, MSc, PEng, RN, Eddy Fan, MD, PhD, FRCPC, Shauna Hellen, MHSc, SLP and Trish Williams, MSLP, SLP

Abstract

Intubation and mechanical ventilation are often required to support critically ill patients. These are life-sustaining measures and when they are no longer necessary, patients need to be carefully transitioned back to breathing, eating, and talking on their own. Post-extubation dysphagia is defined as swallowing difficulty following extubation. This condition can affect up to 87% of critically ill patients and can cause serious health complications such as aspiration pneumonia, which could require re-intubation, prolonged intensive care stays and increased in-hospital mortality. Currently, many extubated patients are trialed with oral intake without dysphagia screening or kept with nothing by mouth pending speech language pathology evaluation. This is not only a source of discomfort and distress for patients, families, and staff, but also can lead to malnutrition and dehydration, and put patients at risk for aspiration. Systematically screening extubated patients for dysphagia is an opportunity to improve practice by enabling nurses to advocate for the safe and timely resumption of oral intake. A novel, evidence-based algorithm, called SAPE (Swallowing Algorithm Post-Extubation) was developed by an interdisciplinary critical care team to assist nurses to identify risk factors for post-extubation dysphagia and help make evidence-informed decisions regarding referral to speech-language pathology and initiation of per os intake in the absence of a water swallow test. SAPE was implemented in four tertiary-level medical and/or surgical intensive care units. Process and outcome measures of a quality improvement initiative are discussed, and future directions proposed.

Keywords: extubation, dysphagia, deglutition disorders, quality improvement, patient safety

Barker, J., Davidson, M., Fan, E., Hellen, S., & Williams, T. (2022). The development and implementation of an evidence-based risk reduction algorithm for post-extubation dysphagia in intensive care. *The Canadian Journal of Critical Care Nursing, 33*(1), 22–29. DOI: 10.5737/23688653-3312229

Implications for Nurses

- Discusses the etiology and incidence of post-extubation dysphagia
- Describes the potential impact of post-extubation dysphagia on critically ill patients
- Describes a quality improvement initiative aimed at improving nursing practice
- Discusses the outcomes of the implementation of a post-extubation dysphagia-screening algorithm in an intensive care unit

More than five million individuals are admitted to intensive care units (ICU) annually in North America (Barrett et al., 2015; Canadian Institute for Health Information, 2016). Invasive mechanical ventilation is one of the most common interventions provided in the ICU and is delivered to 20–40% of all critically ill patients (Barrett et al., 2015; Canadian Institute for Health Information, 2016; Wunsch et al., 2013). Recently, there has been increased attention in the literature surrounding post-extubation dysphagia (PED), as an under-recognized sequela of mechanical ventilation (Brodsky et al., 2020). The pathogenesis of PED occurs through one or more of the following mechanisms: oropharyngeal and laryngeal trauma with intubation, reduced laryngeal sensation, dyssynchronous breathing and swallowing patterns, neuromuscular weakness, altered sensorium, and gastro-esophageal reflux (Brodsky et al., 2014; Macht et al., 2011; Skoretz et al., 2010).

While the true incidence of PED is unknown, previous studies have reported rates between 3% and 87% of patients who have required intubation (Brodsky et al., 2020; de Medeiros et al., 2016; Skoretz et al., 2010). This wide range of incidence may be due to the heterogeneity of patient populations studied and differences in diagnostic measures, intubation duration, and the timing of the PED assessment (Rassameehiran et al., 2015). Although PED can occur with any duration of intubation, the incidence of PED reaches 67.5% by 48 hours, particularly in trauma patients and following cardiovascular surgery (Barker et al., 2009; Leder et al., 1998; Skoretz et al., 2014).

PED is an independent predictor of mortality (Schefold et al., 2017) and is also associated with a range of negative sequalae such as malnutrition, hunger and thirst, aspiration pneumonia, prolonged mechanical ventilation, and extended ICU/hospital stays (Macht et al., 2011; Macht et al., 2014). The presence of dysphagia, regardless of etiology, increases the length of stay for patients by five times and can cost the healthcare system approximately $94,000 USD per patient (Altman et al., 2010; Kozlow et al., 2003; Sutherland et al., 2010), making PED a clinically relevant problem in the ICU.

