

CANNT JOURNAL JOURNAL ACITN

Volume 30, Issue 4 October–December 2020

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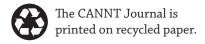
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Reprinted from the Nephrology Nursing Journal, 2017, Volume 44, Number 5, pp. 401-409, 446. Reprinted with permission of the American Nephrology Nurses Association, East Holly Avenue/Box 56, Pitman, NJ 08071-0056; (856) 256-2300; FAX (856) 589-7463; Website: www.anna.org; For a sample copy of the journal, please contact the publisher.



The CANNT Journal is the official publication of the Canadian Association of Nephrology Nurses and Technologists, 4 Cataragui St., Suite 310, Kingston, ON K7K 1Z7, telephone: (613) 507-6053, fax: 1-866-303-0626, email: cannt@ cannt.ca. Published quarterly, the journal is received by all members of CANNT. Subscriptions are: Canada \$80.00 (plus HST), US. \$90.00, Outside N. America \$115.00. Back issues, when available, are \$7.50 (+HST) per issue and are available from the editors. Opinions expressed by writers in the CANNT Journal are not necessarily those held by the editors or CANNT. Contrasting views by our readership and membership are welcome. All letters, comments and articles are to be sent to the CANNT office, 4 Cataraqui St., Suite 310, Kingston, ON K7K 1Z7.

1-877-720-2819 Website: www.cannt.ca

The CANNT Journal accepts articles (manuscripts) on an ongoing basis.

The CANNT Journal is indexed in the Cumulative Index to Nursing and Allied Health Literature (CINAHL), the International Nursing Index (INI), MEDLINE, EBSCO, ProQuest and Thomson Gale.

ISSN 2291-644X (Online) ISSN 1498-5136 (Print)

The CANNT Journal is produced by Pappin Communications, www.pappin.com

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Letter from the Editors

s we close out the year, we are reminded A of how we have had to dig deep into our reserves, figuratively for some and literally for others, in order to overcome the impact wrought by this indiscriminate pandemic. We share the sentiment echoed in the messages by our president and president-elect that CANNT has truly shown resilience through these trying times. It is indeed "the little [organization] that could." Much like the beloved Little Blue Engine in the classic tale The Little Engine That Could, the determination of the Board of Directors and CANNT's National Office shone through in the innovative ways to bring the virtual webinar series to life in lieu of the on-site conference. You, the members of CANNT, are well served by this group of creative and dogged renal professionals who never lose sight of the goal to provide quality patient care by looking after the interests of those providing this care. It is by looking after ourselves well that we can truly be *there* for our patients.

In addition to commending the tenacity of CANNT's Board of Directors, we would like to thank the many authors and contributors to the CANNT Journal and acknowledge the generosity of the manuscript peer reviewers, and the teams at Pappin Communications, Events Management Plus (CANNT National Office), and Lemieux Bédard (translator) who devote their time, knowledge, and expertise to help with the delivery of relevant, quality articles. We would also like to thank Dr. Marisa Battistella and her team, who unfailingly deliver on the outstanding Continuing Education series on renal pharmacology. This collective collaboration, along with the guidance and support of CANNT's Board of Directors, and the invaluable contributions of the authors and reviewers, contribute greatly to the journal's tradition of delivering a trusted quality publication. Of course, this would all be for naught without the journal's readership. We thank the readers for partaking of our collective quarterly offering.

In this issue, we take a fascinating look at the renal transplant evaluation process. In their publication *Medical and non-medical risk predictors of completing each phase of the transplant evaluation process in referred end-stage renal disease patients—A single cohort study*, Famure et al. (2020) present a compelling picture of how factors such as history of coronary artery disease, time on dialysis,

history of psychiatric issues, Black race, and travel distance to the transplant centre can influence the progression through these stages. Implicit in this are the social and economic influences on health, which are also taken up by Guerra-Guerrero et al.'s (2014) publication Understanding the life experience of people on hemodialysis: Adherence to treatment and quality of life. We are once again fortunate to have a collaborative relationship with the Nephrology Nursing Journal through the reprint of this important article in our journal. Guerra-Guerrero et al. also present a fascinating picture of how persons with end-stage kidney disease ascribe meaning to dialysis in their lives, particularly in the representation of dialysis as both life-limiting and life-giving. In both articles, we have a better appreciation of the struggles that our patients face in trying to reclaim their existence.

Finally, we would be remiss if we do not invite all renal nurses and technologists to submit manuscripts for publication. These manuscripts can be in the form of observational studies, clinical trials, care reports of interesting cases, solutions to clinical problems at the bedside, narrative reviews, and quality improvement projects. If you require assistance with the writing or submission process, please do not hesitate to contact us. We take great pride in our commitment to guiding you through the process of successfully publishing your manuscript in the *CANNT Journal*.

We wish you and yours a safe and meaningful holiday season in 2020. May 2021 bring another year of excellence in nephrology nursing and technological writing. More importantly, may the new year usher in a return to safe social connectedness and a sense of "normalcy."

Sincerely,



Jovina Bachynski, MN, RN(EC), CNeph(C), PhD Student



Rosa Marticorena, BScN, RN, CNeph(C), DCE, PhD

Co-editors, CANNT Journal

Message des rédactrices en chef

l'heure des bilans de fin d'année, nous certains facteurs - comme les antécédents de Anous rappelons à quel point nous avons dû puiser profondément dans nos réserves, au sens figuré pour certains et au sens propre pour d'autres, afin de surmonter les répercussions de cette pandémie qui n'épargne personne. Nous partageons le sentiment exprimé dans les messages de notre présidente et de notre présidente désignée : l'ACITN a vraiment fait preuve de résilience en ces temps difficiles. Il n'y a pas à dire, notre organisation n'a pas peur des défis! À l'image de ce cher petit train bleu du conte classique The Little Engine That Could, ou de son adaptation française Le petit train bleu, la détermination du conseil d'administration et du bureau national de l'ACITN s'est matérialisée par des solutions novatrices visant à donner vie à une série de webinaires en remplacement du congrès en présentiel. Les membres de l'ACITN sont très bien servis par ce groupe de professionnels de la néphrologie créatifs et acharnés, qui n'ont jamais perdu de vue l'objectif d'offrir des soins de qualité aux patients en veillant aux intérêts de ceux qui prodiguent ces soins. C'est en s'occupant bien de nous-mêmes que nous pouvons vraiment être là pour nos patients.

En plus de féliciter le conseil d'administration de l'ACITN pour sa persévérance, nous aimerions remercier les nombreux auteurs et collaborateurs à la Revue de l'ACITN et souligner la générosité de nos pairs qui ont révisé les manuscrits. Nous remercions aussi les équipes de Pappin Communications, d'Events & Management Plus (au bureau national de l'ACITN) et de Lemieux Bédard (traduction) qui ont mis à profit leur temps, leur savoir et leur expertise pour créer des articles pertinents et de qualité. Nous aimerions également remercier la D^{re} Marisa Battistella et son équipe, qui ont présenté la remarquable série de formation continue sur la pharmacologie en néphrologie. Ce travail collectif, qui s'ajoute aux avis et au soutien du conseil d'administration de l'ACITN ainsi qu'à l'apport inestimable des auteurs et des réviseurs, contribue grandement à la tradition de fiabilité et de qualité de la revue. Bien entendu, tout cela n'aurait pas lieu d'être sans les lecteurs de la revue. Nous les remercions de se prévaloir de notre offre collective trimestrielle.

Dans ce numéro, nous jetons un regard fascinant sur l'évolution des processus de transplantation rénale. Dans leur publication intitulée Medical and non-medical risk predictors of completing each phase of the transplant evaluation process in referred endstage renal disease patients — A single cohort study, Famure et ses collègues (2020) présentent un portrait convaincant de la façon dont

coronaropathie ou de troubles psychiatriques, la durée de la dialyse, la race noire et le temps de déplacement vers le centre de transplantation - peuvent influer sur la progression au fil de ces étapes. L'influence implicite de facteurs sociaux et économiques sur la santé est également prise en compte dans une publication de Guerra-Guerrero et ses collègues (2014), Understanding the life experience of people on hemodialysis: Adherence to treatment and quality of life. Nous sommes encore une fois privilégiés d'avoir des liens de collaboration avec le Nephrology Nursing Journal par le biais de la réédition de cet article important dans notre revue. L'article de Guerra-Guerrero et ses collègues brosse lui aussi un portrait fort intéressant de la façon dont les personnes atteintes d'insuffisance rénale terminale donnent un sens à la dialyse dans leur vie, plus spécialement dans la représentation de la dialyse comme étant à la fois limitante et vitale. Dans les deux articles, nous pouvons mieux comprendre les difficultés vécues par nos patients dans leur quête pour reprendre le contrôle de leur existence.

Finalement, nous tenons à inviter tous les membres du personnel infirmier et les technologues en néphrologie à présenter des manuscrits à des fins de publication. Les manuscrits peuvent être des études par observation, des essais cliniques, des rapports d'études de cas intéressants, des solutions à des problèmes cliniques au chevet du patient, des revues narratives ou des projets d'amélioration de la qualité. Si vous avez besoin d'aide pour rédiger ou soumettre votre article, n'hésitez pas à communiquer avec nous. Nous tirons une grande fierté de notre engagement à vous guider vers une publication réussie de votre manuscrit dans la Revue de l'ACITN.

Nous vous souhaitons, ainsi qu'à vos proches, une période des Fêtes 2020 porteuse de sens et sous le signe de la sécurité. Nous espérons que 2021 sera une autre année empreinte d'excellence en soins infirmiers en néphrologie et en rédaction technique. Mais plus important encore, puisse la nouvelle année marquer le début d'un retour à des liens sociaux sécuritaires ainsi qu'à un sentiment de « normalité ».

Cordialement,

Jovina Bachynski, M. Sc. inf., inf. aut. (cat. spéc.), CNéph(C), aspirante au doctorat

Rosa Marticorena, B. Sc. inf., inf. aut., CNéph(C), D.E.S. Épidémiologie clinique,

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Le Journal ACITN est la publication officielle de l'Association canadienne des infirmiers/ infirmières et technologues en néphrologie, a/s 4, rue Cataraqui, bureau 310, Kingston (Ontario)

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Publié quatre fois par année, ce journal est envoyé à tous les membres de l'Association. L'abonnement annuel est: Canada, 80 \$ (+TVH), E.-U., 90 \$, hors du Canada et E.-U., 115\$. Les publications antérieures, lorsque disponsibles, coûtent 7,50 \$ (+TVH) chacune. Les opinions émises par les auteurs dans ce journal ne sont pas nécessairement partagées par l'Association ni par le corédactrices en chef. Nous invitons les lecteurs à nous faire part de leurs opinions. Toute correspondance devra être envoyée à l'ACITN, au 4, rue Cataragui, bureau 310, Kingston (Ontario) K7K 1Z7.

1-877-720-2819 Site Web: www.cannt.ca

Le Journal ACITN accepte des articles (manuscrits) de façon continue.

Le Journal ACITN est maintenant répertorié dans le Cumulative Index to Nursing and Allied Health Literature (CINAHL), International Nursing Index (INI), MEDLINE, EBSCO, ProQuest et Thomson Gale.

ISSN 2291-644X (En ligne) ISSN 1498-5136 (Dans la presse)

Le Journal ACITN est préparé par Pappin Communications, www.pappin.com

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Message from the President

Greetings to all,

As I reflect upon my message for this last journal edition for 2020, I am hopeful and looking forward to 2021, and the innovations and opportunities that have been created for renal nurses and technologists across the country over the past 10 months. The commitment and dedication to the care of our patients and families affected by kidney disease during the pandemic has demonstrated novel methods of patient interaction and the overall provision of care.

It is fitting that the International Council of Nurses (ICN) has chosen the theme for International Nurses Day in 2021 as "A Vision for Future Healthcare." It will be interesting to see how the changes to care during the pandemic will shape the future of healthcare programs across the country.

The Board of Directors made the difficult decision to cancel our national CANNT conference earlier this year. I would like to thank the 2020 CANNT organizing committee for their efforts and contributions towards conference planning activities in the months leading up to our decision to cancel the in-person conference in Hamilton. In place of our annual in-person conference, we provided the CANNT 2020 Virtual Conference Series that ran every Tuesday and Thursday from October 20-December 1, 2020. This educational opportunity was an overwhelming success. All CANNT members were provided complimentary access. The industry webinars held every Thursday were available to everyone. CANNT could not have provided this conference series without the generous support of our industry partners. We truly value their commitment to ensuring the ongoing success of CANNT through providing these educational opportunities and the year-round in-kind support.

Congratulations to the 2020 CANNT awards, grants, and bursary winners. Our industry sponsors continue to support these awards, grants, and bursaries, and we are extremely grateful to be able to provide this for our membership. I would like to advocate for CANNT members to apply to these awards and grants for funding. Application deadline is May 1st of each year.

Your CANNT Board of Directors (BOD) has touch-base meetings via video conference each month and work tirelessly alongside our office team to serve our membership. Our

CANNT leadership team has seen changes over the past year with the departure of Krista Smith as our president elect/treasurer in January 2020. Her contributions in her role with CANNT are much appreciated. Krista transitioned into a director's role in critical care. As per the CANNT bylaws under the Vacancy in Office clause, the Board of Directors elected Cathy Cake (current VP Atlantic) into the role of president elect/treasurer, effective February 2020. This resulted in a vacancy in the VP Atlantic position. The Board of Directors was pleased to have Bettiann Curran assume the position of VP Atlantic in March 2020. In August 2020, we saw the departure of Marc Héroux (VP Technologists), as he moved out of the renal technologist environment through a career move. In September, the Board of Directors was fortunate to welcome Shripal Parikh to the position as VP Technologists. With the changes that have occurred in the BOD membership over the past 10 months, I have agreed to extend my term to October 2021 to support a seamless transition for President Elect/Treasurer Cathy Cake.

Just a reminder to those nurses who are considering writing their CNA certification in nephrology. You can receive the voucher code from CANNT to receive a 20% discount on the cost if you are a CANNT member. The discount can be applied to the CNA member rate or the non-member rate of either the initial exam fee or the recertification fee.

I am tremendously motivated to continue with moving the work of the Board of Directors forward in promoting the best nephrology care and practice through education, research, and communication. Our Events and Management team and BOD are invaluable in keeping us on track to accomplish the important work we are doing with CANNT.

Membership recruitment is an important activity for our organization's viability, and we continue to implement and evaluate various activities to promote membership. Whether you are interested in building your nephrology network, advancing your nephrology practice, or expanding your knowledge, then please consider becoming a member of CANNT.



