Canadian Medical Education Journal

You Should Try This!

Call of the wild: creating a formal wilderness medicine elective for Canadian pre-clerkship medical students

L'appel de la forêt : création d'un stage au choix officiel de médecine en milieu sauvage pour les étudiants au pré-externat d'une université canadienne

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Published ahead of issue: Sept 12, 2022; published Jun 27, 2023. CMEJ 2023, 14(3) Available at https://doi.org/10.36834/cmej.75137

Implication Statement

Wilderness medicine education is interesting to medical students, yet not widely implemented in Canadian medical curricula. We describe a curriculum for a pre-clerkship wilderness medicine elective at a Canadian medical school. Our study reports increased student awareness of career opportunities in wilderness medicine after elective completion, and interest in hands-on learning for wilderness medicine topics. Medical schools may benefit from incorporating feedback from our elective towards a successful wilderness medicine curriculum in their own programs.

Énoncé des implications de la recherche

La médecine en milieu sauvage est un domaine que les étudiants trouvent intéressant, mais dont l'enseignement est peu répandu dans les programmes d'études médicales au Canada. Nous décrivons le contenu d'un stage au choix de médecine en milieu sauvage offert au pré-externat dans une faculté de médecine canadienne. Notre étude montre qu'à la suite du stage, les étudiants sont mieux informés des possibilités de carrière en médecine en milieu sauvage et qu'ils manifestent un intérêt pour l'apprentissage pratique dans ce domaine médical. Les commentaires recueillis sur notre stage peuvent être utiles à d'autres facultés souhaitant introduire une formation en médecine en milieu sauvage dans leur programme.

Introduction

Pre-clerkship Wilderness Medicine (WM) instruction increases interest in WM, improves self-assessed knowledge of WM concepts, and, importantly, influences medical students' career trajectories.[1] Multiple fellowships in WM exist in the United States and efforts are underway to establish a fellowship in Canada. Despite being in high demand, however, WM is still not commonly taught in Canadian medical curricula.[2] This study describes the curriculum of a pre-clerkship WM elective at the University of Alberta. We report student demographics and student-reported strengths and weaknesses of the elective, and discuss student-reported interest and knowledge changes after taking the course.

Description of the innovation

The elective hosted eight two-hour sessions between September 2020 and April 2021. Topics included altitude medicine, military medicine, search and rescue, hypothermia and hyperthermia, dive medicine, disaster medicine, scene safety and primary survey, first aid and first aid kit construction, wound management, and animal bites and envenomation. Due to COVID-19 pandemic restrictions, the course was completed virtually using video conferencing software.

An anonymous pre-elective questionnaire collected data on (1) participant demographics, (2) interest/awareness of WM and related careers, (3) existing knowledge of WM topics (rated on a five-point Likert scale ranging from 1 =

no knowledge to 5 = in-depth knowledge), (4) self-reported barriers to future pursuit of WM, and (5) open feedback. Apost-elective questionnaire assessed changes in each of the first four sections above, as well as enjoyment of specific course topics. Paired pre-post survey comparisons were made using Wilcoxon signed rank tests with Holm-Bonferroni corrections for multiple testing.

This study was approved by the Research Ethics Board at the University of Alberta (Study ID: MS1_Pro00103961).

Outcomes

Out of a total of 78 participants, 45 students completed the pre-elective survey, and 20 also completed the post-elective survey. There was no significant difference in gender at either time point. Most participants were 20-29 years old and in their first year of medical school.

Personal interest and practical skill acquisition were common reasons for enrolment. Applicability, interest, engaging presenters, and interactive formatting were common reasons for sessions to be ranked as enjoyable, whereas lack of a hands-on component, speakers' presentation styles, and poor memorability made sessions less enjoyable. Participants commented favourably on the lack of formalized assessments.

There was a statistically significant increase (on median) in self-reported awareness of career opportunities that exist in WM (Table 1; adjusted *P*-value = 0.009). There was also a statistically significant increase in self-reported knowledge in each topic on median (adjusted *P*-values all < 0.027) (data not shown).

The elective was more effective at recruiting students with previous WM interest/experience. Student requests for more interactivity reinforced that WM is best taught through hands-on practice, as has been reported in existing literature. [3-6]

This study is limited due to the low number of linked pre- and post-elective surveys. The drop in respondent numbers may introduce response bias.

Suggestions

Canadian medical schools with interested instructors may apply a similar curriculum for teaching students in WM. Student feedback emphasized the value of a diverse presenter panel and perceived usefulness of the learning material. Future iterations of the elective would benefit from a greater emphasis on hands-on, participatory instruction including in person instruction and simulation. Promoting the course to students without a pre-existing interest in wilderness activities may also increase accessibility.

Table 1. Change in participants' self-reported interest scores between the pre- and post-elective surveys

Item	Pre[a]	Post[a]	Difference[b]	Adjusted *P*-value
Interest in wilderness medicine.	4.0 (3.0, 5.0)	5.0 (3.3, 5.0)	0.0 (-1.0, 0.3)	1.000
Interest in incorporating wilderness medicine into a future career.	4.0 (3.0, 4.0)	4.0 (3.0, 4.0)	0.0 (0.0, 0.3)	1.000
Awareness of what career opportunities exist in wilderness medicine.	2.0 (1.0, 2.0)	4.0 (2.0, 4.0)	2.0 (0.0, 2.3)	0.009
Usefulness of pre-clerkship wilderness medicine training.	4.0 (3.0, 4.0)	5.0 (4.0, 5.0)	1.0 (-1.0, 1.0)	0.609
Interest in further wilderness medicine training beyond this elective.	4.0 (3.0, 4.0)	4.0 (4.0, 5.0)	0.0 (-0.3, 1.0)	1.000

[a]Median (Q1, Q3): calculated using all available responses; [b]Median (Q1, Q3): calculated using the 20 paired pre-post differences.

Conflicts of Interest: The authors have no conflicts of interest to declare.
Funding: This project received funding from the University of Alberta Medical Students' Association.

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