The gold-standard for dysphagia evaluation is a videofluoroscopic swallowing study (VFSS) or fiberoptic endoscopic evaluation of swallowing (FEES) (Ajemian et al., 2001; Leder et al., 1998; Martino et al., 2009), as they allow clinicians to have an objective view of all stages of swallowing. However, instrumental tests are not always available, feasible, or timely (Rassameehiran et al., 2015), so bedside swallowing evaluations (BSE) or screenings are performed by Speech-Language Pathologists (SLPs) or trained ICU nurses approximately 60% of the time (Macht et al., 2012).

Current tools used to screen for PED use a water swallow test (e.g., 3 oz [90 mL] of water), including the Post-Extubation Dysphagia Screening tool (Johnson et al., 2018), the Yale Swallow Protocol (Suiter et al., 2014), the Modified Gugging Swallow Screen (Christensen & Trapl, 2017) and the Bernese ICU Dysphagia Algorithm (Zuercher, Dziewas, et al., 2020). While these water swallow tests provide practical and deployable tools for PED screening, they have shortcomings. They are unable to detect silent aspiration (Ferguson & Lamb, 2015) and they do not fully account for patient- and procedure-specific risk factors that could affect swallow function. To our knowledge, there is currently no valid and reliable screening tool for PED that does not employ a water swallow test.

We describe conceptualization, development, and implementation of an enhanced post-extubation screening algorithm. We focused on the early identification of at-risk patients and a streamlined referral to SLP for definitive evaluation and management without the need to put patients at unnecessary risk of a water swallow test. The specific aims of this project were (1) to increase critical care providers' knowledge about PED and, (2) to develop and implement the Swallowing Algorithm Post-Extubation (SAPE) across our institution to enable systematic, timely and thorough screening of ICU patients for PED.

Method

Setting

This project took place at two adult, tertiary care hospitals (Toronto General and Toronto Western Hospitals) located within a single academic hospital network (University Health Network) in a large, urban city. Across the sites, there are four ICUs: a medical-surgical ICU (MSICU), a coronary-care ICU (CICU), a cardiovascular surgical ICU (CVICU), and a medical-surgical/neuroscience ICU (MSNICU). These ICUs range in size from eight to 32 beds and service, collectively, more than 5,600 patients per year. These ICUs provide care to patients with acute respiratory distress syndrome (ARDS), cardiopulmonary failure, sepsis and multiorgan failure. Additionally, specialized post-operative care is provided for patients undergoing cardiac, vascular, solid organ transplantation, orthopedic surgery, and neurosurgery.

SAPE Algorithm Development

SAPE was developed by a multidisciplinary working group consisting of three SLPs, two registered dietitians, three registered nurses (RNs), and three respiratory therapists who work full-time across the four critical care units. First, we performed a literature review of the Medline database (from inception to April 2017) using the following search terms: extubation, deglutition disorders, and dysphagia. Articles were limited to English language, humans, and adults (18 plus years of age). Additional articles were sourced between April 2017 and May 2018 through manual searching of reference lists, relevant journals, and consultation with colleagues. Relevant articles were divided between members of the working group and were each read by no less than four working group members, including a representative from each profession. Data extracted were title, author, year of publication, issues addressed in the article, problem statement, research method and overall findings. Articles were summarized by each sub-group and then discussed with the full working group to make decisions regarding indicators to be included in a draft algorithm. The algorithm underwent 10 iterations based on the literature review and consensus of stakeholders and experts within critical care. A total of 27 articles were reviewed and clinical recommendations from 20 of these articles were included in SAPE (Figure 1).

Patients who are intubated for greater than 48 hours or who have a tracheostomy are kept nil per os (NPO) with enteral feeds and referred to SLP for a swallow assessment (Barker et al., 2009; Brown et al., 2011; Ding & Logemann, 2005; Elpern et al., 2000; Macht et al., 2012; Skoretz et al., 2014). Patients with multiple intubations (Macht et al., 2012; Macht et al., 2013), laryngeal edema (Dziewas et al., 2017), stroke (and failed Toronto Bedside Swallowing Screening Test©), neurological or neuromuscular diagnosis (Clavé & Shaker, 2015; Macht et al., 2012; Martino et al., 2009; Ponfick et al., 2015), history of dysphagia (Macht et al., 2012), head and neck cancer (Macht et al., 2012; Schindler et al., 2015), thoracic abdominal aortic aneurysm repair (Ishii et al., 2004) or anterior cervical discectomy and fusion (Wolf & Meiners, 2003) are kept NPO with enteral feeds and referred to SLP for a swallow assessment post-extubation. Finally, vocal fold damage was initially added to the algorithm based on expert consensus and experience, however, was subsequently found to be supported in the literature (Zhou et al., 2019).