With gratitude, Janice MacKay CANNT President 2018-2021

Le mot de la présidente

Mes salutations à toutes et à tous,

Alors que j'amorce la rédaction de ce message pour la dernière édition de la revue en 2020, je me sens optimiste et j'attends l'année 2021 avec impatience. Je pense aussi aux innovations et aux possibilités qui ont vu le jour pour le personnel infirmier et les technologues en néphrologie à travers le pays au cours des dix derniers mois. L'engagement et le dévouement à l'égard des soins à nos patients touchés par la néphropathie et de leurs familles pendant la pandémie ont donné lieu à de nouveaux modes d'interaction avec les patients et à des modèles novateurs de prestation globale des soins.

Il va donc de soi que le Conseil international des infirmières (CII) ait choisi ce thème pour la Journée internationale des infirmières en 2021 : « Une vision pour les soins de santé de l'avenir ». Il sera intéressant de voir à quel point les changements en matière de soins issus de la pandémie façonneront les futurs programmes de soins de santé partout au pays.

Plus tôt cette année, le conseil d'administration a pris la décision difficile d'annuler le congrès national de l'ACITN. J'aimerais remercier le comité organisateur de l'ACITN 2020 de ses efforts et de sa participation aux activités de planification du congrès dans les mois qui ont précédé notre décision d'annuler l'événement en présentiel à Hamilton. En remplacement de notre congrès annuel en personne, nous avons offert la série de conférences virtuelles de l'AC-ITN 2020 qui ont été présentées tous les mardis et jeudis du 20 octobre au 1er décembre 2020. Cette occasion d'apprentissage a connu un succès retentissant. Tous les membres de l'ACITN ont pu y accéder gratuitement. Les webinaires de l'industrie présentés tous les jeudis étaient offerts à tous. L'ACITN n'aurait pas pu offrir cette série de conférences sans la généreuse contribution de ses partenaires de l'industrie. Nous sommes très reconnaissants de leur engagement à assurer le succès que

connaît actuellement l'ACITN grâce à toutes ces occasions d'apprentissage ainsi qu'au soutien matériel que nous avons reçu tout au long de l'année.

Félicitations aux gagnants de prix, de subventions et de bourses de l'AC-ITN pour l'année 2020. Nos commanditaires de l'industrie poursuivent leur contribution à ces prix, ces subventions et ces bourses, et nous leur sommes extrêmement reconnaissants de pouvoir les offrir à nos membres. J'aimerais encourager les membres de l'ACITN qui sont à la recherche de financement à présenter des demandes pour ces prix et ces subventions. La date limite pour présenter une demande est le 1er mai de chaque année.

Votre conseil d'administration de l'ACITN tient chaque mois des réunions d'information par visioconférence et travaille sans relâche aux côtés de notre équipe du bureau pour servir nos membres. Notre équipe de direction de l'ACITN a connu des changements au cours de la dernière année avec le départ de Krista Smith, présidente désignée et trésorière, en janvier 2020. Nous la remercions sincèrement du travail qu'elle a accompli dans ses fonctions à l'ACITN. Krista a accepté un poste de direction dans le domaine des soins intensifs. Conformément aux règlements administratifs de l'ACITN, en vertu de la clause applicable aux postes vacants, le conseil d'administration a élu Cathy Cake (vice-présidente actuelle pour la région de l'Atlantique) en tant que présidente désignée et trésorière à compter de février 2020. Cela a donné lieu à un poste vacant à la vice-présidence de la région de l'Atlantique. Le conseil d'administration a été heureux d'accueillir Bettiann Curran au poste de vice-présidente, Atlantique en mars 2020. En août 2020, nous avons assisté au départ de Marc Héroux (vice-président, Technologues) alors qu'il a quitté la profession de technologue en néphrologie dans le cadre d'une réorientation professionnelle. En septembre, le conseil d'administration

a eu le privilège d'accueillir Shripal Parikh au poste de vice-président, Technologues. Avec les changements qui sont survenus dans la composition du conseil d'administration au cours des 10 derniers mois, j'ai accepté de prolonger mon mandat jusqu'en octobre 2021 pour assurer une transition harmonieuse pour la présidente désignée et trésorière, Cathy Cake.

J'aimerais présenter un rappel à l'intention des infirmières et infirmiers qui envisagent de faire l'examen de certification en néphrologie de l'Association des infirmières et infirmiers du Canada. En tant que membre de l'ACITN, vous pouvez recevoir un code promotionnel de l'ACITN pour profiter d'une réduction du coût de 20 %. Le rabais peut être appliqué au tarif des membres de l'AIIC ou au tarif pour les non-membres, qu'il s'agisse des frais d'examen initial ou des frais de recertification.

Je suis très motivée à continuer le travail du conseil d'administration en poursuivant la promotion des meilleurs soins et pratiques en néphrologie par le biais de la formation, de la recherche et de la communication. Notre équipe de gestion, Events & Management Plus et le conseil d'administration de l'ACITN nous apportent une aide inestimable pour que nous gardions le cap afin d'accomplir notre importante mission dans l'ACITN.

Le recrutement de membres est une activité essentielle à la viabilité de notre organisation, et nous poursuivons la mise en place et l'évaluation de diverses activités visant à promouvoir l'adhésion. Que vous souhaitiez vous tisser un réseau en néphrologie, faire progresser votre pratique dans le domaine ou approfondir vos connaissances, je vous invite à songer à devenir membre de l'ACITN.



Avec toute ma gratitude, Janice MacKay Présidente de l'ACITN 2018-2021

Your Board in Action

It has been my pleasure being your presiden-elect/treasurer this past year, and I thank you for this wonderful opportunity. This change in roles and responsibilities was certainly a significant learning curve for me, and I have appreciated all the help from our highly motivated amazing CANNT executive board and events management team. I want to send out a big thank-you to them for their unending support and mentorship.

MEMBERSHIP

This year has posed challenges surrounding maintaining and increasing our membership. Traditionally CANNT has relied on our annual conference to bring in membership renewals each year. This year was exceptionally difficult, as we made the unprecedented decision to cancel our face-to-face conference. Under the guidance of our events management team, we developed and are currently offering a virtual conference series, which has resulted in several new and renewed memberships over the past few months. Our membership as of November 21, 2020, is 319 members with 279 registered nurses and eight technologists. Your executive board will continue to focus efforts on increasing membership through innovative and creative initiatives. Attention to adding value to membership through benefits will continue to be our focus, such as the Ontario Renal Network Vascular Access modules being made available on our website free for all members. We encourage all members to contact your regional representative or our office to ensure your voice is being heard and your needs are being met.

FINANCES

Our decrease in membership, as previously stated, has certainly affected our finances. As CANNT is a not-for-profit organization, financial sustainability has been our top priority. The events management team has worked tirelessly with our industry partners to support CANNT through the virtual conference series and continuing webinars to ensure the survival of our organization. At present, CANNT is on track for a modest surplus financial result this fiscal year, and we are in a good position with \$165,000 in member reserves.

NEPHROLOGY NURSING STANDARDS

We have successfully completed a complete revision of our Nephrology Nursing Standards during this past year. The practice recommendation updates are comprehensive, with the full breadth of the evolving nephrology nursing practice. The new addition of chronic kidney disease diagnosis, classification, and management is current, and reports Canadian incidence and prevalence rates. An emphasis on cultural safety (culturally sensitive) and patient-centred care is integrated throughout, which is especially reflective of the growing Indigenous and immigrant nephrology patient populations. The expanded section on the wide range of home modalities focuses on the expertise necessary to overcome challenges in light of the anticipated growth from provincial initiatives.

The CANNT executive board would like to thank the nurses who volunteered their time and shared their experience, expertise, and knowledge as contributors and content reviewers. These necessary updates and revisions would not have been possible without their commitment and substantial contributions. We would also like to acknowledge the important contribution of previous working groups who gave their time and experience to lay the foundation for us to continue building on.

NURSE PRACTITIONER NEPHROLOGY NURSING STANDARDS

Another important development is the creation of the Nurse Practitioner Nephrology Nursing Standards that reflect the scope of practice of the nurse practitioner role in nephrology. This advanced practice registered nursing role requires substantial analytical knowledge, specific pharmacologic knowledge, and skills in nephrology nursing to provide primary expert care to individuals diagnosed with kidney disease, their families, and the communities at large. This working group co-chaired by Stan Marchuk and Alicia Moonesar has brought together expert nephrology nurse practitioners from across Canada to develop and compile this new body of knowledge essential to the continued growth of nephrology nursing. We thank them for their dedication and commitment to volunteer their time to ensure the success of this exciting new document.



Sincerely, Cathy Cake CANNT President-Elect/ Treasurer 2020-2021

Votre conseil en action

J'ai eu le plaisir d'être votre présidente désignée et trésorière au cours de la dernière année, et je vous remercie de me permettre de vivre cette merveilleuse aventure. Ce changement de rôles et de responsabilités a sans contredit représenté une importante étape d'apprentissage pour moi, et je suis reconnaissante de toute l'aide reçue de la part du formidable et dynamique conseil de direction de l'ACITN ainsi que de l'équipe d'Events & Management Plus. Je veux les remercier chaleureusement de leur soutien et de leur accompagnement de tous les instants.

ADHÉSION

Cette année, nous avons eu des défis à relever quant au maintien et à l'augmentation des adhésions. L'ACITN compte habituellement sur son congrès annuel pour renouveler ses adhésions. Cette année a été particulièrement difficile, puisque pour la première fois, nous avons pris la décision d'annuler notre congrès en présentiel. Avec l'aide de l'équipe d'Events & Management Plus, nous avons mis au point une série de conférences virtuelles. Ces conférences, qui sont actuellement offertes, se sont soldées par plusieurs nouvelles adhésions ainsi que par des renouvellements au cours des derniers mois. Le nombre d'adhésions actuel en date du 21 novembre 2020 est de 319 membres, dont 279 infirmières et infirmiers autorisés et huit technologues. Votre conseil de direction continuera à concentrer ses efforts sur l'augmentation du nombre d'adhésions par le biais d'initiatives novatrices et créatives. Nous continuerons de mettre l'accent sur la valorisation de l'adhésion au moyen d'avantages, comme les modules sur l'accès vasculaire du Réseau rénal de l'Ontario, qui sont maintenant offerts gratuitement à tous les membres sur notre site Web. Nous encourageons tous les membres à communiquer avec leur représentant régional ou avec nos bureaux pour exprimer leur point de vue et pour veiller à ce que leurs besoins soient satisfaits.

FINANCES

La diminution des adhésions, que j'ai déjà évoquée, a inévitablement eu des répercussions sur nos finances. Étant donné que l'ACITN est un organisme sans but lucratif, nous avons fait de la durabilité financière notre priorité absolue. L'équipe d'Events & Management Plus a travaillé sans relâche avec nos partenaires de l'industrie à soutenir l'ACITN grâce à la série de conférences virtuelles et à la poursuite des webinaires pour garantir la survie de notre organisation. À ce jour, l'ACITN est en voie d'enregistrer un modeste surplus financier pour le présent exercice, et nous sommes en bonne posture avec la somme de 165 000 \$ dans la réserve des membres.

NORMES DE SOINS INFIRMIERS EN NÉPHROLOGIE

Nous avons terminé avec succès la révision complète de nos normes de soins infirmiers en néphrologie au cours de la dernière année. Les mises à jour des recommandations sur la pratique englobent l'étendue de la pratique infirmière en néphrologie, qui est en constante évolution. De l'information à jour sur le diagnostic, la classification et la prise en charge de la néphropathie chronique a récemment été ajoutée, laquelle fait état des taux d'incidence et de prévalence au Canada. L'accent est mis sur la sécurisation culturelle (adaptée à la culture) et les soins axés sur les patients, ce qui témoigne particulièrement de la croissance des populations de patients autochtones et immigrants en néphrologie. La section enrichie sur le vaste éventail de modalités de soins à domicile fait état de l'expertise nécessaire pour surmonter les défis à relever compte tenu de la croissance attendue à l'issue des initiatives provinciales.

Le conseil de direction de l'AC-ITN tient à remercier les infirmières et infirmiers qui ont fait don de leur temps et qui ont partagé leur expérience, leur expertise et leurs connaissances à titre de collaborateurs et de réviseurs du contenu. Ces révisions et ces mises à jour nécessaires n'auraient pas été possibles sans leur engagement et leur précieuse collaboration. Nous tenons également à souligner l'importante contribution des groupes de travail précédents, qui ont offert leur temps et leur expérience pour établir les fondements à partir desquels nous avons poursuivi notre travail.

NORMES DE SOINS INFIRMIERS EN NÉPHROLOGIE POUR LES INFIRMIÈRES ET INFIRMIERS PRATICIENS

Une autre avancée importante est la création des normes de soins infirmiers en néphrologie pour les infirmières et infirmiers praticiens; ces normes illustrent l'étendue de la pratique des infirmières et infirmiers praticiens en néphrologie. La pratique infirmière en soins avancés exige d'importantes connaissances analytiques, un savoir particulier en pharmacologie et des compétences en soins infirmiers en néphrologie en vue de prodiguer des soins spécialisés de première ligne aux personnes atteintes d'une maladie rénale, à leur famille et à l'ensemble des collectivités. Ce groupe de travail coprésidé par Stan Marchuk et Alicia Moonesar a réuni des infirmières et des infirmiers praticiens experts en néphrologie de partout au Canada afin de mettre au point et de compiler ce nouveau corpus de connaissances essentielles à l'évolution continue des soins infirmiers en néphrologie. Nous les remercions de leur dévouement et de leur engagement à donner de leur temps pour assurer le succès de ce nouveau document prometteur.



Cordialement, Cathy Cake Présidente désignée et trésorière de l'ACITN 2020-2021

NOTICE BOARD

Canadian Nurses Association (CNA) Exam Timeline.

https://www.nurseone.ca/certification/renewing-your-certification#sthash.IDBqg5i7.dpuf

	Spring 2021	Fall 2021
Initial exam or renewal by exam application window	January 14 – March 8, 2021	June 1-September 1, 2021
Certification exam window	May 1-15, 2021	November 1-15, 2021
Renewal by continuous learning application window	January 14 – November 1, 2021	

Renewal by continuous learning 2020 has been extended:

- Apply anytime from January 20–December 16, 2020 (period extended).
- Applications for late renewal will also be accepted January 1–February 28, 2021 (see policy and fee).

N.B.: CNA will provide 20% discount for initial exam writers, renewal exam writers, and renewals by continuous learning in 2020 to active members of CANNT. Contact cannt@cannt.ca for the voucher code in 2020.

