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Article abstract

Implication Statement

We developed a pharmacist-led one-month teaching rotation for medical residents to learn HIV pharmacotherapy. This interprofessional education (IPE) was deemed extremely valuable by postgraduate-year-3 residents who intended to have a future practice in HIV care. The overarching concept of this rotation was for the medical trainee to "become-the-pharmacist", learning to recognize, prevent, and manage drug-related issues in HIV patients. Pharmacist-led IPE should be considered to support medical training in other highly specialized pharmacotherapeutic areas.

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You Should Try This!

A pharmacist-led interprofessional learning experience for family practice medical residents specializing in HIV care

Séance d'apprentissage interprofessionnel animée par un pharmacien pour les résidents en médecine familiale spécialisés dans les soins liés au VIH

Mark Naccarato,[1,2] Deborah Yoong,[1,2] Kevin Gough,[2,3] Alice Tseng,[4,5] Gordon Arbess[3,6]

[1]Department of Pharmacy, St. Michael's Hospital, Ontario, Canada; [2]Division of Infectious Diseases, St. Michael's Hospital, Ontario, Canada; [3]Faculty of Medicine, University of Toronto, Ontario, Canada; [4]Immunodeficiency Clinic, University Health Network, Ontario, Canada; [5]Leslie Dan Faculty of Pharmacy, University of Toronto, Ontario, Canada; [6]Department of Family & Community Medicine, St. Michael's Hospital, Ontario, Canada

Correspondence to: Mark Naccarato, BScPharm, 30 Bond Street, Positive Care Clinic, St.Michael's Hospital, Toronto, Ontario, Canada, M5B 1W8; phone: 416-864-6060 ext.2697; email: Mark.Naccarato@unityhealth.to

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Implication Statement

We developed a pharmacist-led one-month teaching rotation for medical residents to learn HIV pharmacotherapy. The postgraduate-year-3 residents found this interprofessional learning experience extremely valuable to their future practice in HIV care. The overarching concept of this rotation was for the medical trainee to "become-the-pharmacist," learning to recognize, prevent, and manage drug-related issues in HIV patients. To support medical training in other highly specialized pharmacotherapeutic areas we suggest considering a pharmacist-led interprofessional learning experience.

Énoncé des implications de la recherche

Nous avons développé un stage d'enseignement sur la pharmacothérapie du VIH guidé par un pharmacien pour les résidents en médecine de troisième année. Ces derniers ont trouvé cette expérience d'apprentissage interprofessionnel extrêmement enrichissante pour leur pratique future en lien avec le traitement du VIH. Le concept au cœur de ce stage d'une durée d'un mois était de mettre les apprenants dans la peau du pharmacien pour qu'ils apprennent à reconnaître, à prévenir et à prendre en charge les problèmes liés à la prise de médicaments chez les patients séropositifs. Nous recommandons des opportunités d'apprentissage interprofessionnel mené par un pharmacien pour appuyer la formation médicale dans d'autres domaines hautement spécialisés de la pharmacothérapie.

Introduction

Interprofessional learning has become an important component in the delivery of health care education. In 2010, the Canadian Interprofessional Health Collaborative (CIHC) published a six-point competency framework to support interprofessional learning, collaborative practice, and improve health outcomes.[1] Interprofessional education (IPE) is the process of preparing people for collaborative practice and defined as occasions when two or more professions learn with, from and about each other to improve collaboration and the quality of care.[1]

In recent years pharmacology training has been diminishing from medical school curriculums.[2] Standardized assessment demonstrated that curriculums providing limited pharmacology training were associated with lower prescribing competency.[3] In contrast, medical residency programs have increasingly incorporated pharmacists. A 2015 study reported 52% of 396 responding U.S.-based family residency programs reported having included a clinical pharmacist, with nearly a third of their time spent teaching.[4] Pharmacists receive formal training in therapeutics, routinely apply this knowledge in clinical practice, and are thus well-positioned to provide pharmacotherapeutic education to their medical colleagues.

In 2010, the Ontario HIV Treatment Network partnered with the University of Toronto Department of Family & Community Medicine and introduced a postgraduate residency program to support the development of HIV primary care physicians. This six-month enhanced skills program consisted of monthly blocks in the following HIV care settings: specialty clinic, inpatient ward, primary care, hospice, psychiatry and addictions medicine. In 2013, we incorporated a pharmacist-led rotation because the provision of HIV care requires specialized drug knowledge.

Innovation

We developed an interprofessional learning experience tailored to the goals of the resident but with the fundamental objectives to: 1) provide a collaborative teaching model incorporating a pharmacist-led rotation for medical residents, 2) develop a curriculum to teach specialized HIV pharmacotherapy, and 3) evaluate the success and receive feedback on this teaching rotation.

Consistent with prior recommendations on how to develop an effective interprofessional learning program, we utilized evidence-based learning to set rotation objectives, develop foundational lectures, and to help consolidate learnings.[5] We structured the learning tasks initially with case-based learning followed by real patient consults in order of progressive complexity to facilitate knowledge transfer.[5] Lastly, we provided experiential and cooperative learning whereby the medical resident applied pharmacotherapeutic knowledge in a busy HIV clinic as a member of the multidisciplinary team.[5]

Pharmacists in the HIV specialty clinic developed a formalized curriculum to foster key competencies in family medicine while addressing potential gaps in pharmacology training and HIV care. Topics covered included: an overview of HIV treatment; HIV drug resistance; ARV drug interactions along with training on pharmacokinetic principles and methods to evaluate, prevent, or resolve drug-drug interactions; drug access navigation; comprehensive ARV medication counseling that includes discussing efficacy, safety, adherence, drug interactions, and access issues; ARV therapeutic drug monitoring; HIV prevention strategies; and, the management of common co-infections. A resource binder prepared for the learners included pre-reading, didactic lectures, practice cases, and supplemental reading of primary literature.