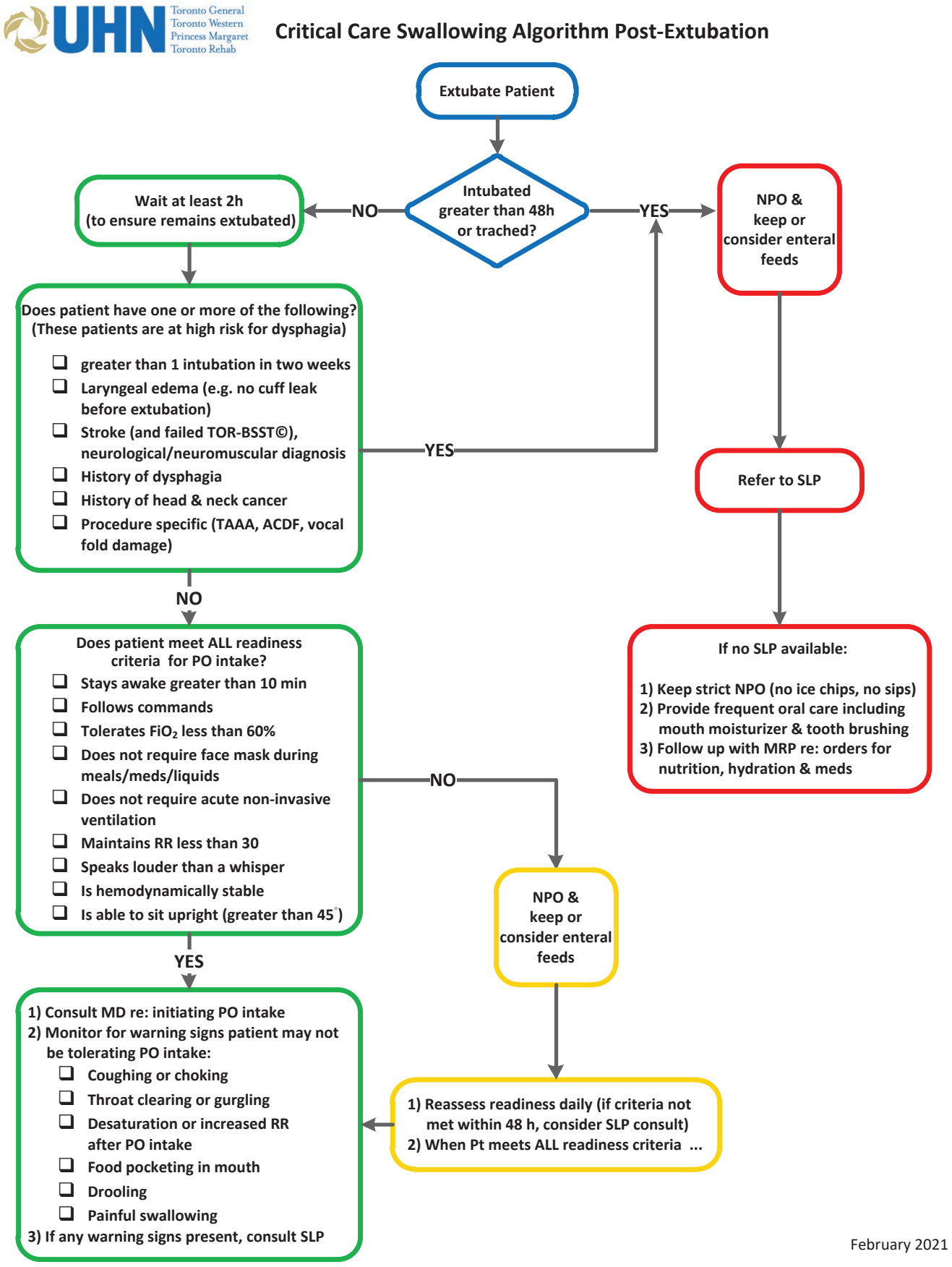
Patients intubated for less than 48 hours, with no past medical history to predispose them to dysphagia, are deemed ready for oral intake if hemodynamically stable and able to follow commands (Leder et al., 2009), maintain alertness for longer than 10 minutes, tolerate FiO_2 less than 60%, breathe without a face mask during oral intake, breathe without non-invasive ventilation, maintain a respiratory rate of less than 30 breaths per minute, speak louder than a whisper and sit upright (Macht et al., 2012). A water swallow test or screening is not included in SAPE. Once oral intake is initiated, RNs monitor for coughing, choking, throat clearing, gurgling, desaturation or increased respiratory rate, food pocketing in the mouth, drooling and painful swallowing. If any of the above warning signs are present, the algorithm recommends an SLP consult.