- February 28-March 2, 2021. International Society for Peritoneal Dialysis (ISPD)-EuroPD Meeting 2021. https://ispd-europd2021.com/
- March 5-7, 2021. Virtual Annual Dialysis Conference (ADC) 2021. https://annualdialysisconference.org/
- March 11, 2021. World Kidney Day Living Well with Kidney Disease. https://www.worldkidneyday.org/2021-campaign/2021-wkd-theme/
- April 6-10, 2021. National Kidney Foundation (NKF) Virtual Spring Clinical Meetings 2021. https://www.kidney.org/spring-clinical
- April 15-19, 2021. Virtual World Congress of Nephrology 2021 (WCN'21). https://www.theisn.org/wcn/
- May 2-5, 2021. American Nephrology Nurses' Association (ANNA) National Virtual Symposium. https://www.annanurse.org/events/2021-national-symposium
- **June 5-8, 2021.** 58th European Renal Association European Dialysis and Transplant Association (ERA-EDTA) Congress, Berlin and Virtual. CityCube Berlin, Berlin, Germany. **https://www.era-edta.org/en/berlin2021/**
- June 17-19, 2021. Renal Society of Australasia (RSA) Annual Conference Renal care beyond a crisis: Possibilities and future directions. Melbourne Convention, Melbourne, Australia. https://www.renalsociety.org/education/2020-annual-conference/
- **September 4-7, 2021.** 49th Annual European Dialysis and Transplant Nurses Association/European Renal Care Association (EDTNA/ERCA) International Conference: *Knowledge, skills and commitment Core elements to manage care*, Cankarjev dom, Ljubljana, Slovenia. https://www.edtnaerca.org/conferences/conferences-ljubljana-2020
- **September 15, 2021.** Nephrology Health Care Professionals' Day (celebrated every third Wednesday of September annually).
- November 2-7, 2021. American Society of Nephrology (ASN) 2021 Kidney Week, San Diego Convention Center, San Diego, CA. https://www.asn-online.org/education/kidneyweek/archives/future.aspx

Nephrology Certification Registration Status Report 2020					
CANADIAN NURSES ASSOCIATION	Initial and Renewal by Exam to Renew in 2020	Renewal by Continuous Learning (CL) Hours	Total of Initials and Renewals	Due	
	38	31	69	251	

Medical and non-medical risk predictors of completing each phase of the transplant evaluation process in referred end-stage renal disease patients—A single centre study

By Olusegun Famure*, Vivian Tia*, Yanhong Li, Franz Marie Gumabay, Nicholas Phan, Pei Xuan Chen, and S. Joseph Kim

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ABSTRACT

Medical and non-medical risk factors were examined to assess how they influence the progression of transplant recipients through different stages of the kidney transplant evaluation process. A single-centre study was conducted of 2,555 adult patients referred between 2003 and 2012 with three defined time periods: (1) referral to first visit (FV) with the nephrologist; (2) FV to receival of the final disposition (FD) regarding the patient's transplant eligibility; and (3) referral to FD. Cox proportional hazards models were used to assess the factors associated with the length of each time period. Medical factors such as history of coronary artery disease or psychological complications were negatively

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associated with the patient reaching FD from referral (HR 0.81 [95% CI: 0.70, 0.95] and HR 0.59 [95% CI: 0.44, 0.79], respectively). Patients who underwent pre-emptive transplantation were typically delayed in reaching FV compared to those on dialysis (HR 0.69 [95% CI: 0.60, 0.80]). Socioeconomic factors showed no significant association with reaching each phase in the evaluation process. Medical factors such as predictors of evaluation completion suggest that better procedural coordination for patients with comorbid conditions could improve the efficiency of the evaluation process.

he incidence and prevalence of end-stage renal disease (ESRD) has been increasing around the world (U.S. Renal Data System, 2010; Gaylin et al., 1993; Valderrábano et al., 1995; Locatelli et al., 2001; Aghighi et al., 2009; Couchoud et al., 2006). Kidney transplantation is the preferred treatment modality for ESRD, as it is associated with a significant survival benefit compared to dialysis treatment (Wolfe et al., 1999; Laupacis et al., 1996). However, as of 2018, 40,289 Canadians (excluding Quebec) were living with ESRD, but only 3,150 people were on the waitlist for a deceased donor kidney transplant (Canadian Institute for Health Information [CIHI], 2019). Between 2011 and 2013, the median wait time was 4.0 years to receive a kidney transplant (CIHI, 2015). Timely access to the transplant waiting list is essential for effective treatment, as longer wait times and exposure to dialysis treatment prior to transplantation result in substandard patient and graft survival outcomes (Meier-Kriesche & Kaplan, 2002).

To be placed on the waitlist, patients undergo an extensive evaluation process during which their physical and psychological condition, social support, and financial situation are evaluated (Kasiske et al., 2001; European Society for Organ Transplantation, 2000; Knoll et al., 2005; Scandling, 2005). Upon completion, patients receive a final disposition (FD) that determines their eligibility for kidney transplantation.

The medical suitability of a patient should be the main determining factor for receiving a transplant. However, studies have shown that race and socioeconomic status (SES) also affect a patient's likelihood of completing the evaluation process and reaching FD (Waterman et al., 2013; Epstein et al., 2000; Stolzmann et al., 2007; Patzer, Perryman, Schrager, et al., 2012; Schold et al., 2011; Keith et al., 2008; Monson et al., 2015; Peng et al., 2018; Sandhu & Dhakarwal, 2017;

Talamantes et al., 2017; Mucsi, Bansal, Famure, et al., 2017; Wu et al., 2017). Non-white ethnicity, low median income, low education level, and non-commercial insurance have been associated with reduced likelihood of completing the evaluation and receiving a kidney transplant (Waterman et al., 2013; Epstein et al., 2000; Stolzmann et al., 2007; Patzer, Perryman, Pastan, et al., 2012; Schold et al., 2011; Keith et al., 2008; Monson et al., 2015; Peng et al., 2018; Sandhu & Dhakarwal, 2017; Talamantes et al., 2017; Mucsi, Bansal, Famure, et al., 2017; Wu et al., 2017).

At Toronto General Hospital (TGH), the pre-kidney transplant evaluation process involves two main time periods: referral to the first visit (FV) with the nephrologist at the transplant centre, and FV to FD. It should be noted that the patient may reach FD prior to reaching FV. The overall evaluation process is defined as the time period between referral to FD. In a previous study examining wait times, a mean time of 5.7 months from referral to FV and 10.8 months from FV to FD was reported (Sultan et al., 2013). Although studies have examined patient characteristics affecting the completion of the entire evaluation, there is a scarcity of studies that have investigated the characteristics affecting the completion of each stage of the process.

This study aimed to assess transplant patients' medical and non-medical risk predictors associated with the time intervals from referral to FV, FV to FD, and referral to FD. The proposed analysis utilizing the breakdown of the evaluation process may help identify patient risk factors that could be influenced by the kidney transplant team to help prevent delays in the evaluation process.

METHODS

Study Design and Population

This was a single-centre cohort study of all potential adult recipients (≥ 18 years old) referred to TGH for kidney transplantation between January 1, 2003 and December 31, 2012, with follow-up until December 31, 2013. Patients who were transplanted at another centre, referred to TGH for post-transplant follow-up care, or referred to the kidney-pancreas transplant program, were excluded.

Data Sources

The data for our study were directly retrieved from our in-centre research database, the Comprehensive Renal Transplant Research Information System (CoReTRIS) (Famure et al., 2014). CoReTRIS is comprised of three databases: the pre-transplant, post-transplant, and biological specimen repository information systems. It contains extensive recipient, donor, transplant, laboratory, pathology, treatment, and outcome data for all ESRD patients referred to our centre for transplant evaluation since January 1, 2003. Data from CoReTRIS were abstracted from hospital-based patient electronic records, namely the Organ Transplant Tracking Record (OTTR) and the Electronic Patient Record (EPR), and audited for completion and accuracy. OTTR is our transplant centre's electronic patient record tool for transplant patients, and EPR is our main online patient record keeping tool. Since our transplant centre is located in Ontario, Canada, we utilized the 2006 Ontario census data to calculate the Ontario

marginalization index (OMI), a multifaceted index that measures multiple axes of deprivation in Ontario, including economic, ethno-racial, age-based, and social marginalization (Ontario Public Health, 2018). In addition, the census data also included the median income and travel distance to the transplant centre of patients based on their geographical location, as determined by their home postal code, to evaluate additional social determinants of health.

Patient Characteristics/Exposures

For this study, we examined patients' medical and socio-economic characteristics. Medical characteristics included cause of ESRD, time on dialysis prior to referral, peak panel-reactive antibodies (PRA), blood type, history of diabetes, vascular complications, chronic lung disease, cancer, and diagnosed psychiatric comorbidities such as history of depression, anxiety, and schizophrenia. Non-medical characteristics included demographic characteristics, English proficiency, employment status, household median income, OMI, median travel distance, and the period when the referral occurred (referral era).

Outcome Measures

We examined three critical time intervals in the assessment of patient suitability for kidney transplantation: (1) from referral to the FV with a transplant nephrologist; (2) from FV to reaching FD; and (3) the overall transplant eligibility evaluation period from referral to FD. Final disposition was defined as determination of eligibility by a nephrologist with subsequent living donor kidney transplantation or activation to the waiting list. Occasionally, patients feel unprepared for transplantation and thus decline to proceed with the transplant evaluation (Gordon, 2001).

Statistical Analysis

Mean, median, and interquartile ranges were used to report patient characteristics at each time interval. Kaplan-Meier curves were used to graphically illustrate the relationship between each factor and the probability of reaching the outcomes of interest for each stage of the transplant evaluation process. Multivariable Cox proportional hazards models were also used to assess patient characteristics associated with the likelihood of reaching each outcome after adjusting for covariates. Covariates incorporated into the model included demographic characteristics, medical characteristics, and non-medical characteristics of the patients. A p value of < 0.05 was considered statistically significant. The confidence interval (CI) was set at 95%. All missing data were addressed using the method of imputation. Data were analyzed using Stata, version 12.1 (StataCorp, College Station, TX). Institutional ethics approval was obtained prior to the implementation of this study.

RESULTS

The study cohort consisted of a total of 2,555 patients referred to the kidney transplant program for pre-transplant evaluation. Patients who were referred for post-transplant evaluation (n = 1) and those subsequently placed in the kidney-pancreas (KP) transplant program (n = 64) were excluded. (Figure 1).

Figure 1 Exclusion Criteria of a Study Population

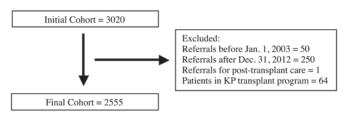


Table 1a
Patient Demographic Characteristics

Characteristics	Number of Referrals (N = 2,555)	Whole Cohort
Mean recipient age at referral (years)	2,555	50.3 (± 13.7)ª
Recipient sex		
Male	1,569	61.4%
Female	986	38.6%
Recipient race		
Caucasian-White	1,002	55.8%
Asian	231	12.9%
Black	224	12.5%
Other	340	18.9%

amean (± standard deviation)

The patients in the study cohort were, on average, 50-year-old White (55.8%) males (61.4%) who were not yet on dialysis (27.9%) (Table 1a). The most common cause of ESRD was glomerulonephritis (33.4%) (Table 1b). More than a third of patients had diabetes mellitus (39.0%) and the prevalence of other medical comorbidities (coronary artery disease [CAD], stroke, chronic lung disease, cancer, etc.) ranged from 7.3 to 27.4% (Table 1b). Many of the patients were unable to work (37.9%) and almost half had some form of private insurance (47.6%) (Table 1c).

Of the 2,555 patients, 82% reached a final disposition by the end of the study period. It was determined that 79% of the patients reached a first visit with a nephrologist, with 94% of those patients continuing on to receive a final disposition by the end of the study. Overall, the median follow-up time from referral to final disposition was 1.13 years with a rate of 51.6 per 100 person years (Table 2).

Several medical characteristics were associated with slower progression through the evaluation process. Patients with a history of CAD took longer to reach each of the three outcomes (Figure 2). In both the univariable (Figure 2) and multivariable models (Table 3), those with no history of CAD were more likely to reach FD from referral (log

Table 1b
Patient Medical Characteristics

Patient Medical Characteristics		
Characteristics	Number of Referrals (N = 2,555)	Whole Cohort
Median time on dialysis at the		
time of referral (months)		
Pre-emptive	713	27.9%
0.1–6 months	471	18.4%
6.1–12 months	453	17.7%
12.1-24 months	449	17.6%
24.1–36 months	159	6.2%
> 36 months	310	12.1%
History of diabetes		
No	1,486	61.1%
Yes	948	39.0%
Cause of end stage renal disease (ESRD)		
Glomerulonephritis	787	33.4%
Diabetes Mellitus	739	31.3%
Polycystic Kidney Disease	262	11.1%
Hypertension	241	10.2%
Other	330	14.0%
Peak PRA		
= 0%	537	54.9%
> 0%	442	45.2%
Blood type	5.40	00.50
A AB	540	33.5%
В	79 253	4.9% 15.7%
O	740	45.9%
_	740	40.070
History of coronary artery disease		
No	1,528	72.6%
Yes	577	27.4%
History of myocardial infarction		
No	2,147	89.1%
Yes	264	11.0%
History of congestive heart		
failure		
No	2,223	92.4%
Yes	182	7.6%
History of stroke / transient		
ischemic attack		
No	2,218	92.0%
Yes	194	8.0%
History of peripheral vascular		
disease	0.405	05.50
No Yes	2,107	87.5%
	301	12.5%
History of chronic lung disease	ງ ງວາ	02.70
No Yes	2,231 176	92.7% 7.3%
	170	0/ د. ۱
History of cancer	0.105	05.05
No	2,106	87.0%
Yes	316	13.1%
History of psychiatric factors / psychological issues		
No	1,517	92.2%
Yes	129	7.8%

