Evaluating second year medical students’ utilization of evidence based medicine literature in the problem-based learning class (A Pilot Study)

Elena Wood, MD, PhD
Academic Affairs, Medical College of Georgia, Augusta University (AU), Augusta, Georgia

Abstract
We are presenting the evaluation of evidence based medicine (EBM) resources utilization by second year medical students in problem-based learning classes. Students’ reports were evaluated for number of citations and the type of resource cited; the overall quality of the discussion portion of the note by assessing the quality of the EBM citations, the application of the information from the citations back to the patient case, and an overall ability to demonstrate how the information from EBM citations might influence the patient’s clinical care.

Introduction
The problem-based learning (PBL) course is a component of essentials of clinical medicine (ECM) course taught to first (M1) and second (M2) years medical students (Bligh J, 1995). The PBL rationale is to help students learn the art of clinical reasoning. In the process of investigating clinical cases, students formulate clinical questions, or learning issues, and research those questions in an appropriate fashion. Some question could be answered immediately in the classroom mimicking clinical setting (point of care questions). Other questions required more time to research. Students have access to a medical library that provides publicly available and proprietary evidence-based electronic databases and journals. This process reinforces the goals of PBL that relate to evidenced based medicine (EBM) - investigate and evaluate patient care practices, appraise and assimilate scientific evidence, and improve their practice of medicine. Weekly, students identify learning issues during class discussion of the clinical questions. These learning issues are presented during the next PBL session and include critical appraisal of information found and relevance to the case. At the end of the semester, students are required to submit their best learning issue. The facilitator (PBL preceptor) has chance to provide feedback.

Methods
This is cross sectional study. We collected all records of learning issues submitted by MCG second year medical students in 2013-14 academic years during ECM sessions. The evaluation service depersonalized all records using individual code which is not include any personally identifiers. They also created MS Excel file with study ID, demographics (age, gender and race), and average grades. These document was available to the investigators for scoring and analyzing.

Results
We assessed PBL learning issues for quality of citations and use of EBM resources. We adapted a scoring form developed and used in a study at the Vanderbilt University Medical Center (Xastre, 2001). We used a standardized scoring sheet to score students’ reports. The scoring metric included a quantitative component to record the number of citations and the type of resource cited; the overall quality of the discussion portion of the note by assessing the quality of the EBM citations, the application of the information from the citations back to the patient case, and an overall ability to demonstrate how the information from EBM citations might influence the patient’s clinical care. These five qualitative components were scored on a five-point Likert scale. Descriptive analyses was completed to determine the EBM resources utilization, and its quality. First and second semester data were compared. The $z^2$ test was used for categorical data comparison.

Discussion/Conclusions
A variety of medical knowledge resources are easily available to medical education and practice. Practice of EBM involves regularly accessing and critically appraising clinical information. The second year medical students use and other Internet resources most frequently, followed by peer-reviewed journals and textbooks. The use of web resources by students shifted to less reliable in second semester from use of professional web sites to non-professional. The use of peer-reviewed sources increased in second semester, on other hand. Systematic review was included only by one student out of 192. The findings are reflect studies done with practicing physicians (Maggio, 2014), residents (Duran-Nelson, 2013). All students have in first semester the EBM course which starts with use of EBM resources. Potentially in the second semester intervention can take place to reinforce good literature utilization habits, and have clinical faculties instructed to emphasis use of the EBM skills in their clinical practice (Vidyarthi 2015). Best EBM resources should be quick to use, easy to access and designed for different purposed that medical students or practicing physicians have (Brennan, 2014).

References

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Contact Information
Elena Wood, MD, PhD. ewood@augusta.edu, (706) 446-4980.