Intervention

The primary purpose of SAPE is to guide RNs to identify risk factors for PED and make decisions regarding referral to SLP and initiation of oral intake. Rollout of SAPE was a multi-phase process, including a pilot study, quality improvement project,

Figure 1

Swallowing Algorithm Post Extubation



dissemination, and policy development. Details are described in the following sections following the SQUIRE 2.0 guidelines for quality improvement reporting (Davidoff et al., 2008; Ogrinc et al., 2016).

Pilot testing of the algorithm was completed in the CVICU between June and September 2018. This unit was chosen due to its smaller size and relatively uniform patient population. To start, pre-training surveys were administered to determine the knowledge of trainees with regard to PED and current practice. Then thirty-minute training sessions provided to nursing and allied health professionals were conducted in small groups during June 2018 where the decision points in the algorithm were reviewed and then used in case study examples, tailored to specific ICU patient populations, to consolidate learning.

In September 2018, after SAPE was in use in the CVICU for two months, post-implementation surveys were conducted to assess knowledge of PED and current practice. Changes were made to the algorithm based on feedback from the pilot and the revised algorithm was launched in CVICU in October 2018 and expanded into CICU, MSICU, and MSNICU over the next six months.

Implementation of SAPE in the MSICU was accompanied by a quality improvement project led by one of the authors (M. Davidson) in order to evaluate the knowledge translation and use of SAPE. A waiver of consent was obtained from the institutional ethics review board at the University Health Network for this quality improvement project. The MSICU was chosen to evaluate the algorithm, as it is the largest ICU at our facility and has a mixed medical-surgical patient population. Initially, a needs assessment was completed to determine the impact of PED on the MSICU's patient population and to assess the staff's knowledge and practice around resuming oral intake after extubation. This was done via a retrospective chart review from October 2018 and a survey of the MSICU's interprofessional staff. Information of interest during the chart review included intubation duration, presence of PED risk factors, onset of oral intake and whether an SLP referral was obtained. Staff surveys assessed practices around starting oral intake after extubation, staff confidence with starting oral intake after extubation and staff knowledge about PED risk factors. Based on these surveys, education was provided during January and February 2019. Training was completed using 1:1 peer teaching, small group sessions, new hire orientations, and presentations at physician rounds. Staff were also engaged by using SAPE signage placed at the point-of-care, presentations at daily unit safety huddles, and email reminders. SAPE was put into practice January 2019 after an initial two weeks of staff training. Evaluation of SAPE occurred in March 2019 with a five-week chart audit and post-implementation staff survey using the same criteria as the baseline needs assessment.

Process and Outcome Measures

The aim of the quality improvement project was to implement SAPE in the MSICU to achieve a 60% adherence with this algorithm within five weeks of implementation. Process measures included the percentage of staff trained to use SAPE and the improvement in staff knowledge about PED. Outcome measures were the percentage of MSICU extubated patients screened using SAPE, and the percentage of at-risk patients referred to SLP.

To evaluate the process measures above, the percentage of staff trained was calculated at the end of the training period as a percentage of the total number of interdisciplinary staff employed in the MSICU. Pre- and post-implementation surveys were used to assess the change in staff knowledge about PED. The quantitative outcome measures were evaluated and analyzed using a run chart analysis from five pre- and post-SAPE implementation weeks based on data from the chart reviews.

Results

Staff Training

A total of 174 (62%) of the MSICU's interprofessional staff were trained during the months of January and February 2019. Specifically, 135 RNs (68%), 20 respiratory therapists (40%), 14 physicians (56%), one registered dietitian (50%), and four physiotherapists (100%) were trained.