Table 1c
Patient Non-Medical Characteristics

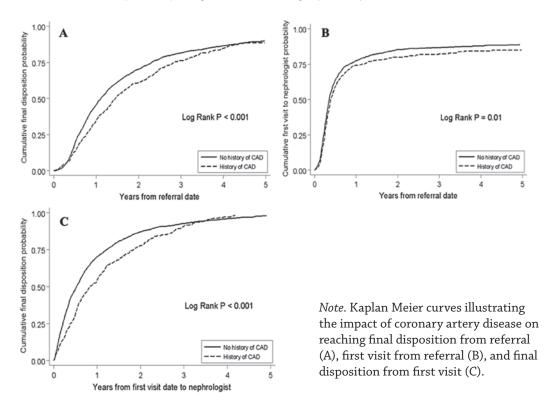
Characteristics	Number of Referrals (N = 2,555)	Whole Cohort	
English proficiency			
No	142	8.1%	
Yes	1,616	91.9%	
Employment status			
Unable to work	660	37.9%	
Unemployed	491	28.2%	
Employed	591	33.9%	
Insurance as per social work visit			
Private	847	47.6%	
Non-private	931	52.4%	
Median travel distance (km)			
16.567 or less	521	20.6%	
16.875-31.103	501	19.8%	
31.164-46.704	511	20.2%	
47.786-121.579	500	19.8%	
121.751-4441.303	496	19.6%	
Median travel time (min)	2,529	33.8 (24.0, 67.5) ^a	
Income (\$)			
\$42,243 or less	471	20.3%	
\$42,263-\$53,623.5	448	19.3%	
\$53,647-\$68,910	452	19.4%	
\$68,935-\$84,440	471	20.3%	
\$84,463-\$239,797	484	20.8%	
Marginalization index			
1	449	19.5%	
2	492	21.3%	
3	524	22.7%	
4	403	17.5%	
5	440	19.1%	
Referral era			
2003–2006	901	35.3%	
2007–2009	836	32.7%	
2010-2012	818	32.0%	

^amedian (25th percentile, 75th percentile)

Table 2 Median Follow-Up Time and Incidence Rate

Origin	Outcome	Number of referrals	Number of events	Total person-years	Median follow-up time (years)	Incidence rate (per 100 person-years) (95% C.I.)
Referral date	Final disposition	2,555	2,102	4,072.03	1.13 (0.60, 2.11)	51.62 (49.46, 53.88)
Referral date	First visit	2,555	2,010	2,138.73	0.36 (0.22, 0.84)	93.98 (89.96, 98.18)
First visit	Final disposition	2,010	1,881	1,953.23	0.59 (0.24, 1.28)	96.30 (92.05, 100.75)

Figure 2
Cumulative Probability of Completing Each Referral Stage by History of CAD



rank p < 0.001), FV from referral (log rank p = 0.01), and FD from FV (log rank p < 0.001). In the unadjusted model, time on dialysis did not have a significant impact on reaching FD from referral (log rank p = 0.40) or FD from FV (log rank p = 0.24). However, patients being evaluated for transplants before dialysis initiation tended to wait the longest to reach FV from referral (log rank p < 0.001) (Figure 3). This result was consistent in the adjusted model (HR 0.69, 95% CI: 0.60, 0.80), which also showed that these patients were less likely to reach FD from referral (HR 0.81, 95% CI: 0.71, 0.93) (Table 3). Patients with a history of psychosocial problems were also less likely to reach FD from referral (HR 0.59, 95% CI: 0.44, 0.79) and FV from referral (HR 0.47, 95% CI: 0.35, 0.63) (Table 3).

Among non-medical factors, Black patients were found to be less likely than White patients to reach FD from referral (HR 0.76, 95% CI: 0.61, 0.94) (Table 3). Furthermore, patients grouped into distance categories of either 47.786 to 121.579 km or 47.786 to 121.579 km between their residence and the transplant centre were less likely to reach FV from referral than those who traveled a distance of 16.567 or less to the transplant center (HR 0.84, 95% CI: 0.72, 0.98) (Table 3). Patients identified as more disadvantaged, as per the OMI, did not take significantly longer to reach each outcome compared to the less marginalized patients (Figure 4). This result was reproduced in the multivariable analysis (Table 3). Other SES indicators, such as income and type of insurance, were not associated with time to the various phases of the evaluation (Table 3).

DISCUSSION

This study examined both the medical and non-medical factors that impacted the duration of the kidney transplant evaluation process using data collected for 2,555 patients referred to our centre over a 10-year period. A total of 2,102 patients completed the evaluation to the time of FD. Although these time-related performance indicators were initially evaluated in a previous study (Sultan et al., 2013), our study further analyzed which medical and non-medical factors associated with each stage of the evaluation process. Our findings indicate that several medical and non-medical factors are significantly associated with delayed progression through the defined time intervals of the evaluation process.

Medical risk factors found to be associated with delays in the evaluation process included history of CAD, time on dialysis, and history of psychiatric issues. History of CAD was a notable comorbidity that has been found to affect the progression of kidney recipients through all stages of the evaluation process, whereas time spent on dialysis and history of psychiatric factors were associated with the overall time from referral to FV and referral to FD. The delays faced by patients with a history of CAD may be attributed to an increased number of tests completed during the routine cardiovascular assessment undergone by all referred patients with a higher risk for adverse cardiovascular outcomes. These findings are supported by the work of Monson et al. (2015) who determined that a greater number of medical tests was associated with a longer time to complete the

Table 3
Multivariable Cox Proportional Hazards Models for the Impact of Risk Factors on Study Outcomes

D:-1- f	Defermal to Div 1 Div 100	Hazard Ratio (95% C.I.)	Pi W ' · · · P' 1
Risk factors	Referral to Final Disposition	Referral to First visit	First Visit to Final Disposition
Recipient age at referral			
46–57 yrs vs. 17–45 yrs	0.94 (0.83, 1.05)	0.95 (0.84, 1.07)	0.99 (0.87, 1.11)
58+ yrs vs. 17–45 yrs	1.09 (0.95, 1.25)	0.96 (0.83, 1.12)	1.10 (0.95, 1.27)
Recipient sex (Female vs. Male)	0.94 (0.83, 1.05)	1.07 (0.91, 1.25)	0.97 (0.87, 1.07)
Recipient race (White vs. Non-White)			
Asian vs. White	0.95 (0.79, 1.14)	0.88 (0.71, 1.08)	0.98 (0.79, 1.22)
Black vs. White	0.76 (0.61, 0.94)	0.86 (0.71, 1.05)	0.88 (0.73, 1.05)
Other vs. White	0.86 (0.73, 1.01)	0.84 (0.69, 1.01)	0.93 (0.79, 1.10)
Time on dialysis up to referral date (months)	0.04 (0.74, 0.00)	0.00 (0.00 0.00)	0.05 (0.50 4.04)
Pre-emptive vs. 0.1–6 months	0.81 (0.71, 0.93)	0.69 (0.60, 0.80)	0.87 (0.76, 1.01)
6.1–12 months vs. 0.1–6 months	1.07 (0.93, 1.24)	1.09 (0.93, 1.27)	1.04 (0.90, 1.22)
12.1–24 months vs. 0.1–6 months 24.1–36 months vs. 0.1–6 months	1.01 (0.87, 1.18) 0.96 (0.78, 1.19)	1.07 (0.91, 1.24) 1.04 (0.84, 1.29)	0.96 (0.83, 1.12) 0.95 (0.77, 1.18)
> 36 months vs. 0.1–6 months	0.96 (0.76, 1.19)	0.98 (0.82, 1.17)	0.89 (0.74, 1.16)
History of diabetes (Yes vs. No)	1.02 (0.87, 1.19)	1.08 (0.90, 1.28)	0.95 (0.81, 1.12)
Cause of ESRD	1.01 (0.04.1.01)	0.01 (0.75, 1.10)	1 00 (0 05 1 04)
DM vs. GN	1.01 (0.84, 1.21) 1.04 (0.89, 1.22)	0.91 (0.75, 1.10)	1.02 (0.85, 1.24)
PKD vs. GN HTN vs. GN	1.04 (0.89, 1.22) 1.12 (0.95, 1.32)	1.17 (0.99, 1.39) 1.03 (0.87, 1.22)	0.98 (0.83, 1.15) 1.19 (1.00, 1.41)
Other CKD vs. GN	1.12 (0.95, 1.32) 1.05 (0.91, 1.22)	1.03 (0.87, 1.22)	0.98 (0.84, 1.15)
Peak PRA (>0% vs. =0%)	1.07 (0.81, 1.42)		
· · · · · · · · · · · · · · · · · · ·	1.07 (0.81, 1.42)	0.82 (0.43, 1.57)	0.98 (0.84, 1.15)
Blood type	0.00 (0.50.1.40)	0.01 (0.45.1.00)	0.00 (0.00 1.00)
AB vs. A	0.86 (0.52, 1.43)	0.91 (0.45, 1.83)	0.92 (0.66, 1.29)
B vs. A O vs. A	0.77 (0.58, 1.02) 0.99 (0.79, 1.23)	0.75 (0.51, 1.12) 1.11 (0.82, 1.50)	0.96 (0.79, 1.17) 1.00 (0.87, 1.15)
History of CAD (Yes vs. No)	0.81 (0.70, 0.95)	0.80 (0.69, 0.93)	0.81 (0.70, 0.93)
History of MI (Yes vs. No)	0.88 (0.74, 1.06)	1.05 (0.86, 1.29)	0.91 (0.76, 1.09)
History of CHF/Stroke/TIA (Yes vs. No)	0.89 (0.77, 1.03)	0.88 (0.76, 1.02)	0.89 (0.76, 1.03)
History of PAD (Yes vs. No)	0.92 (0.78, 1.08)	0.95 (0.79, 1.14)	0.90 (0.76, 1.06)
History of chronic lung disease (Yes vs. No)	0.88 (0.73, 1.06)	1.10 (0.91, 1.33)	0.79 (0.66, 0.95)
History of cancer (Yes vs. No)	1.01 (0.88, 1.17)	1.06 (0.90, 1.24)	0.96 (0.83, 1.12)
History of psychiatric factors (Yes vs. No)	0.59 (0.44, 0.79)	0.47 (0.35, 0.63)	0.83 (0.66, 1.05)
English proficiency (No vs. Yes)	0.96 (0.78, 1.18)	0.99 (0.76, 1.28)	0.99 (0.80, 1.24)
Employment status	0.00 (0.70, 1.10)	0.00 (0.70, 1.20)	0.00 (0.00, 1.21)
Unemployed vs. Unable to work	1.16 (1.02, 1.32)	1.16 (0.99, 1.36)	1.04 (0.90, 1.20)
Employed vs. Unable to work	1.16 (1.02, 1.32)	1.12 (0.98, 1.27)	1.04 (0.91, 1.19)
Insurance (Non-private vs. Private)	0.93 (0.83, 1.05)	1.01 (0.89, 1.15)	0.89 (0.79, 1.01)
	0.33 (0.03, 1.03)	1.01 (0.03, 1.13)	0.03 (0.73, 1.01)
Travel distance (km) 16.875–31.103 vs. 16.567 or less	0.92 (0.80, 1.06)	0.91 (0.78, 1.06)	0.97 (0.84, 1.13)
31.164–46.704 vs. 16.567 or less	0.92 (0.80, 1.06)	0.91 (0.78, 1.06)	0.97 (0.84, 1.13)
47.786–121.579 vs. 16.567 or less	0.87 (0.75, 1.01)	0.84 (0.72, 0.98)	0.93 (0.80, 1.09)
121.751–4441.303 vs. 16.567 or less	0.89 (0.76, 1.04)	0.76 (0.64, 0.90)	1.03 (0.88, 1.21)
Income	(0, 2-0 2)	(1, 0.00)	(0.00, 1.21)
\$42,263–\$53,623.5 vs. \$42,243 or less	1.00 (0.85, 1.18)	1.00 (0.84, 1.19)	1.09 (0.92, 1.29)
\$53,647–\$68,910 vs. \$42,243 or less	1.08 (0.90, 1.29)	1.03 (0.86, 1.24)	1.12 (0.93, 1.35)
\$68,935–\$84,440 vs. \$42,243 or less	1.06 (0.87, 1.30)	1.05 (0.86, 1.29)	1.04 (0.85, 1.28)
\$84,463–\$239,797 vs. \$42,243 or less	1.09 (0.87, 1.35)	1.12 (0.89, 1.42)	1.10 (0.89, 1.37)
Marginalization index	•	•	,
1 vs. 5	0.95 (0.76, 1.18)	0.97 (0.78, 1.21)	0.91 (0.74, 1.13)
2 vs. 5	0.94 (0.77, 1.15)	0.96 (0.79, 1.18)	0.95 (0.77, 1.15)
3 vs. 5	0.89 (0.75, 1.06)	1.01 (0.84, 1.22)	0.84 (0.70, 1.00)
4 vs. 5	0.91 (0.77, 1.09)	0.91 (0.76, 1.09)	0.85 (0.71, 1.02)
Referral era			
2007–2009 vs. 2003–2006	0.77 (0.70, 0.86)	0.65 (0.58, 0.72)	1.03 (0.92, 1.14)
2010-2012 vs. 2003-2006	0.78 (0.70, 0.88)	0.44 (0.38, 0.51)	1.40 (1.24, 1.58)

Note. CAD, coronary artery disease; CHF, congestive heart failure; DM, diabetes mellitus; GN, glomerulonephritis; HTN, hypertension; MI, myocardial infarction; other CKD, other chronic kidney disease etiology; PAD, peripheral arterial disease; PKD, polycystic kidney disease; PRA, panel reactive antibodies; TIA, transient ischemic attack

Figure 3 Cumulative Probability of Completing Each Referral Stage by Median Time on Dialysis

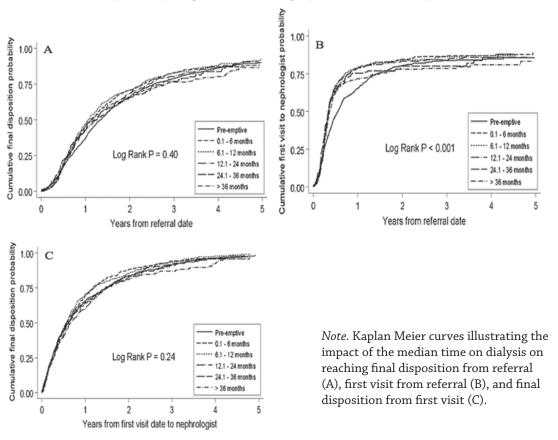
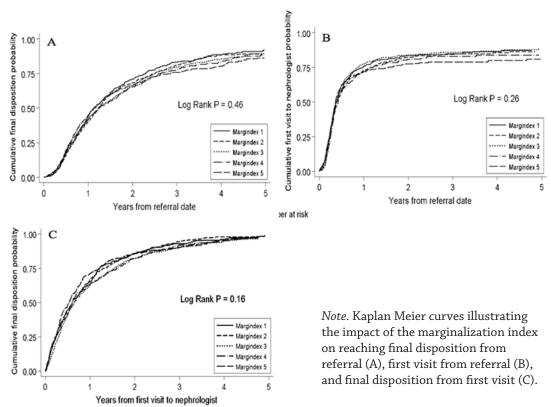


Figure 4
Cumulative Probability of Completing Each Referral Stage by the Ontario Marginalization Index



transplant evaluation process. This may arise due to challenges in coordinating cardiovascular tests with the referring dialysis centre prior to FV. In addition, during their FV, the transplant physician may request a second opinion on a patient's cardiac status, which may require repeated testing and intervention. Consequently, this may also cause delays in the entire evaluation process for patients with a history of CAD. For patients known to have significant cardiovascular disease, referral to the transplant center for cardiovascular assessments may reduce the need for re-testing.

