



Evaluation of a hybrid peer-teaching method for undergraduate medical microbiology

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Background Microbiology in undergraduate medical education has been traditionally taught through didactic lectures. However, alternative educational strategies such as case-based learning and peer-teaching can be effective teaching methods for medical students. **Objectives** To evaluate the effectiveness of a newly implemented teaching strategy which integrates both peer-teaching and case-based learning into a second year microbiology course for medical students. **Methods** The majority of the microbiology course was taught by students under the supervision of an instructor. Students were broken up into groups of 16 and each group member had to teach a specific objective belonging to a microbiology case. Questionnaires were administered before and after the microbiology course (N=42; 71% participation) to assess whether change occurred in students perceptions and opinions of the new teaching format. Course ratings from the Memorial University Medical School Course Evaluation form were analyzed to compare the course ratings of microbiology when it was taught by lectures in 2010/2011 compared to the new hybrid format in 2011/2012. **Results** Students did not agree that they learn best when taught by a peer (1.49/5) or that the new teaching methods would help them gain a better understanding (1.61/5) and improve their learning (1.51/5) of the course material compared to lectures. These ratings significantly increased by the end of the course ($P<0.05$), but still remained low. Student comments indicated that they enjoyed the peer interaction involved in the peer-teaching sessions however, the large number of students per group prevented enough time for group discussion. Students were also skeptical that the information being presented by their peers was accurate, decreasing their satisfaction with the peer presentations. The overall course rating of microbiology in 2010/2011 (4.3/5) when taught by lectures was significantly higher than the course rating in 2011/2012 (3.5/5) when taught with the new hybrid format ($P<0.05$). **Conclusions** Overall, students were not satisfied with the new hybrid teaching format for microbiology. However, having a smaller number of students per group, allowing more time or group discussion and providing clear expectations and guidelines to students before they teach may increase overall satisfaction with this teaching method.