Due to high unit strain during the training period, in-service educational sessions were difficult for staff to attend, so the majority of the training was completed with individuals or small groups at the bedside. This brought forward personal narratives and improved staff engagement in the training materials.

Post-Extubation Dysphagia Knowledge

Prior to implementation of the algorithm, 43% of nurses reported that they regularly screened for dysphagia prior to initiating oral intake. Most of their screening methods were informal, involving a trial of water or ice chips and watching for any signs of difficulty (i.e., cough). The results of the post-survey for MSICU staff indicated that 74% of staff could now identify risk factors for PED and that 64% felt comfortable starting oral intake using SAPE. Additionally, 84% of staff now said that they would consider an SLP consult after extubating their patient. Each of these three metrics saw improvements of greater than 100% from baseline (Table 1). The MSICU staff felt there needed to be a standard of practice for starting oral intake after extubation, and 90% of survey respondents felt that SAPE met this need. Staff commented that it was a helpful tool both for their own practice and for educating families about starting oral intake safely.

SAPE Utilization and SLP Referrals

A one-month retrospective chart review from October 2018 revealed that 60% of patients were not referred to SLP despite being intubated for greater than 48 hours or having pre-existing conditions that predisposed them to PED. After SAPE was implemented in the MSICU, an average of 81% of MSICU extubated patients were screened using SAPE, which exceeded the initial project goal of 60% (Figure 2).

Screening rates rose concurrently with staff training rates, and by the final week of the evaluation period, 100% of extubated patients were screened with SAPE. Fifteen percent of eligible

Table 1

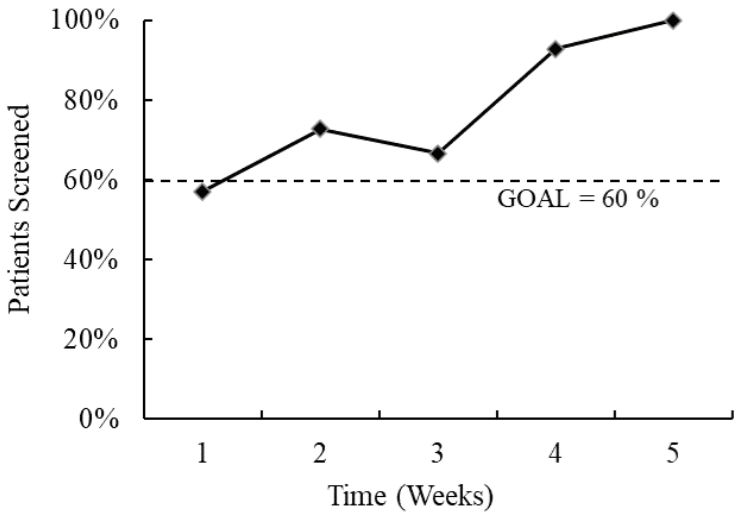
MSICU pre- and post-training results of interdisciplinary staff (N = 174)

Indicator	Pre-Training		Post-Training		Percent Increase
	n	%	*n*	%	
Identify Risk Factors for PED	52	30	129	74	148
Confident Initiating Oral Intake	52	30	111	64	113
Consult SLP Post-Extubation	61	35	146	84	139

Note. PED = Post-Extubation Dysphagia; SLP = Speech-Language Pathologist

Figure 2

Percentage of patients screened over the 5-week SAPE evaluation period in the MSICU



patients were not referred to SLP despite being identified for referral through SAPE, representing an opportunity for further improvement.

The implementation of systematic PED screening with SAPE increased the number of patients receiving an SLP consultation to 60%, from only 20% in October 2018, as demonstrated in the run chart in Figure 3. With one run across the midline occurring from the training period through the post-implementation evaluation period, a non-random pattern is seen. This indicates that the introduction of SAPE influenced an increase in the number of SLP referrals.