The results demonstrating that pre-dialysis patients are delayed in reaching FD from referral is consistent with the study by Sultan et al. (2013). In most cases, in order to obtain a FD, a pre-dialysis patient must have a potential living donor to receive a timely transplant. Educating and encouraging pre-dialysis patients to begin the evaluation process and seek out living donors earlier may help them obtain a FD more rapidly, and, in turn, avoid dialysis.

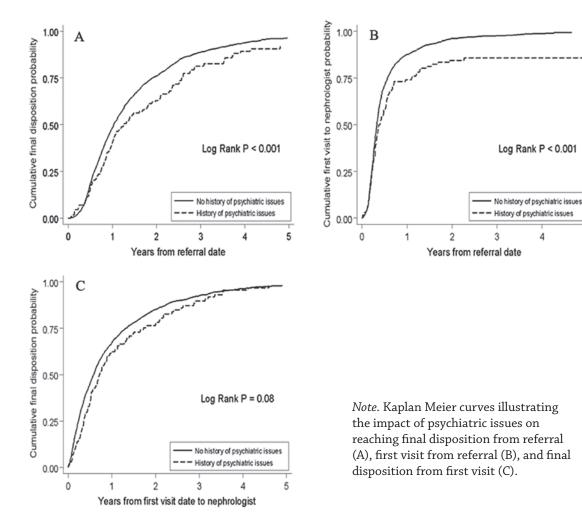
A Canadian study illustrated that a history of mental health issues was negatively associated with the probability of getting a kidney transplant (Mucsi, Bansal, Jeannette, et al., 2017). Referring centres tend to have stringent criteria for selecting transplant recipient patients with a history

of psychiatric factors to ensure that they are suitable for transplantation. Referred patients likely do not have any current psychiatric symptoms or have been properly managing their symptoms. However, our results illustrate that these patients progress through the evaluation process slower relative to patients without a history of mental health issues, as more time is taken in the screening and assessment before their FV to verify that they are suitable. Upon reaching FV, they are just as likely as other patients to complete the rest of the process (Supplementary Figure 1). Although the rigorous screening of patients with psychiatric issues is important, it is essential that proper guidelines are set and followed so that the current practices for selecting patients for referral are standardized. This will ensure that this sub-population of recipients is truly suitable for kidney transplantation.

Black race was associated with slower progression through the evaluation process. Black race has consistently been shown to decrease the likelihood of completing the evaluation process and being placed on the waitlist (Waterman et al., 2013; Epstein et al., 2000; Stolzmann et al., 2007; Monson et al., 2015; Peng et al., 2018; Mucsi, Bansal, Famure, et al., 2017; Weng et al., 2005). Our results

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Supplementary Figure 1
Cumulative Probability of Completing Each Referral Stage by Psychiatric Issues

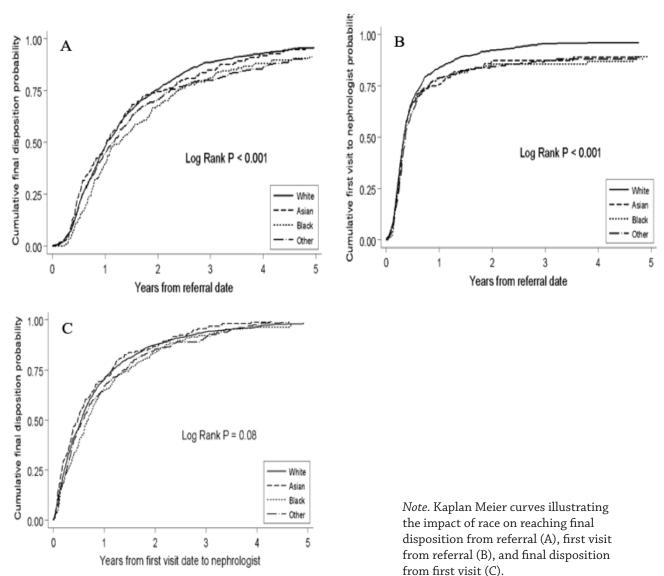


indicate that Black patients may be more disadvantaged during the first evaluation interval compared to those of other races (Supplementary Figure 2). Race has been used as a proxy measure for socioeconomic inequalities that may contribute to the level of health literacy and education (Berkman et al., 2011; Nelson et al., 2019). However, as no direct assessments pertaining to patients' health literacy and level of education was conducted, a direct association between Black race and delayed progression through the evaluation process cannot be confirmed. To reduce the racial disparity seen, educating staff at the referring centres and providing these patients resources to more effectively navigate the referral process (e.g., patient navigator) could allow for more efficient completion of the evaluation.

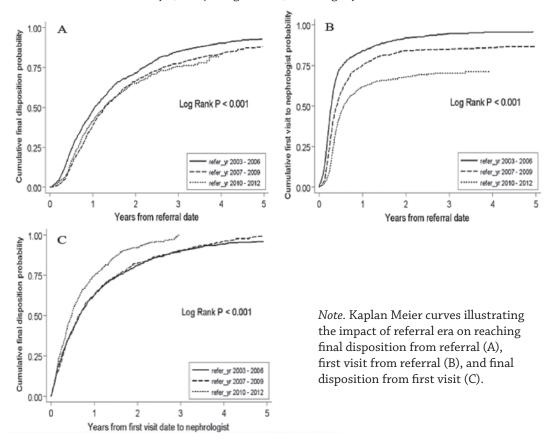
Although SES factors had no effect on the evaluation process, it was found that patients who traveled a greater distance to TGH were less likely to reach FV from referral.

The delay may be explained by the need to complete several required tests before attending the FV. Patients who reside farther away may have greater difficulty coordinating their test appointments and completing the tests in a timely manner. This is often due to limited access to healthcare specialists and infrastructure for diagnostic testing in the non-urban areas where a number of these patients reside. Following the FV, the majority of tests are performed at the transplant centre, allowing for same-day testing. This increases the probability of completing the tests efficiently, which may explain why travel distance did not affect the likelihood of reaching FD from FV (Supplementary Figures 3 and 5). For the SES factors, although U.S. studies have found that higher median income (Schold et al., 2011; Peng et al., 2018; Talamantes et al., 2017; Gaylin et al., 1993; Patzer, Perryman, Schrager, et al., 2012) and better health insurance (Schold et al., 2011; Weng et al., 2005; Lasser

Supplementary Figure 2
Cumulative Probability of Completing Each Referral Stage by Psychiatric Issues

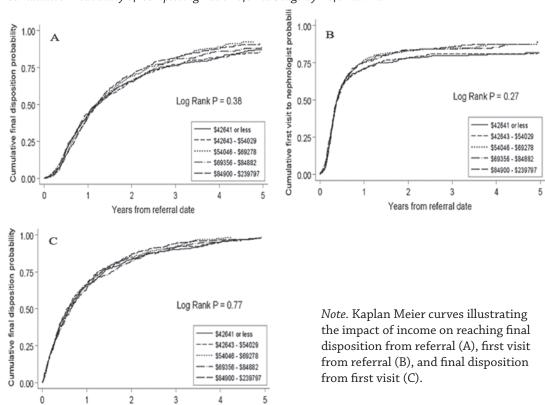


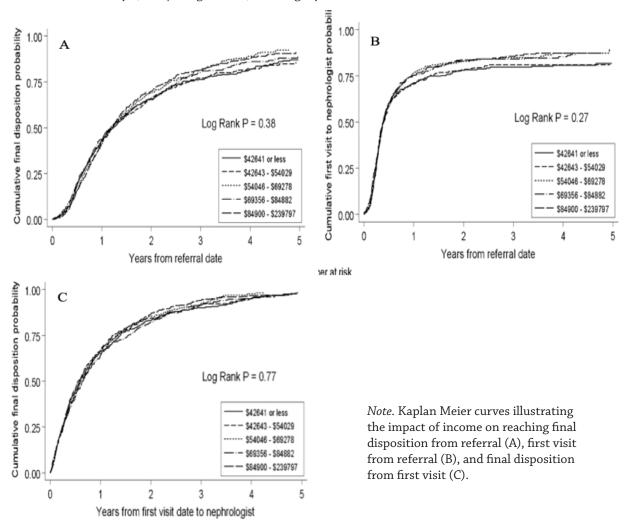
Supplementary Figure 3 Cumulative Probability of Completing Each Referral Stage by Travel Distance



Supplementary Figure 4
Cumulative Probability of Completing Each Referral Stage by Referral Era

Years from first visit date to nephrologist





et al., 2006) are associated with the completion of the transplant evaluation, our results indicate that these SES factors do not impact the progression through the evaluation process (Supplementary Figure 4). These findings were corroborated by our examination of the OMI, a measure of social disadvantage in specific geographical areas. The reduction in the healthcare accessibility gap can be largely attributed to the fact that Canada has universal healthcare, whereas the U.S. system is largely private (Naylor et al., 2019). Additionally, the socioeconomic gradient in Canada may not be as steep as it is in the U.S.

There are several limitations to this study. The results depended on the quality of the data, which was retrospectively abstracted from patient charts for the purposes of medical evaluation, then collected and entered into CoReTRIS. Although variation in recording and documentation may impact the quality of the data, a systematic approach was used to ensure the validity of the data entered into CoReTRIS was high. Additionally, as this was a single centre study, the results may be centre-specific. To account for this, we used a large cohort of 2,555 patients, providing

a range of values for many of the patient characteristics that were evaluated. As Ontario has the largest transplant patient population in Canada, the cohort of patients at our centre accurately represents the variations in patient demographics and disease complexity seen in the Canadian kidney transplant recipient population.

For the SES factors, the data used were extracted from census data and were not individual patient data. The lack of association seen with the OMI may be attributed to the utilization of non-specific patient data, which may not always be representative of this population of patients. However, we conducted a sensitivity analysis by examining median income at each time point as OMI was measured. The results demonstrated by the marginalization index were confirmed. Collecting specific, patient-based data for the SES factors would allow for more customized information and better assessment of the impact of SES on progression through the evaluation process.

To our knowledge, our study is the first to assess patient characteristics that affect each stage of the pre-transplant evaluation process. Medical factors such as CAD, time on dialysis, and psychiatric issues were found to be significant factors. Non-medical factors such as Black race and travel distance to referral centre were also associated with a reduced likelihood of completing the evaluation process. SES factors such as the OMI and median income were not associated with the time to evaluation completion. The significant factors were mainly found to be associated with the first stage of the evaluation process, from referral to FV. During this time, the process is not entirely centre-specific. Communication with the referring centres is still essential in order to obtain patient information. Improving communication between the referring centres and transplant centre can help enhance the completion of the evaluation process.

Overall, the longer that patients take to reach FD, the more the benefits of kidney transplantation start to become countered by the disadvantageous effects of remaining on dialysis for a prolonged period of time. To maximize

beneficial transplant outcomes, the evaluation process must be completed in a timely manner. Restructuring of the transplant evaluation process is necessary to streamline workflow and standardize the evaluation process. This work has helped identify some key factors that must be considered when targeting patients who are at highest risk of delayed progression through the kidney transplant evaluation process.

ACKNOWLEDGEMENT

We would like to thank the Canadian Association of Nephrology Nurses and Technologists (CANNT) for providing the funds through the CANNT-Amgen Research Grant to support the completion of this project. We would also like to thank the staff and students of the Multi-Organ Transplant Student Research Training Program for providing the support needed to complete this project.

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Understanding the life experience of people on hemodialysis: Adherence to treatment and quality of life

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ABSTRACT

This hermeneutic-phenomenological study explores the lived experiences of patients on hemodialysis in regard to the adherence to treatment and quality of life. Fifteen patients were interviewed, including six women and nine men from three dialysis centres in Chile. Two main themes derived from the analysis: 1) embracing the disease and dialysis, and 2) preventing progression of the disease through treatment management. The findings suggest that patients recognize adherence to treatment and quality of life as conditions that derive from self-care and environmental conditions, which the healthcare provider must constantly assess for care planning to improve the adherence and quality of life in this population.

Key words: chronic kidney disease, quality of life, adherence, hemodialysis, hermeneutic phenomenology, nursing care

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GOAL

To provide an overview of the lived experiences of patients on hemodialysis in regards to adhering to treatment regimens and their perception of quality of life.

OBJECTIVES

- 1. Discuss the complex factors that impact adherence to treatment for the individual on hemodialysis.
- 2. Review the lived experiences of the individual study participants.
- 3. Determine the implications of the results of this study on nephrology nursing practice.

he adherence to treatment and health-related quality of life are two highly complex conditions for people living with chronic kidney disease (CKD) who receive treatment with hemodialysis (HD). Based on a review of the research, Kammerer, Garry, Hartigan, Carter, and Erlich (2007) estimated that about half of patients on HD do not adhere to at least part of their prescribed therapeutic regimen. This low adherence has a high incidence in morbidity, mortality, and quality of life (Barnett, Li Yoong, Pinikahana, & Si-Yen, 2008; García & Calvanese, 2007), affecting the family, health system, and society by the associated high economic costs. Similarly, the health-related quality of life is more reduced in patients on HD than in the general population and in patients with other modality treatments (Molsted, Prescott, Heaf, & Eidemak, 2007). The low adherence and low quality of life in this population are two main challenges facing health providers, particularly nurses who provide specialized care in the dialysis setting where patients spend large amounts of time receiving treatment (Wingard, 2005).

Studies examining the effects of treatment compliance have found that adherence to treatment is a crucial factor to achieve good therapeutic results, contributes to reduce morbidity and mortality, and improves quality of life (Cicolini, Palma, Simonetta, & Di Nicola, 2012). Thus, achieving a higher level of adherence is essential to maintaining a better quality of life and health level. On the other hand, studies related to the causes and factors involved with adherence and quality of life (Kimmel et al., 1998; Saran et al., 2003) reveal that non-adherence and low quality of life are a complex problem requiring approaches in different phases and levels. However, there is little research concerning the lived experiences of individuals with ESRD in regard to adherence and quality of life (Bayhakki & Hatthakit, 2012). This

article is the result, in part, of a doctoral study investigating the factors that significantly influence the adherence to treatment and quality of life of individuals on chronic HD in the Region del Maule of Chile (Guerra-Guerrero, 2012). This article provides an overview of research to date on quality of life for individuals with CKD, the research approach for this doctoral research, a description of findings, and a discussion of research findings, practice implications, and conclusions.

