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Jeffrey Sioufi, Brandon Hall and Ryan Antel

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Article abstract

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You Should Try This!

Near-peer tutoring: an effective adjunct for virtual anatomy learning

Le tutorat par les pairs : un complément efficace pour l'apprentissage virtuel de l'anatomie

Jeffrey Sioufi,[1] *Brandon Hall,*[1] *Ryan Antel*[1]

[1]Faculty of Medicine and Health Sciences, McGill University, Quebec, Canada

Correspondence to: Jeffrey Sioufi; email: jeffrey.sioufi@mail.mcgill.ca

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Implication statement

With recent shifts in medical education to the virtual setting during the COVID-19 pandemic, previous methods of teaching anatomy have been challenged. As such, we created the Medical Students' Society Anatomy Club (MAC), a student-led near-peer tutoring initiative providing virtual anatomy learning opportunities through interactive large and small group sessions using cadaveric prosection images and models. Sessions had high attendance rates and satisfaction among students. This pilot project demonstrated that near-peer teaching in a virtual learning environment can be an effective adjunct to traditional medical anatomy curricula.

Énoncé des implications de la recherche

Avec la récente transition vers l'enseignement virtuel pendant la pandémie de COVID-19, les méthodes traditionnelles d'enseigner l'anatomie devront être mises en question. À ce titre, nous avons créé le *Medical Students' Society Anatomy Club* (MAC), une initiative de tutorat par les pairs qui fournit des ressources d'apprentissage via des séances virtuelles interactives, en petits et en grands groupes, utilisant des images de dissections cadavériques et des modèles. Les séances ont démontré des taux de participation et de satisfaction élevés parmi les étudiants. Ce projet pilote montre que l'enseignement par les pairs dans un cadre virtuel peut être un complément très efficace aux programmes d'anatomie médicale traditionnels.

Introduction

Anatomy is a cornerstone of medicine, which is best learned through a multimodal approach.[1] The COVID-19 pandemic caused an unprecedented shift in medical education from the classroom to the virtual setting. This abrupt change forced a transition to remote electronic examinations, which entailed an increase in stress among students.[2] Near-peer teaching has gained popularity in medical education given the comfortable learning environment and similar scores on examinations to peers taught by faculty members.[3,4] Thus, in the context of rising examination stress and loss of in-person anatomy teaching, McGill University medical students piloted an anatomy club, which hosted virtual events to prepare fellow students for their examinations. The sessions included interactive large and small group sessions featuring a combination of cadaveric prosection images and virtual models. This multifaceted format established a safe learning environment for medical students, which employed evidence-based teaching methods.[1,4,5] The purpose of this study is to assess the effectiveness of this intervention, and to share the success of this near-peer approach with others.

Innovation

Our student-led initiative aims to provide trainees with the appropriate resources to consolidate their anatomy knowledge and to prepare for examinations. In lieu of in-person anatomy laboratory sessions, review presentations and mock examinations were created using cadaveric images from textbooks provided by the McGill University Library. These virtual sessions are led by fellow medical

students recruited through an anonymized application process.

Review sessions are structured using a region-based approach. As anatomy examinations use in-person cadaveric models, these sessions focus on identifying pertinent anatomic landmarks for students to properly orient themselves using typical prosection views. Virtual mock examinations follow a standard bell-ringer format and are hosted in the days preceding evaluations for students to identify knowledge gaps and to study accordingly.

In the Fall 2021 semester, these large group sessions had an average attendance rate of 80% (162/202) and 81% (169/208) among the classes of 2024 and 2025, respectively.

This project was exempt from ethical review by the McGill University Research Ethics Office.

Evaluation

A voluntary feedback survey was created using a 5-point Likert scale and was sent to all students from the classes of 2024 and 2025 to determine student satisfaction (see *Table 1* below). A total of 137 students completed the survey, 18 responses were missing data, therefore 119 responses were included (29% response rate). Most students felt strongly that our sessions helped them prepare for examinations (4.84/5.00), improved their overall understanding of anatomy (4.61/5.00) and reduced examination-related stress (4.55/5.00). Additionally, students reported that the peer-led nature of our sessions was beneficial (4.49/5.00), and that our sessions filled a gap in their education (4.31/5.00).

Table 1. Student responses to the end-of-year feedback form using a 5-point Likert scale (n = 119)

Question	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)	Mean score (SD)
Overall, MAC sessions have improved my understanding of anatomy.	78 (65.5)	39 (32.8)	2 (1.7)	0	0	4.61 (0.52)
Overall, MAC sessions have been helpful in preparing me for anatomy examinations.	102 (85.7)	17 (14.3)	0	0	0	4.84 (0.35)
Overall, the peer-led nature of MAC sessions was beneficial to my learning.	79 (66.4)	32 (26.9)	6 (5.0)	1 (0.8)	1 (0.8)	4.49 (0.71)
Overall, MAC sessions have filled a gap in my medical education.	65 (54.6)	37 (31.1)	15 (12.6)	2 (1.7)	0	4.31 (0.77)
Overall, MAC sessions helped to reduce exam-related stress.	80 (67.2)	34 (28.6)	4 (3.4)	0	1 (0.8)	4.55 (0.64)

Next steps

Near-peer anatomy tutoring sessions were extremely popular among McGill University medical students (80% turnout). We encourage students from all medical schools to implement similar programs given the high satisfaction and low cost with the use of faculty-supplied resources. The main limitation of this study was the low survey response rate (29%). Our club has additionally started hosting small group sessions as they have been shown to be a preferred teaching method to large group sessions.[6] Future studies should assess the effectiveness of these small group sessions as compared to traditional large group presentations, as well as include pre- and post-session Likert scale surveys to assess the impact of the intervention more objectively.

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