To evaluate the program, we applied the Kirkpatrick model for evaluating training, and : 1) assessed the learners' reaction to the utility of the training by collecting written feedback and suggestions for improvement, 2) assessed the residents' learning using pre- and post-rotation surveys on confidence in their knowledge of HIV therapeutics, 3) observed whether the learner made a behavioural change through application of this knowledge in clinical practice, and 4) observed whether the training improved the residents' clinical performance.[6] Finally, our program capitalized on the knowledge of three experienced pharmacists with collectively over 50 years of practice in HIV care.

Outcomes

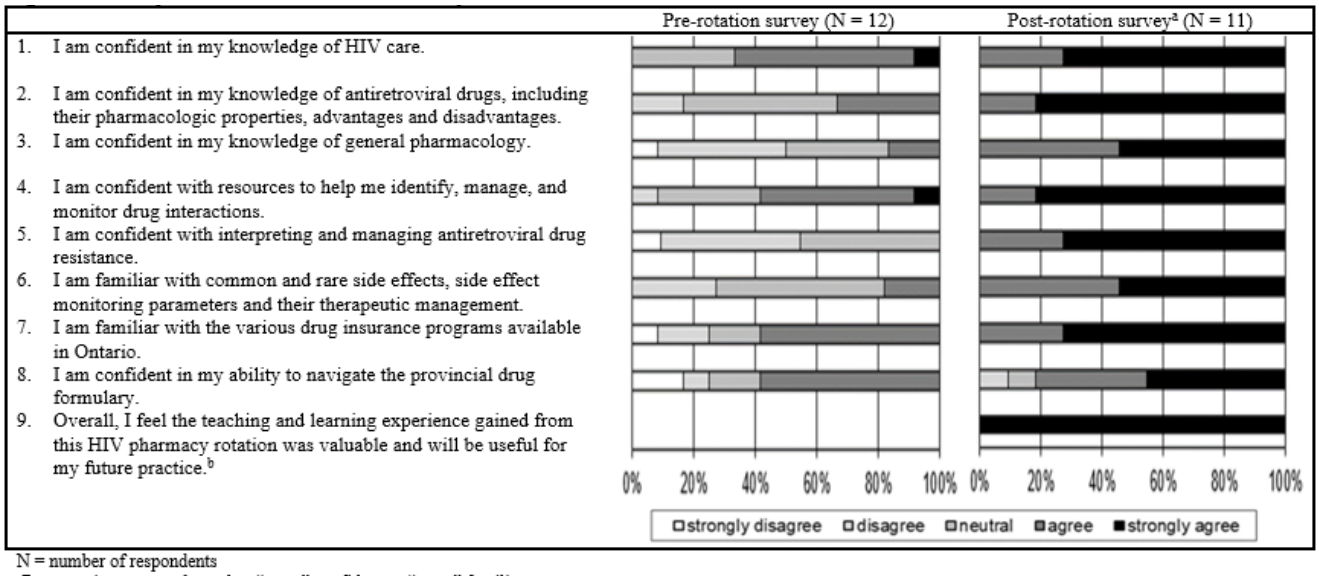
From 2013-2021, thirteen family medicine postgraduate-year-3 residents completed their HIV residency with the pharmacy rotation. The majority received their medical education in Ontario, reported a median of four prior rotations with focused training in HIV care, a median of one rotation with pharmacology training, while half reported that their medical education did not include a course on pharmacology.

The learners provided written feedback which strongly endorsed the HIV-pharmacy rotation as being valuable to their future practice. The residents felt the nature of activities and rotation duration met their learning needs. Pre- and post-rotation surveys of confidence in knowledge are presented in Figure 1. Some of the observed behavioural changes included gathering full medication histories, use of HIV pharmacotherapy-specific resources, and patient assessments focused on identifying drug-therapy problems. Over the course of each rotation, the pharmacist-preceptor along with their physician colleagues noted improvement in the residents' pharmacotherapy assessments and therapeutic skills.

Next steps

Survey results demonstrate that this pharmacist-led interprofessional learning experience improved the medical residents' confidence in their knowledge of antiretroviral therapy and providing HIV care. A future direction to help advance this program into a true IPE intervention may include pairing a pharmacy residency rotation concurrently with the HIV medical resident. By coordinating the two, we could assess how well this program supports these two professions in learning with and from each other while aiming to improve collaborative care. The success of this IPE intervention should be evaluated on how well it delivered upon the six collaborative competency domains outlined by the CIHC.[1] Lastly, other applications of this interprofessional learning

experience could capitalize on the skills of pharmacists in other specialized pharmacotherapeutic areas.



N = number of respondents
[a]Post-rotation survey phrased as "more" confident or "more" familiar
[b]Question 9 included in post-rotation survey only

Figure 1. Survey of confidence and familiarity with HIV care

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