BACKGROUND

ESRD is a major health concern worldwide, with a high prevalence and incidence (Wells, 2011). Hemodialysis is part of the treatment for ESRD that is used most frequently around the world (Cicolini et al., 2012). The treatment regimen focuses mainly on recovering or maintaining quality of life in the best possible conditions (Acaray & Pinar, 2005) and includes a) liquid restriction, b) dietary control, c) adherence to medication prescription, and d) attendance at dialysis sessions (Denhaerynck et al., 2007; Vlaminck, Maes, Jacobs, Reyntjens, & Evers, 2001).

Restrictions derived from this therapy produce profound changes in patient lifestyle, rejection of treatment, and deterioration in life conditions (Tovazzi & Mazzoni, 2012). The changes and restrictions individuals using this therapy must face also affect the surrounding environment: family (Bayhakki & Hatthakit, 2012), friends, work, health professionals and staff who attend them (Acaray & Pinar, 2005). Additionally, they may have problems in their career, employment, financial situation, esteem, independence (Niu & Li, 2005), and body image (Acaray & Pinar, 2005).

On the other hand, HD results, which include mortality, reducing the quality of life, and hospitalization, are not always optimal (Ang, Choo, & Ow, 2011). Patients on dialysis have high mortality and morbidity rates (Kim, Evangelista, Phillips, Pavlish, & Kopple, 2010). Moreover, both adherence to treatment and health-related quality of life are impaired (Karamanidou, Weinman, & Horne, 2013)

Adherence to treatment or compliance with medical recommendations has been described as the biggest problem in health care (Lee et al., 2013) and one factor that determines quality of life in the population on chronic HD (Kim et al., 2010). While general non-adherence to treatment of a chronic illness is described as less than 50% (Sabaté, 2003), the non-adherence to the HD treatment regimen has been found to be between 8.5% and 86% (Michelle & Russell, 2010). Regarding quality of life, although HD treatment has had significant development, health-related quality of life has been described as much lower than in the general population (Rambod & Rafii, 2010). Non-adherence to treatment has been associated with an increase in complication rates and associated costs, and a decrease in survival (Kugler, Maeding, & Russell, 2011). Similarly, survival is lower in patients who have low health-related quality of life (García & Calvanese, 2007). Low levels of adherence to treatment and health-related quality of life are also related with a greater mortality (Untas et al., 2011).

In respect to factors associated with adherence to treatment and health-related quality of life, studies show that non-adherence is related to demographic, clinical, and psychosocial factors (Schmid, Hartmann, & Schiffl, 2009). Health-related quality of life has also been associated with physical, psychosocial, socio-demographic, and clinical factors (Valderrábano, Jofre, & López-Gómez, 2001; Vasilieva, 2006). According to Sabaté (2003), adherence to treatment in individuals who have chronic disease is a multi-factorial problem that needs a holistic approach. Although information and research help to explain the problem, non-adherence is a condition little understood (Barnett et al., 2008). Therefore, to achieve a greater understanding of adherence to treatment, professionals—particularly nurses—should develop studies that allow a deep and more comprehensive understanding about this condition. In the same way, the study of health-related quality of life requires an approach from several perspectives and an in-depth understanding because diseases such as the ESRD affect the quality of life in various areas (García-Viniegras & Rodríguez, 2007).

Adherence to treatment and health-related quality of life are aspects interrelated and strongly associated with the increase in mortality and morbidity rates. Non-adherence to treatment and low quality of life are very complex problems which, in addition to being studied objectively and analyzed in-depth, require understanding from a multidimensional and comprehensive perspective. Yet, there is little research concerning the lived experiences of individuals with ESRD in regard to adherence and quality of life (Bayhakki & Hatthakit, 2012). The need for this specialized knowledge of subjective data is significant because it can help improve our understanding and develop stronger nursing practices for individuals with CKD.

METHODS

Design

This study is part of a doctoral research study to identify the factors that significantly influence the adherence to treatment and quality of life of individuals on chronic HD in the Region del Maule of Chile (Guerra-Guerrero, 2012). The research was performed in two phases using mixed methodology (Creswell & Plano, 2007), including quantitative and qualitative research (Guerra-Guerrero, 2012; Guerra-Guerrero, Sanhueza-Alvarado, & Cáceres-Espina, 2012). The focus is to show the findings of the qualitative part of the mixed method approach, where a hermeneutic phenomenological approach (Van Manen, 1997) was conducted to understand lived experiences of patients on HD of their adherence to treatment and their health-related quality of life. A hermeneutic-phenomenological approach is a descriptive methodology (phenomenology) that seeks to describe how things arise in life. At the same time, it is an interpretative methodology (hermeneutics), which states that experiences happen as a phenomenon that can be interpreted (Van Manen, 1997). An interpretive approach facilitated the understanding of the various dimensions of human experience for people with HD. The interpretive inquiry evoked thoughtful questioning and understanding of human experiences. According to Santos Salas and Cameron (2010), "Hermeneutic and phenomenology are rich schools of thought situated within the human science philosophical tradition, as expressed in the writings of Gadamer, Heidegger, and Merleau-Ponty, and others" (pp. 656-657).

Data Collection

In-depth interviews were done with patients in the chronic HD pro- grams in three dialysis centres in the Region del Maule of Chile. The study included patients who met the following criteria: 1) older than 18 years of age, 2) on dialysis treatment for at least three months, 3) attending HD regularly three times a week, 4) able to communicate in written and spoken Spanish, and 5) without cognitive and mental problems. The sample was defined according to the criterion of saturation data (Polit & Hungler, 2000) and extreme cases (Hernández, Fernández, & Baptista, 2008). Extreme cases were defined based on the quantitative phase of the study done in Chile by Guerra-Guerrero (2012) with 354 potential participants and according to the different levels of adherence to treatment and health-related quality of life that patients presented. According to the adherence to treatment and health-related quality of life levels, 15 patients were selected. Three patients presented as having low, medium, or high adherence to the diet; four presented as having high, high-low intermediate, low-high intermediate, or low adherence to the medications; three presented as having low, medium, or high adherence to the restriction of liquids; and five presented as having low, medium-high, medium-intermediate, medium-low, or high health-related quality of life.

Interviews were conducted with participants' consent according to the ethics considerations proposed by Emanuel, Wendler, and Grady (2000). Approval was granted by the University of Concepcion Research Ethics Board and the Ethics Committee in Maule Health Service in Chile. Each participant was informed about the study objectives and about the freedom to withdraw from the study at any time. The names of participants were not identified to guarantee study confidentiality.

Interviews took place according to participant preferences in the place, day, and time scheduled by them, lasting from 20 to 60 minutes. In order to meet qualitative rigor, observations in the field, checking of the participant, recognition of researcher bias, and triangulation were used to comply with the validation (Creswell, 2007). The observations were an indirect method of data collection (Van Manen, 1997) focused on engaging in participants' lived world while interviews were performed in the dialysis centers and homes of the participants. On the other hand, after the interviews, participants read and heard their own interview to supplement, delete, change, or confirm the information provided. All participants agreed with their responses. In addition, the biases, prejudices, and beliefs of the researchers were considered throughout the study. For example, prior to data collection, the lead researcher had worked in the HD area as a

nurse and believed that if patients followed the treatment regime as close as possible, this would most often lead to improved health. The researcher was aware of this belief. The analysis and reflection of the interviews were held in conjunction with two researchers who had experience and were familiar with the hermeneutic-phenomenological approach. Additionally, a third researcher analyzed two interviews that were the most representative of the research. High-quality recordings and transcriptions of the interviews were conducted to meet data reliability (Creswell, 2007). Each interview was recorded in high quality resolution by a digital audio (MP3) player and subsequently transcribed manually in digital format. The recordings identified key aspects, such as silences, intonation changes in the voice, expressions, and emotions that participants showed in their interviews.

Data Analysis

According to the hermeneutic-phenomenological method (Van Manen, 1997), the data analysis and reflection were conducted in several steps after the interviews were transcribed, ordered, and refined. The analysis began with the first interview and continued throughout the recording and transcribing of the other interviews. The purpose of the phenomenological-hermeneutic method is to understand essential meanings (Van Manen, 1997). This method includes a thematic analysis, which was conducted manually. Thematic analysis corresponds to the recovery process of themes that are incorporated in the meanings (Van Manen, 1997). These themes aid in identifying and understanding the meaning of the phenomenon. Therefore, the theme describes an aspect in the structure of the lived experience. Holistic, selective, and detailed approaches proposed by Van Manen (1997) were used to discover the themes from the interviews. First, using the holistic approach, interviews were read as a whole to identify the main meaning. Next, the selective approach was conducted to read and listen to the interviews repeatedly, searching for phrases or the most relevant sentences about the experiences of a person with ESRD on HD in regard to treatment and quality of life. Finally, the detailed approach sought to identify phrases or sentences that revealed the phenomenon of the study. Once the themes were identified, reflection and interpretation were conducted according to the lived experiences of a patient on chronic HD. Following the tradition of hermeneutic-phenomenological methodology below, the findings are presented as described by Van Manen (1997). Reporting the findings in this type of methodology requires a description and interpretation of participants' experiences.

Findings

A total of 15 individuals participated in the qualitative study: six women and nine men ranging from 22 to 72 years of age (see Table 1). They attended HD in Talca, Curico, and Parral. Ten participants were married, three separated, one single, and one widowed, and they lived with relatives, such as children, grandchildren, siblings, or a spouse. Their schooling level ranged from zero to 12 years of education.

Table 1
Participant Sociodemographic Characteristics

Sociodemographic Variables	Number of Participants
Gender	
Male	6
Female	9
Age	
20 to 40	6
41 to 60	3
61 to 80	6
Marital Status	
Married	10
Separated	3
Single	1
Widowed	1
Schooling Level	
0 to 4	3
5 to 8	6
9 to 12	6
Occupation	
Employed	6
Unemployed	5
Not permanent employed	1
Retired	3
Income	
< \$100	5
\$101 to \$400	5
\$401 to \$800	4
> \$801	1
Time on Hemodialysis	
< 3 months	1
4 to 48 months	7
46 to 96 months	6
>97 months	1

Only six participants were working. Their incomes ranged from less than \$100 to over \$1,000 a month. The time in HD ranged from three months to 10 years. The Chilean participants gave vivid accounts as they were facing their treatment on HD. The lived experiences related to adherence and quality of life were exposed through the analysis of transcripts in which two main themes were identified: 1) embracing the disease and dialysis, and 2) preventing progression of the disease through treatment management. Subsequently, subthemes were derived from the main themes (see Table 2).

Embracing the Disease and Dialysis

Findings are presented following the tradition of hermeneutic-phenomenological methodology, as described by Van Manen (1997). Reporting the findings in this type of methodology requires a description and interpretation of participants' experiences based on philosophers. The interpretation of the findings in this study was based on philosophers such as Heidegger (1951) and Merleau-Ponty (2000).

The experience of having ERSD and being on HD was described by participants as a process that separates life into two stages: a "before" and "after." Participants described that before the disease diagnosis, they lived healthy lives, without complications and treatment. However, with the confirmation of the medical diagnosis, they experienced transformations and profound changes in the way they exist in the world. These changes were described as loss of control in activities of daily life, mobility, relations with family and friends, identity as a healthy person, physical and social motivations, and control over the functions of their body.

The condition in which patients "are" and "exist" in the world is modified with renal disease. Existence that ontologically Heidegger (1951) defines as "being before the eyes" (p. 427) is modified. The "being there" with the treatment and the "essence" of the individual suffer deep transformations. In interviews, patients described their experiences of being on HD as the beginning of a new phase in their lives in which they must fight everyday to embrace the disease and treatment. This process in which patients fight is described in the Azucena's story (all names have been changed):

Pretty difficult and hard because it changed my life, right from the start. Now it's not the same as what I did before. I have to think that I have to go to dialysis three times a week, but I still go on with my life even though I've struggled so much with the dialysis... I got very depressed, I got fed up, but finally, I realized that I had to go on living, even if it was on a machine, and that's the reason I have to keep on struggling there on the machine...lots of things change...you start to not be the same person you were before.

Azucena described her experience as very difficult to face and embrace because from the beginning, important transformations occurred in her life. The changes led patients to feel different than how they were before the disease. Embracing HD is a constant struggle in which patients

Themes	Subthemes
Theme 1: Embracing the disease and	Subtheme 1: Fighting against the disease and treatment
dialysis	Subtheme 2: Changing the disease
Theme 2: Preventing progression of the disease through treatment management	Subtheme 3: Defining the dialysis treatment
	Subtheme 4: Taking medications
	Subtheme 5: Maintaining a diet
	Subtheme 6: Consuming liquids
	Subtheme 7: Taking care against the disease in the health system

have to re-learn to live; they have to split their life between work, family, hemodialysis, and the multiple activities that they used to do until the disease appeared. Embracing the disease is described as a fight that patients engage in to incorporate the treatment and cope with or overcome the fundamental changes that need to occur in their lives. The disease is a process in which important changes occur in terms of health, lifestyle, income, and social and familiar life. These changes result in deterioration in the quality of life, as Radal described:

It is not a good experience; it completely changes your lifestyle. I mean everything: social life, family, economic situation, it changes absolutely everything. At the beginning, I felt, I mean, the first six months of my treatment was far too limiting... I mean, as a young person who enters into this, you feel handicapped.

According to Radal's experience, it is very complex and very individual to face the limitations that occur with the disease and treatment, particularly when patients were used to "some normality." This situation is more complicated in the first phase of the disease. The disease diagnosis transforms the life of the patients to a new way to "exist" and "be" in the world. According to Craig and Edwards (1983), the onset and progression of chronic disease produces changes not only in the people's lives but also in many familiar situations. Kidney disease leads patients to rethink how they are in the world, who they are, and the way in which they co-exist and interact with others in daily life. Kidney disease transforms the person as a whole, as Heidegger (1951) described in the corporeoanimico-spiritual unit. The body, soul, and spirit receive the effect of the disease, and patients oppose the disease through non-compliance to avoid the disease completely invading their life. Embracing changes caused by managing the disease well is a struggle in everyday life, in the person's world, space, and time, where according to Heidegger (1951), the people "are in the world" (pp. 62-64) in their own way. The embracing of the disease is related to what Benner and Wrubel (1989) describe as how the temporality and place where the diagnosis is told to the person makes a difference. Being told in an office appointment is accepted more easily through

giving time to ask questions and understand what has happened to them. On the other hand, if they are told during an emergency department visit, it is more abrupt, and the opportunity to ask questions to understand is lessened. Coping with the challenges of the disease and treatment is defined by Liposwsky (1970) as "all cognitive and motor activities which a sick person employs to preserve his bodily and psychic integrity, to recover reversibly impaired function and compensate to the limit for any irreversible impairment to compensate the limitations caused by some irreversible deterioration" (p. 93). Patients with kidney failure develop different activities to fight against the disease. According to Lipowsky (1970), patients with chronic disease have different coping styles, such as fighting the disease, capitulating, and avoiding. The coping styles allow an understanding of how they use different strategies to embrace the new life condition with ESRD. Nevertheless, the participants' experiences show us how the disease finally changes their existence in their world, leading them to also feel changes in their quality of life. As Frangel said:

The quality of life is bad because your body is not 100%. Of the 100%, you are 40%, and the other 60% is sick. Sometimes I walk and suddenly I get tired, then my quality of life is bad. I can work because of self-encouragement, but if I do not do this, I will be depressed.

