

Integration of an Evidence-Based Medicine Curriculum into Physician Assistant Education: Teaching for Today and the Future

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Abstract : Background: Medical knowledge continuously evolves and to help health care providers to stay up-to-date, evidence-based medicine (EBM) has emerged as a model. The practice of EBM requires new skills of the health care provider, including directed literature searches, the critical evaluation of research studies, and the direct application of the findings to patient care. This paper describes the integration and evaluation of an evidence-based medicine course sequence into a Physician Assistant curriculum. This course sequence teaches students to manage and use the best clinical research evidence to competently practice medicine. A survey was developed to assess the outcomes of the EBM course sequence. Methodology: The cornerstone of the three-semester sequence of EBM are interactive small group discussions that are designed to introduce students to the most clinically applicable skills to identify, manage and use the best clinical research evidence to improve the health of their patients. During the three-semester sequence, the students are assigned each semester to participate in small group discussions that are facilitated by faculty with varying background and expertise. Prior to the start of the first EBM course in the winter semester, PA students complete a knowledge-based survey that was developed by the authors to assess the effectiveness of the course series. The survey consists of 53 Likert scale questions that address the nine objectives for the course series. At the end of the three semester course series, the same survey was given to all students in the program and the results from before, and after the sequence of EBM courses are compared. Specific attention is paid to overall performance of students in the nine course objectives. Results: We find that students from the Class of 2016 and 2017 consistently improve (as measured by percent correct responses on the survey tool) after the EBM course series (Class of 2016: Pre- 62% Post- 75%; Class of 2017: Pre- 61 % Post-70%). The biggest increase in knowledge was observed in the areas of finding and evaluating the evidence, with asking concise clinical questions (Class of 2016: Pre- 61% Post- 81%; Class of 2017: Pre- 61 % Post-75%) and searching the medical database (Class of 2016: Pre- 24% Post- 65%; Class of 2017: Pre- 35 % Post-66 %). Questions requiring students to analyze, evaluate and report on the available clinical evidence regarding diagnosis showed improvement, but to a lesser extend (Class of 2016: Pre- 56% Post- 77%; Class of 2017: Pre- 56 % Post-61%). Conclusions: Outcomes identified that students did gain skills which will allow them to apply EBM principles. In addition, the outcomes of the knowledge-based survey allowed the faculty to focus on areas needing improvement, specifically the translation of best evidence into patient care. To address this area, the clinical faculty developed case scenarios that were incorporated into the lecture and discussion sessions, allowing students to better connect the research studies with patient care. Students commented that 'class discussion and case examples' contributed most to their learning and that 'it was helpful to learn how to develop research questions and how to analyze studies and their significance to a potential client'. As evident by the outcomes, the EBM courses achieved the goals of the course and were well received by the students.

Keywords : evidence-based medicine, clinical education, assessment tool, physician assistant

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