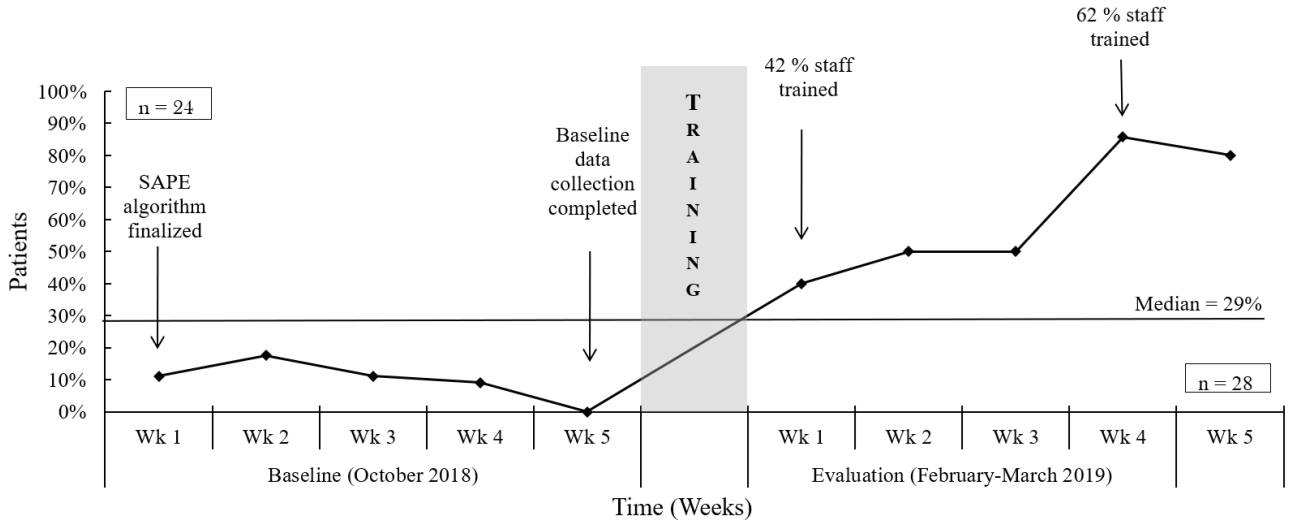
This run chart also depicts a reduction in SLP consultations in the final week of evaluation. This decrease may have been due to the miscalculation of the duration of intubation by some staff; wherein, total intubation time was determined by the time of the patient's arrival in the ICU and excluded intubation for the duration of surgery.

Discussion

SAPE is a decision-making guideline that was developed for use with critically ill patients to help identify risk for PED. It was developed by a multidisciplinary working group representing staff from four diverse ICUs, incorporating elements derived from best evidence in the literature. Creating an algorithm that captured specific considerations for each of these four ICUs made the task more complex due to the heterogeneity of their patient populations. To address this heterogeneity,

Figure 3

Run chart of percentage of extubated patients at risk for PED who received an SLP consultation



specific disease states were included based on consensus and available literature. The successful implementation and use of SAPE across multiple critical care units with broadly varying disease etiologies, demonstrates the utility and benefit of such a tool in identification of PED.

There is considerable variability in the awareness, screening, and diagnosis of PED (Marian et al., 2018), despite the fact that systematic screening for PED in the ICU is increasingly supported in the literature (American Association of Critical-Care, 2016; Brodsky et al., 2020; Mandell & Niederman, 2019; Zuercher, Dziewas, et al., 2020; Zuercher, Schenk, et al., 2020). A recent survey of Dutch ICU staff found that 84% of respondents felt that dysphagia was relevant and contributed to increased length of hospital stays and ICU re-admission rates. However, they significantly underestimated the incidence of PED at fewer than 25% of patients (van Snippenburg et al., 2019). Standardized protocols to guide the screening for dysphagia existed in only 22% of hospitals in the Netherlands (van Snippenburg et al., 2019), and only 29% of American hospitals have clear guidelines on when to involve SLPs in the care of recently extubated patients (Macht et al., 2012). ICUs where guidelines and algorithms for SLPs existed experienced a twofold increase in the number of patients assessed for dysphagia after extubation (Macht et al., 2012).

To date, one validated screening tool for identification of PED exists in a non-homogenous, stable patient population (Johnson et al., 2018). This screening tool, called the Post-Extubation Dysphagia Screening (PEDS) tool, leads nursing staff through decision points similar to our own algorithm. Where these two algorithms differ, however, is that SAPE uses a defined period of prolonged intubation (48 hours) to trigger a referral for SLP assessment, whereas PEDS relies on a water swallow screening. SAPE requires mandatory referral to SLP for a formal swallow assessment due to the high incidence of dysphagia in patients intubated greater than 48 hours (Skoretz et al., 2014).