Frangel described his quality of life as bad because he feels his body only partially works. He recognized the difficulties in his daily activities, his health condition, and how he self-encourages, avoiding other problems derived from the disease.

Preventing Progression of the Disease Through Treatment Management

Once the diagnosis has been established, patients have to face new challenges derived from their treatment. Although HD is just one part of the treatment for kidney disease, it is one of the most significant aspects because kidney functioning must be temporarily restored through dialysis. HD is experienced differently according to the meaning that patients give it. On one hand, HD was described as an opportunity to continue living; and on the other hand, it was described as a "torturing treatment." The lived

experiences of those on HD were related with the time they must stay connected to a machine, with needle punctures, the impossibility of working and doing everyday activities, and the loss of their expected future. Patients described their HD experience as one of dependence on and domination by the dialysis machine. However, dialysis machines are the only way for these patients to remain living. Laurel said:

I am not independent; we become dependent. I depend on the machine. For example, if I do not come in a month, I know that my blood is going to be poisoned. These are the things that make us keep coming to dialysis; the machine purifies the blood to live...then whether I want or I do not want, I have to come, for that we are dependent on a machine. Although I say, I manage myself, this is not so, because the machine manages me to live.

Patients under HD in this study recognized that the dialysis machine meant both dependency and at the same time an alternative to live. They recognize their condition as "sick" and as "dependent" on the machine when they fully realize this is necessary to live. With each dialysis session, patients feel like their body is invaded by machines and needles. According to Merleau-Ponty (2000), people who are "sick" feel the presence of a second person implanted in their body. The body is the vehicle of being in the world: having a body, it is possible to connect with a defined environment (Merleau-Ponty, 2000). The body allows communication with the world, awareness of the world, and of the existence in the world. However, kidney damage prevents patients from connecting effectively with the world, which they know. The body is the place in which the biological existence and the soul or spirit of the patient's life are situated. The patient's body with kidney disease is the first structure of existence altered by the disease, and invasion through needles and machines prevents people from connecting with the world in the way they were used to before the illness. The treatment produces transgression in the integrity of the patients' lives, and they feel the "sick condition." Under this condition, following the treatment regimen is more difficult for patients.

On the other hand, the time used in dialysis is a limitation in people's lives and also a major concern. They must attend the dialysis sessions and at the same time comply with other roles. Heidegger (1951) states the time "never is infinite" (p. 407); the time on dialysis is a limitation in the patients lives because they are constantly measuring dialysis time by a clock. The dialysis time is a time in which they cannot work or develop essential activities in their life. The complications to comply with renal treatment were related to the dialysis time attendance and also to medications, diets, liquids, and care. Medication adherence is a complex aspect in which patients described problems related to the composition and quantity of pills, forgetting timetables, and believing that they do not need medications. However, some patients described how they strove to comply with the treatment because they knew how the medications help them. Patients also described medication adherence as a factor that affects their quality of life. About the difficulties to comply with treatment, Frangel said:

I am not good at taking pills. Of all the pills, I take half, and I know the blood results. Because of the bad test results, I take the medications that I need. Taking so many pills produces gastritis, and then it is good take a rest for a few days after taking pills for a long time. We take as many as 14 pills a day. I wake up taking pills, and I go to bed taking pills. These are many strong pills, then this can make you sick.

Frangel has been on HD four years and takes pills when his blood exams are altered. He decides when and what medications to take according to his self-evaluation. He has suffered health problems, such as loss of weight and gastritis. Therefore, he recognized how he has learned to self-control and self-assess when and what he needs to take.

Maintaining a diet is another treatment aspect that affects the quality of life. The type of foods and special diets are a complex theme, which participants described as difficult to manage. They are hesitating constantly about eating or not eating some foods. Among the factors that influence diet adherence, patients described self-control, economics, and familial support. With respect to ways participants face their diet treatment and recommendations, Canelo said:

The quality of life is not good because the alimentation is terribly sad. The alimentation it is not poor, but everything is measured. I must restrict my water and fruit intake... On the other hand, when I want to eat something, sometimes I have been without food because the money decreases. Sometimes there is not money to buy the "panitas" (chicken livers); this is the problem.

Canelo is an elderly man who lives together with his wife and three grandchildren. He is retired, and although their incomes allow him to live peacefully, he recognizes that in some periods, he has serious difficulties facing the cost of caring for his family and the disease. Canelo has been on HD for two years, and he described how the diet restrictions are an aspect that affects his quality of life. According to Canelo, his diet is also affected by his income because it is very difficult to follow a diet when other familial expenses exist.

With respect to the liquid restrictions, patients described serious difficulties in adherence. In some cases, they consume low-to-moderate amount of liquids, but in other cases, they have excessive consumption. Among the strategies used to control fluid consumption, patients described the use of frozen water, daily weight assessment, self-control, habituation, and fractionated consumption of liquid. Patients also recognized the complications derived from excessive fluid consumption. Additionally, they described some feelings related to the liquid restrictions, such as anger, despair, complication, weakness, and relief. Radal said:

It is complex when you are a person who is accustomed to drinking a lot of liquid... Before the disease, I consumed three to four liters of water daily, and to pass from that amount to one liter is too complex. I put a bottle of half liter to frozen, so I go drinking what will be melting during the morning, and in the afternoon, I do same...

additionally, I have a scale in my house, and if I drink too much liquid on a day, I review my weight, then I can see if I can continue taking liquid, or if I really need stop.

According to Radal's experience, it is possible to understand the complexity of the liquid restriction. Patients are constantly striving to control the water consumed and not increase their weight. They develop different strategies to meet their objectives. However, patients described that despite all the effort and self-control, liquid management is an extremely complex situation because they are always feeling intense thirst.

The care performed by patients on HD is crucial in their life. Life expectancy depends basically on the care performed with their diet, fluid intake, medicaments, and attendance at each dialysis session. Patients identify the family, projections, roles, and spiritual support as aspects that help in their care. With respect to self-care, Wedawe said:

My experience has not been very good because I was good at taking liquid, I am good at eating, and now that I cannot take much liquid, I must have a diet... In respect to the medicaments, I have taken these at the correct time because my life depends on self-care. If I do not take care, I will not be able to have more years of life... so, all depends on me; I know that I only have self-care.

The patients associated the care with the motivations in their lives, such as the children, roles in the family, and home. They have the motivation to attend HD and take care because they are aware that HD can prolong their life. Patients recognized that the time they have to live is uncertain, but at the same time, they know the care they take is essential to live longer. According to the participants' experiences, the care is also performed for the family, the health team, neighbors, and friends. Although they recognized the familial care as an essential element to be good, they also recognized this care as "invasive" and "restrictive." They feel dependent on others, loss of freedom, and time limitations. The personal component of the care is based on self-control and self-regulation, which allow them to decide their diet, liquid intake, and medications. From the lived experiences, it is possible to understand the adherence to treatment as a condition that derives mainly from the self-control of the patients who decide what do.

DISCUSSION

In this study, the life experiences were related to two main themes: 1) embracing of the disease and 2) preventing progression of the disease through treatment management. The participants described how in embracing the treatment they experience changes in their whole life. The changes in their health, lifestyles, and social and familial life lead them to fight and maintain a permanent battle to avoid that both the disease and treatment modifies their existence.

The patients use different coping strategies to embrace the treatment. The experiences with adherence are a constant struggle, which has also been described in studies about the fluid restriction as a dramatic and continuous battle to reach adherence (Tovazzi & Mazzoni, 2012). The

embracing is a continuous process, which is lived according to the meanings that people give to the disease, their priorities, expectations, and the adjustment to the treatment (Tovazzi & Mazzoni, 2012).

Changes in patients' lives in this study were associated with deterioration in the quality of life. The patients recognized how these changes affect their condition in the world where they exist and live in relation with others. The physical difficulties pre-vent them from developing their work, as well as their social and familial life. They have limitations in their whole life, and they feel strong limitations in their quality of life. According to Hagren, Pettersen, Severinsson, Lützén, and Clyne (2001), when patients are facing death, prolonging life through technology used in HD also results in limitations directly on the patient, family, and quality of life. Adherence to treatment was related to strategies they use to face treatment, such as self-care and self-control, which are developed to keep living. Additionally, they recognized other external factors that also influence adherence: social and familiar support, economic resources, and health providers, which were recognized as fundamental aspects. These strategies have been divided by Bayhakki and Hatthakit (2012) into two types: internal-approach coping and external-approach coping. The results of this research have also been described in other studies in which adherence to restrictions is a central element in individual motivations, mental control, one's own experience, time, and support from others (Tovazzi & Mazzoni, 2012).

Additionally, adherence to treatment was related to loss of independence, with time limitations particularly when patients need to attend dialysis sessions. The dialysis attendance has a double connotation. On one hand, dialysis limits their life, and on the other hand, dialysis allows them to continue living. This ambivalence is also described in a study by Hagren et al. (2001) in which the patients felt tied to the HD machine, and at the same time, they were aware it constituted a lifeline. Similarly, dialysis attendance was described as a loss of autonomy and independence. Patients felt that the dialysis machine dominated them but also allowed them to live. This relationship of loss of freedom by the HD treatment has been described as dependence on technology and the existence of a rigorous medical regimen (Hagren et al., 2001). This loss of autonomy and independence allows us to understand how dialysis also affects the quality of life. The life stories show us how the patients lost opportunities to work because they needed to attend dialysis. This loss finally results in lower economic resources to comply with the treatment and maintain their autonomy and roles in the society (Griva et al., 2013).

IMPLICATIONS FOR NEPHROLOGY NURSING PRACTICE

The results of this research have shown that adherence to treatment and quality of life are a serious concern and challenge faced by patients on HD. Nurses and healthcare providers who are responsible for the care in this population require a comprehensive understanding of the lived experiences of patients. Non-adherence to treatment protocols is not only related to non-compliance based on the findings above. It is necessary to go deeper into the root causes of non-adherence, such as what social determinants of health affect the experience to adherence to the HD therapeutic regimen.

Based on these findings, it is possible to understand how the humanization of care has greater value in patients' lives because they need human and integral care according to their individual needs. Healthcare professionals must not only consider and be focused on the biologic aspect of the patients, which are related with the dialysis efficiency, but must also consider their concerns, experiences, meanings, the way in which they exist in the world with others and with the disease, their condition as human beings, their relationships, and mainly, their communication and understanding with the health team. Therefore, it is essential that the health team identify which are the main concerns, priorities, and difficulties that patients have when they are non-adherent. Participants described different resources and strategies facing the disease and their treatment. These differences must be evaluated by health providers considering the individuality of each patient. Nephrology nurses should focus their attention on understanding the meaning the disease has in the patients' lives, in which ways the disease affects their existence in the world, and which are the personal resources they have to face the treatment. Nurses also need to constantly assess the changes that happen in the patients' lives and plan individualized care according to the needs and experiences of the individuals. There is a need to educate healthcare professionals to consider individual circumstances as to why patients do not always adhere to treatment. Generalization of treatment plans only perpetuates health inequalities for these patients, such as access

to transportation, treatment, food security, child care, and their financial situation. There is also a need for policy advocacy to make the healthcare system more flexible and open to the needs of these participants.

CONCLUSION

Personal and environment factors influence adherence to treatment and quality of life, which are necessary to understand from the individual's perspective. Having information focused on the individual needs is an aspect that the health team should consider in all phases of the disease and treatment. In care planning to improve adherence to treatment and quality of life, it is essential to identify lived experiences aspects, such as cognitive skills, social difficulties, preferences, priorities, habits, social and familiar networks, and roles of the patients, as well as the communication channels, confidence, empathy, understanding, and reception from the health providers. At the same time, it is fundamental that care planning is based on a systematic assessment of the changes experienced for the patients while on HD.

ACKNOWLEDGEMENTS

The authors express their deepest and sincerest gratitude to their participants in Chile who generously consented to participate in this study and so enthusiastically and thoughtfully gave their time to engage with this study. It is for them and other people with chronic kidney disease who will come after them that the authors hope this research will have an impact on their nursing practice. The authors wish to thank the National Commission for Scientific and Technological (CON-ICYT), Chilean Government, and the Chilean Ministerio de Educacion and Universidad Catolica del Maule for funding this study.

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New CANNT Board Members

VP TECHNOLOGISTS SHRIPAL PARIKH, AScT, cdt



Shripal Parikh is a dialysis technologist working for Alberta Health Services in Calgary Health Region. He is co-chair of The Canadian Board of Examiners for Biomedical Engineering and Dialysis Technologists and Technicians. Shripal has been working as a dialysis technologist since 1997 when he began his career in Toronto. He graduated from Fanshawe College in London, Ontario, from the Biomedical

program. He is a Certified Applied Science Technologist from the Ontario Association of Certified Engineering Technicians (OACETT) and is a Certified Dialysis Technologist from the Canadian Board of Examiners (CBE).

Shripal is involved with CANNT as a VP-Technologist and is working diligently to bring more participation from dialysis technologists in CANNT. Shripal is also a yoga teacher and practises and teaches yoga regularly to promote mental and physical well-being.

VP ATLANTIC BETTIANN CURRAN, BN, RN, CNEPH(C)



Bettiann Curran is the Regional Dialysis Access Coordinator for the Eastern region of Newfoundland and Labrador (NL) and its satellite units. She is the chair of Eastern Health's Vascular Access Education Group, which helps to develop vascular access clinical guidelines and provide and develop regional education sessions.

Bettiann graduated from St. Clare's School of Nursing in 1990 and completed her

Bachelor of Nursing from Athabasca University in 2010. She has held her certification in nephrology nursing since 2000.

