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Short communication

The utility of clinical controversy debates in an ambulatory care elective

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Abstract

Background: Active learning is an essential component in pharmacy education and has become a focus of governing bodies and pharmacy education organizations. Many strategies exist by which faculty can accomplish active learning in the classroom.
Methods: This study was conducted to determine if clinical controversy debates achieve the course objective to critically evaluate clinical trials and guidelines in order to form and support an opinion regarding a current clinical controversy facing ambulatory care pharmacists today. Debates were based on cases written by instructors, and arguments were based on primary literature identified by students. Students enrolled in an Ambulatory Care Elective responded to a 9-question survey at the completion of the semester, assessing time spent on debate preparation, debate style preference, and assessment of the role of the debates in their learning and skill development.
Results: There was a 72% response rate (n = 13) from students who completed the course. Results from the survey showed that all students who completed the survey strongly agreed or agreed that the course outcome was met and clinical controversy debates aided in achieving the outcome. Additionally, all students strongly agreed or agreed that the debates improved their ability to apply a clinical trial to a patient and make an evidence-based medicine recommendation.
Conclusion: The authors conclude that this study illustrates a useful pedagogical strategy for implementing in-class debates into the pharmacy curricula while also enhancing evidence-based medicine and critical thinking skills.

Keywords: Active learning; Debate; Pharmacy education; Ambulatory care elective

Introduction

Active learning is an essential component in pharmacy education and has become a focus of governing bodies and pharmacy education organizations. In 2009, the American Association of Colleges of Pharmacy (AACP) recommended that faculty members "extensively implement active-learning strategies that will improve retention of knowledge, thinking abilities, and problem-solving, and foster development of professional traits" in their Curricular Change Summit Supplement.[1] The current Accreditation Council for Pharmacy Education (ACPE) Accreditation Standards and Guidelines state that active learning strategies should be supported throughout the curriculum and used wherever possible.[2]

There are numerous strategies by which faculty can accomplish active learning in the classroom, with many proven to enhance student learning outcomes ranging from simple think–pair–share activities to more in-depth activities such as the flipped classroom.[3–9] Many of these strategies are easily implemented in a classroom setting, while others

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require incorporation into the course design and assessment. Debates are a strategy to include in the course design to engage students in their own learning. In order to be successful during a debate, students must consider a controversial subject, support a particular stance on the issue through examination of the evidence available about the subject, and communicate their thoughts and findings effectively and professionally utilizing appropriate presentation skills and quick thinking. This strategy reaches the higher levels of Blooms Taxonomy (analysis, synthesis, and evaluation), which is a goal of all pharmacy curricula.[10] A debate could clearly enhance the learner's mastery of the material as well as enhance the learner's ability to weigh risks and benefits to draw a conclusion. Additionally, evidence-based medicine is an important component of delivering patient care and also a required component of professional programs leading to the Doctor of Pharmacy degree.[1] This type of activity requires the ability to analyze primary literature and apply the findings to an individual patient or patient populations. Areas of uncertainty in clinical practice emphasize the need for practicing evidence-based medicine where a clear answer does not exist. During the advanced pharmacy practice experiences (APPEs), evidence-based medicine and critical thinking are main components of a clinical setting. In addition, students are most likely to encounter many areas of controversy throughout this year of APPEs.

The use of debates as an active learning tool has been assessed in a medical residency training program. Learning from debates was compared with learning from traditional lecture. Quizzes were administered to both the groups before and after the learning session. The debate group scored significantly higher on both pre- and post-quizzes than the lecture group. This demonstrates enhanced learning and retention of knowledge, not only from the debate but also from the preparation.[11] In addition, debates have been shown to foster clinical thinking and enhance oral presentation skills in various undergraduate and graduate disciplines, including sociology, psychology, history, and physical therapy.[12–15] In all of the preceding disciplines, in-class debates have been shown to be an effective active learning tool.

Based on recent survey data, pharmacy education has embraced active learning; however, the survey did not elucidate the use of debates in pharmacy curricula because it was not a suggested technique for respondents to select.[16] However, there are several reports in the literature that show that debates are a useful method for student pharmacists, who found debates to be a valuable and challenging tool in pharmacy education.[17] Certain formats of debates have allowed students to formulate their own thoughts and arguments regarding a specific issue.[18] Debates have been expanded to the required curriculum, such as health ethics, pharmacokinetics, and therapeutics.[19–21] Debates incorporated in the first professional year have improved critical thinking and communication for other courses in a pharmacy curriculum.[21] A brief description of several published studies evaluating debates in various allied health curricula, including pharmacy, is found in Table 1.[17–25] The current evidence available in the literature was determined using the search terms "debate and pharmacy," and "clinical debate and pharmacy education."

Rationale and objective

This study was conducted to determine if the clinical controversy debates achieved the course objective: to critically evaluate clinical trials and guidelines in order to form and support an opinion regarding a current clinical controversy facing ambulatory care pharmacists today.

Materials and methods

The ambulatory care elective was designed to be a learner-driven course with active learning activities each week. Students were eligible to register for this course if they had achieved a third professional year standing. At the time, this meant that all students enrolled in the course had previously taken a number of courses that would have prepared them for the activities in this course, including drug information and evidence-based medicine, biostatistics, pharmacotherapy outcomes, and the majority of the school's integrated medication therapy management courses. Drug literature evaluation was taught in the first semester of the first professional year. Biostatistics and pharmacotherapy outcomes were taught in the first and second semester, respectively, of the second professional year. The integrated medication therapy management courses covered topics including hypertension, dyslipidemia, heart failure, anticoagulation, diabetes, and a variety of other disease states. The course was offered during the second semester of the third professional year, which placed it just prior to the students' entry to the fourth professional year comprised of nine APPEs.

The course was divided into six core ambulatory care topics (primary cardiovascular risk reduction, secondary cardiovascular risk reduction, diabetes, heart failure, anticoagulation, and specialty practice settings), with two weeks dedicated to each topic. The first week of each topic was dedicated to advanced patient cases, and the second week was a case-based clinical controversy debate between two groups of four or five students. Students worked in the same group and debated three times over the course of the semester against the same group (not necessarily the same number of students in each group). Student groups were randomly assigned to their controversy and side prior to the start of the semester. All students were aware of their assigned controversies and assigned side at the beginning of the semester. The audience for the debates was two instructors from the course as well as the remaining students not presenting that week.

In preparation for the debates, students conducted a literature review and selected the most pertinent primary literature to include in their debates. Students posted