One non-validated tool designed to manage PED in the ICU is the modified Gugging Swallow Screen (GuSS-ICU) (Christensen & Trapl, 2017), which applies to patients intubated greater than 72 hours. The patient must pass 10 elements on phase one of the tool and wait 24 hours post-extubation before being considered for swallowing screening. In contrast to this, SAPE allows for consideration for oral intake two hours post-extubation. This is in line with recent research (Marvin et al., 2019) revealing that resumption of oral intake is safe within two to four hours post extubation. Therefore, a 24-hour waiting period is unnecessary. Earlier access to oral intake and swallowing rehabilitation has the potential to improve quality of life for patients in the ICU.

Another algorithm used to detect aspiration in critically ill patients has been developed by Moss et al. (2020) based on results of SLP bedside swallow exams (BSE) compared to FEES in patients with acute respiratory failure (defined as patients requiring intubation for greater than 48 hours). Patients with pre-existing neuromuscular disorders, history of dysphagia, diagnosis of head and neck cancer or a related surgery or with a burn injury were excluded. In this study, the majority of participants did not have a BSE until one day after extubation. The resultant algorithm includes five factors: length of intubation, a 2-oz (60 mL) water swallow, APACHE II score, voice quality and patient diagnosis. Moss et al. (2020) identify 200 hours of intubation as the threshold for concern. As it stands, the algorithm does not appear to be intended for use by nurses to screen patients for PED. Rather, the algorithm would guide SLPs as to whether or not a BSE would be sufficient to determine aspiration risk in this patient population.

Compared to these screening tools and algorithms above, SAPE has many benefits for patients and clinicians. SAPE can be applied broadly, by bedside clinicians, to all extubated patients, regardless of diagnosis. It establishes a specific trigger point (48 hours of intubation) after which patients are automatically deemed high risk for dysphagia and are assessed by SLP. It requires a waiting period of two hours only post-extubation. Further, SAPE does not include a water swallow test, as there is poor evidence in the literature that a water swallow screen is effective in capturing aspiration in unstable, critically ill patients with varying underlying diagnoses. Finally, as a result of SAPE training and implementation, nurses reported feeling more confident having clear guidelines for resumption of oral intake for those patients who met criteria. Nurses' ability to identify risk factors for PED improved and referral rates to SLP for a formal swallow assessment increased. SAPE has also been formally adopted as an official policy in critical care at University Health Network.

Limitations and Future Work

Limitations to our work included the inability to train all staff, as well as variance in how that training was rolled out in the different critical care areas. Training was administered in three of the four ICUs by the unit SLP during the course of the regular workday. Dedicated non-clinical time to provide a more structured and consistent approach to team education was not possible due to resource constraints. As a result of this, not all training outcome data points were collected in a consistent manner across all ICUs. Ensuring that all staff received training was difficult due to the nature of shift work and sick leave, and the regular turnover of fellows and residents in our teaching hospitals. Post implementation data was collected from MSICU RNs, not all of whom may have received the formal SAPE training. As a result, only 64% confidence in initiating oral intake was achieved. Recognizing the importance of detecting PED, SAPE training is now included during the initial orientation of all new critical care nursing staff. It will need to be incorporated into orientation for other healthcare professionals.

Next steps include research to determine whether the use of SAPE accurately identifies presence or absence of PED, and subsequently reduces incidence of aspiration pneumonia, reintubation, and ICU length of stay. Qualitatively, it should be determined whether the use of SAPE impacts patient/caregiver satisfaction post-extubation. Prospective validation of the algorithm in a heterogeneous critical care population is required.

Conclusion

The *Swallowing Algorithm Post-Extubation (SAPE)* was developed based on best evidence to identify patients at risk of PED. It has been implemented in four ICUs at two hospital sites within a single tertiary level academic healthcare network. We have determined that, when staff have been trained in the use of this algorithm, nursing awareness of risk factors for PED and confidence in initiating oral intake improve. Moreover, the implementation of SAPE increased rates of referral to SLP and more bedside swallow assessments were performed, with the goal of reducing unnecessary risk when starting oral intake for patients at risk of PED.

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This paper features a quality improvement project and ethics approval was waived by the Research Ethics Board of the University Health Network (Waiver 18-0270), based on the ARECCI (A pRoject Ethics Community Consensus Initiative) screening tool. Our quality improvement project follows the SQUIRE 2.0 reporting guidelines (Davidoff et al., 2008; Ogrinc et al., 2016).

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