Early in her career, Bettiann did travel nursing throughout the USA and, on her return to NL, started working in hemodialysis. She has more than 25 years of nephrology nursing experience in a variety of positions including hemodialysis, home dialysis and, most recently, access coordinator and relief for the CKD clinic.

Bettiann is a black belt in kung fu. In her free time, she enjoys exploring the rugged beauty of NL through outdoors activities including running, biking, and hiking. She has put down her roots in nephrology and, in her current position, combines her passion for teaching with providing excellence in patient care. She feels honoured to represent Atlantic Canada in her role as vice president.

Meet the 2020 CANNT bursary, award, and research grant winners



ALLIED HEALTH PROFESSIONALS AWARD SPONSORED BY AMGEN SEGUN FAMURE, MPH, MED, CHE - ONTARIO



Segun Famure is the manager for the Research, New Knowledge and Innovation, Kidney Transplant Program, as well as co-director of the Multi-Organ Transplant Student Research Training Program (MOTSRTP) at the Toronto General Hospital, University Health Network. In addition to the advanced degrees

he has obtained in both the fields of public health and education, he holds a Certified Health Executive (CHE) designation from the Canadian College of Health Services Executives. He is also a past recipient of the Health Services and Policy Research Training Award from Ontario Training Centre. His research interests lie in areas of health curriculum development, chronic care delivery modeling, health program evaluations, and quality of life assessments.



FRANCA TANTALO BURSARY AWARD SPONSORED BY FRESENIUS MEDICAL CARE RACHAEL BLAIR, BSCN, RN, CNEPH(C) – NOVA SCOTIA



I have been with the nephrology program for the past 17 years and could not imagine any other place to be. I began my role as a staff nurse with the dialysis program. I proceeded to take on several leadership roles, such as charge nurse, clinical lead for the satellite and home dialysis program, clinical nurse educator,

and finally as a transplant coordinator. I have two wonderful little boys, ages seven and ten. I am currently enrolled in the Master of Adult Education and Health at Saint Francis Xavier University. My hope is to use the knowledge gained from this program to develop educational tools for both patients and staff to increase the overall health of patients living with chronic kidney disease.



CANNT AWARD OF EXCELLENCE – CLINICAL PRACTICE SPONSORED BY CANNT ALICIA MOONESAR, MSCN, NP-PHC, DNP(C) – ONTARIO



Alicia Moonesar is a Nurse Practitioner in Nephrology at Unity Health Toronto and simultaneously works with the Ontario Emergency Medical Assistance Team (EMAT) as a Nurse Practitioner providing primary healthcare to diverse communities. Alicia graduated from Centennial College with a diploma in nursing in 2004 and then completed her

Bachelor of Science in Nursing from Ryerson University in 2007. In 2014, she completed the Nurse Practitioner -Primary Health Care Certificate Program from McMaster University. She is currently enrolled at Walden University in the Doctor of Nursing Program (DNP). Alicia also holds clinical appointments at the Lawrence S. Bloomberg Faculty of Nursing at the University of Toronto and Daphne Cockwell School of Nursing at Ryerson University as an adjunct lecturer. She is a well-known and highly respected nurse leader who is passionate about the role of nurse practitioners in Ontario. Alicia has served on several committees for the College of Nurses of Ontario and is currently the Board of Director Region 6 for the Registered Nurses Association Ontario (RNAO). She is aligned with the goals and mission of the Canadian Association of Nephrology Nurses and Technologists (CANNT).

Alicia's distinctive passion and interests are in the area of nursing leadership, expansion of safe practice settings and quality of work life environments, with a distinct focus on excellence and safety in patient care. Her aspiration is to advance the profession of nephrology and Nurse Practitioners, and to continue to promote and advocate for healthy public policy on issues related to nursing and healthcare.



CANNT AWARD OF EXCELLENCE – EDUCATION SPONSORED BY CANNT PRIMROSE MHARAPARA, MSCN, NP-PHC, CNEPH(C), PHD (STUDENT) - ONTARIO



Primrose Mharapara is a Nurse Practitioner in in-centre hemodialysis at the Toronto General Hospital, University Health Network. She works closely and collaboratively with nephrologists in the outpatient unit, as well as cross covers the Dialysis Start Unit. She is a graduate of

York University in the Master of Science in Nursing – Primary Health Care Nurse Practitioner field. She is also a graduate of the Michener Institute in the diabetes educator certificate program. She attained the University of Toronto collaborative change leadership certificate, which equips and fosters building of relationships and partnerships to collaboratively co-create change. After graduating from York University, she began her nursing career at North York General in ICU/ CCU as a staff nurse and later trained to be a Sustained Low-Efficiency Dialysis (SLED) nurse. On her nursing career path, she has assumed numerous educational and leadership roles, which include: sepsis team member; working in collaboration with the emergency department, patient- and family-centred care (PFCC) steering committee member, co-founder of the ICU/CCU Education on the Fly; peer-to-peer teaching model, nephrology interprofessional education rounds; UHN caring safely faculty; and order sets medical directives and delegations committee member. She served as a membership liaison for the Canadian Association of Critical Care Nurses (CACCN) during her time in critical care. She occasionally evaluates internationally educated nurses as an OSCE examiner and writes entry to profession examinations, and is a clinical advisor and preceptor with University of Toronto. She is now a PhD student with the University of Alberta and continues to collaborate in publishing nephrology work.



2020 CANNT JOURNAL AWARD SUPPORTED BY CANNT

Peritoneal dialysis for heart failure patients is associated with improved health outcomes (CANNT Journal, 2020, 30[2], 12-17)

Maureen Leyser, MN-ACNP, PHCNP, PhD(C) Sangyang Jia, MD Louise Vitou, MDCM, FRCPC ONTARIO

MAUREEN LEYSER, MN-ACNP, PHCNP, PHD(C)



Maureen Leyser's nursing career started 28 years ago working in acute care settings and outpatient clinics for chronic disease in both a community hospital and an academic centre. In the last 18 years, she has been a Nurse Practitioner in clinical areas including renal dialysis, inpatient cardiology,

heart failure and heart transplant clinics, transcatheter aortic valve implantation (TAVI) program, secondary stroke prevention clinic, and adult primary care clinic for orphan adult patients. Together with her progressive leadership and clinical experiences, her involvement has proven to be vital as she was a stakeholder member in a Provincial Digital Quality Based Practice order sets for congestive heart failure (CHF), completed a local health integrated network (LHIN) initiative on cardio-pulmonary rehab care mapping from acute care setting to community on CHF, committee member on the cardiac care division group, and more recently, a member of the steering committee for the Provincial Aortic Valve Initiative (TAVI) project for contributing to the development and standardization for an Ontario Structural Heart Disease Valve Program.

In addition, a passion for research and lifelong learning has given her the ability to uncover gaps within programs, and improve and standardize the quality and consistency of patient care (and education) through best practices. This has resulted in her success to present her own independent research at Canadian and international conferences on heart failure and the role of peritoneal dialysis for advanced stage heart failure.

Maureen is a co-author of *The leadership role of mid-career nurses towards emerging nurses* in the Canadian Nursing Journal (May 2015) and *Effect of formalized discharge process which includes delivery of prescription to pharmacies in the incidence of delayed prescription retrieval* in the *British Medical Journal Open Quality* (March 2020). More recently, Maureen is the lead author of *Peritoneal dialysis for heart failure patients is associated with improved healthcare outcomes* in the *Canadian Association for Nephrology Nurses and Technologists Journal* (CANNT, June 2020). Maureen's lifelong learning continues as she is entering her fourth year at Western University in the PhD Nursing Program for Health Care delivery system. Her dissertation/thesis is: *The development, refinement, implementation, and impact of a nurse-led health coaching intervention in heart failure self-care management*.

DR. LOUISE VITOU, MDCM, FRCPC



Dr. Vitou is a staff nephrologist and medical lead for the peritoneal dialysis program at Grand River Hospital. She obtained her MDCM degree from McGill University in 1988. Dr. Vitou completed her internal medicine residency at McMaster University in 1988–1991; this was followed by fellowships in nephrol-

ogy at the University of Western Ontario in 1993–1995 and in critical care at McMaster University in 1995–1996.

CANNT Membership



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Guidelines for Authors

The Canadian Association of Nephrology Nurses and Technologists (CANNT) Journal invites letters to the editor and original manuscripts for publication in its quarterly journal. We are pleased to accept submissions in either official language—English or French.

Which topics are appropriate for letters to the editor?

We welcome letters to the editor concerning recently published manuscripts, association activities, or other matters you think may be of interest to the CANNT membership.

What types of manuscripts are suitable for publication?

We prefer manuscripts that present new clinical information or address issues of special interest to nephrology nurses and technologists. In particular, we are looking for:

- Original research papers
- Relevant clinical articles
- · Innovative quality improvement reports
- Narratives that describe the nursing experience
- · Interdisciplinary practice questions and answers
- · Reviews of current articles, books and videotapes
- Continuing education articles

How should the manuscript be prepared?

Form: The manuscript should be typed double-spaced, one-inch margins should be used throughout, and the pages should be numbered consecutively in the upper right-hand corner. More formal research or clinical articles should be between five and 15 pages. Less formal narratives, question-and-answer columns, or reviews should be fewer than five pages.

Style: The style of the manuscript should be based on the *Publication Manual of the American Psychological Association (APA)*, Seventh Edition (2020).

Title page: The title page should contain the manuscript title, each author's name (including full first name), professional qualifications [e.g., RN, BScN, CNeph(C)], position, place of employment, address, telephone, fax numbers, and email address. The preferred address for correspondence should be indicated.

Abstract: On a separate page, formal research or clinical articles should have an abstract of 100 to 150 words. The abstract should summarize the main points in the manuscript.

Text/Reference List: Proper names should be spelled out the first time they are used with the abbreviation following in brackets, for example, the Canadian Association of Nephrology Nurses and Technologists (CANNT). Generic drug names should be used. Measurements are to be in Standards International (SI) units. References should be cited in the text using APA format. A reference list containing the full citation of all references used in the manuscript must follow the text.

Tables/Figures: Manuscripts should only include those tables or figures that serve to clarify details. Authors using previously published tables and figures must include written permission from the original publisher. Such permission must be attached to the submitted manuscript. Table/figure formatting should comply with APA style.

How should the manuscript be submitted?

Email your manuscript to: **cannt.journal1@gmail.com**. Include a covering letter with contact information for the primary author and a one-sentence biographical sketch (credentials, current job title and location) for each author.

How are manuscripts selected for the CANNT Journal?

Each manuscript will be acknowledged following receipt. Research and clinical articles are sent out to two members of the *CANNT Journal* manuscript review panel to be reviewed in a double-blind review process. All manuscripts may be returned for revision and resubmission. Those manuscripts accepted for publication are subject to copy editing; however, the author will have an opportunity to approve editorial changes to the manuscript. The editor reserves the right to accept or reject manuscripts. The criteria for acceptance for all articles include originality of ideas, timeliness of the topic, quality of the material, and appeal to the readership. Manuscripts that do not comply with APA formatting and style will be returned to the author(s).

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Checklist for authors

- ✓ Cover letter
- ✓ Article
 - · Title page to include the following:
 - · Title of article
 - Each author's name (including full first name)
 - Professional qualifications
 - Position
 - Place of employment
 - Author to whom correspondence is to be sent, including address, phone, fax number, and email address
 - Text of article, with abstract if applicable, doublespaced, pages numbered
 - References (on a separate sheet)
 - Tables (one per page)
 - Illustrations (one per page)
 - Letters of permission to reproduce previously published material

Revised March 2018

Lignes directrices à l'intention des auteurs

Le Journal de l'Association canadienne des infirmières et infirmiers et des technologues de néphrologie (ACITN) vous invite à faire parvenir articles, textes et manuscrits originaux pour publication dans son journal trimestriel. Nous sommes heureux d'accepter vos documents soumis dans l'une ou l'autre des langues officielles, anglais ou français.

Quels sont les sujets d'article appropriés?

Nous acceptons les articles portant sur des manuscrits récemment publiés, des activités de l'Association ou tout sujet d'intérêt pour les membres de l'ACITN.

Quels types de manuscrits conviennent à la publication?

Nous préférons des manuscrits qui présentent de nouveaux renseignements cliniques ou qui traitent des enjeux propres aux champs d'intérêt des infirmières et infirmiers et des technologues en néphrologie. Nous recherchons plus particulièrement des :

- Exposés de recherche originaux;
- Articles cliniques pertinents;
- Rapports sur des approches innovatrices en matière d'amélioration de la qualité;
- Textes narratifs relatant une expérience de pratique infirmière ou technologique;
- Textes sous forme de questions et de réponses sur la pratique interdisciplinaire;
- Revues d'articles courants, de livres et de films;
- · Articles en formation continue.

Comment les manuscrits doivent-ils être présentés?

Forme : Le manuscrit doit être présenté à double interligne avec une marge de 1 po et une numérotation consécutive des pages dans le coin supérieur droit de la page. Les articles plus formels de recherche ou d'études cliniques doivent compter de 5 à 15 pages. Les articles moins formels, tels que textes narratifs, questions-réponses ou revues, doivent compter moins de 5 pages.

Style : Le style du manuscrit doit être conforme au manuel de publication de l'Association américaine de psychologie (AAP), 7^e édition (2020).

Page titre: La page titre doit inclure le titre du manuscrit ainsi que les renseignements suivants: nom de chacun des auteurs (y compris les prénoms au complet), titres professionnels (c.-à-d. inf., B.Sc. Inf., CNéph[C]), titre du poste occupé, nom de l'employeur, adresse, numéros de téléphone et de télécopieur et adresses courriel. L'adresse privilégiée de correspondance doit aussi être indiquée.

Résumé : Sur une page distincte, les articles formels de recherche ou d'études cliniques doivent être accompagnés d'un résumé de 100 à 150 mots, reprenant brièvement les principaux points du manuscrit.

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Tableaux/Figures: Les manuscrits ne doivent inclure que les tableaux et figures (incluant schémas, illustrations, croquis, etc.) visant à clarifier certains détails. Les auteurs qui utilisent des tableaux et des figures qui ont déjà fait l'objet d'une publication

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Veuillez envoyer par courriel votre manuscrit à : **cannt.journal1@ gmail.com**.

Veuillez inclure une lettre de présentation en précisant les coordonnées de l'auteur principal ainsi qu'une notice biographique d'une phrase (incluant titres de compétences, titre du poste actuel et lieu de travail) pour chaque auteur.

Quel est le processus de sélection des manuscrits pour publication dans le *Journal ACITN*?

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Aide-mémoire à l'intention des auteurs

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OCPI-VPO-00026E



