

A virtual rural medicine self-learning module for preclerkship students

Module virtuel d'autoapprentissage en médecine rurale pour les étudiants du pré-externat

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Implication Statement

All Ontario medical schools have a mandatory preclerkship rural placement. Despite these mandatory placements, there is a lack of Canadian rural medicine pre-departure training for students. We describe a virtual self-learning module (SLM) aimed to enhance medical students' abilities to provide compassionate care during their rural medicine placements. This SLM improves students' knowledge about rural health issues while also encouraging exploration of rural career options. Better preparation for a rural medicine placement may lead to an improved experience and eventually an increase in the number of students pursuing rural medicine careers.

Énoncé des implications de la recherche

Le stage de pré-externat en milieu rural est obligatoire dans toutes les facultés de médecine de l'Ontario. En dépit de ces stages obligatoires, la formation que les étudiants reçoivent pour les y préparer avant leur départ est insuffisante. Nous décrivons un module virtuel d'auto-apprentissage visant à améliorer l'aptitude des étudiants à offrir des soins avec compassion dans le cadre de leurs stages en médecine rurale. Ce module enrichit leurs connaissances sur les enjeux de la santé en milieu rural au Canada tout en les encourageant à explorer les possibilités de carrière dans ce milieu. Une meilleure préparation peut améliorer la qualité de l'expérience de stage et entraîner à terme une augmentation du nombre d'étudiants qui choisiront de poursuivre une carrière en médecine rurale.

Introduction

Canadians in rural communities tend to have poorer health partly due to limited access to primary care and the low number of physicians serving in these areas.¹⁻³ To address this gap, Ontario medical schools have attempted to increase students' interest in and experiences with rural medicine careers through mandatory rural placements. In many global health electives, there exists pre-departure training programs to ensure comprehensive review of the location's cultural and social context to foster a positive experience for both the community and learner.⁴ Training students for mandatory rural placements through self-training modules (SLMs). SLMs may lead to increased preparedness and positively impact their experience.

However, there are limited if any virtual rural placement SLMs for Canadian medical students.

In response, we developed a bilingual virtual rural medicine pre-departure SLM for first-year medical students. Our objective was to evaluate the SLM's impact on students' self-assessed knowledge and perceived interest in rural medicine.

Innovation

We developed a virtual SLM with an interdisciplinary team including our institution's Director of Distributed Medical Education and Director of Social Accountability. Because we found no existing rural training programs for pre-clerkship medical students, our project was based on in-person training modules from our institution's Global

Health program and an existing global health model.⁵ Educational activities consist of video interviews and interactive activities, including clinical scenarios, quizzes, and open-box questions. Students are provided with online resources, including mental health and addiction, family services, and LGBTQ+ programs to offer patients during their rural placements. The SLM was distributed to all first-year students and voluntary pre- and post-surveys were developed, which asked students to rate their agreement with statements using a 5-point scale. The Research Ethics Board determined that the study was exempt from full ethical review.

Evaluation

Demographic data included rural background and rural medicine experiences. A total of 136 students completed the surveys, but three surveys were missing data and were removed. The control group consisted of students who self-identified as having lived in a rural area ($n = 31$; 22.8%). A mixed ANOVA was used to examine the extent to which self-assessed rural medicine knowledge and perceived career interest differed between the groups before and after the SLM. There was an increase in self-assessed knowledge for both groups (Table 1, $p < 0.001$), but notably, the increase was greater for the experimental group ($p = 0.04$). There was no difference between groups for their level of perceived interest. If considering a career in rural medicine, both groups had higher post-survey ratings ($p = 0.014$), but the increase was equal for both groups. These results show that the SLM helped increase knowledge of and interest in a rural medicine career for all students regardless of rural background status.

Table 1. Pre and Post- SLM rating scores

| | Control ($n = 31$) | | Experimental ($n = 102$) | |
|---|----------------------|--------------------|----------------------------|--------------------|
| | Pre-Survey M (SD) | Post-Survey M (SD) | Pre-Survey M (SD) | Post-Survey M (SD) |
| Overall Knowledge Increased | 3.1 (0.7) | 4.0 (0.6) | 2.8 (0.7) | 4.0 (0.6) |
| Level of interest in wanting to learn about rural medicine | 4.0 (1.0) | 4.1 (0.9) | 4.0 (0.8) | 4.1 (0.9) |
| Perceived likelihood of pursuing a medical career in a rural setting/consider pursuing a career in rural medicine | 3.4 (1.1) | 3.5 (0.9) | 2.8(0.9) | 3.0 (0.9) |

1 =strongly disagree; 2 =disagree 3 =neutral; 4 =agree; 5 =strongly agree; M=Mean, SD=Standard Deviation

Next steps

Results demonstrated an increase in students' knowledge about rural medicine regardless of rural background status. Limitations included the small number of students who self-identified as rural, and the inability to evaluate the SLM's impact after a rural medicine placement. This virtual module may be expanded to other Canadian medical schools to help prepare medical students for rural medicine experiences. Future steps include evaluating the SLM's impact after students complete their rural placements.

Conflicts of Interest: No conflicts of interest.

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