Evidence-Based Practice for Medical Students in a Family Medicine Clerkship: Collaborative, Active Learning for Clinical Decision Skills

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This collaborative, patient-centered experience was designed to enhance the information literacy knowledge and skills of medical students for patient-centered, evidence-based decisions at the point of care. It includes formulating clinical questions using PICO, accessing the highest level of EBM information available in an effective manner, and evaluating the information in relation to a specific patient in an outpatient setting.

Methods

All third-year medical students participate in this small-group collaborative, patient-centered learning experience during the required Family Medicine clerkship.

Students complete a pre-test prior to orientation in which they rate usefulness and familiarity with key EBM resources.

At orientation, the clerkship directors provide an overview of the evidence-based process and creating PICO questions.

Immediately following, librarians provide a 1.5 hour hands-on instruction session covering the students with an overview of the evidence-based resources and search strategies.

Students present the patient’s clinical question, research process, search results, and recommendations to the student group and clinical faculty via telemedicine.

Students complete post-test and evaluations.

Sample student worksheet:

Students completed a pre-test ranking of potential information resources from a set list of materials available at the UK Medical Center Library. Post-tests were completed after the 1.5 hour library instructional session and the completion of the EBM assignment by the students.

<table>
<thead>
<tr>
<th>Category Question</th>
<th>1=Strongly Disagree</th>
<th>2=Disagree</th>
<th>3=Neutral</th>
<th>4=Agree</th>
<th>5=Strongly Agree</th>
<th>6=Unable to Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>I understand the concept of evidence-based medicine</td>
<td>4.7</td>
<td>4.0</td>
<td>5.0</td>
<td>0.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel comfortable using EBM principles in day-to-day patient care responsibilities</td>
<td>4.5</td>
<td>3.0</td>
<td>5.0</td>
<td>0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I believe critical appraisal skills have a value to me as a third year student</td>
<td>4.3</td>
<td>2.0</td>
<td>5.0</td>
<td>0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am more likely to use the literature to support my clinical decision-making</td>
<td>4.3</td>
<td>2.0</td>
<td>5.0</td>
<td>0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am more likely to critically appraise the articles I read</td>
<td>4.1</td>
<td>2.0</td>
<td>5.0</td>
<td>0.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Family Medicine Clerkship is an appropriate time to learn the concepts of evidence-based medicine</td>
<td>3.8</td>
<td>1.0</td>
<td>5.0</td>
<td>1.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt that my clinical understanding was enhanced through identification and appraisal of the literature</td>
<td>3.8</td>
<td>1.5</td>
<td>5.0</td>
<td>1.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My EBM search benefited patient care in some way</td>
<td>3.9</td>
<td>1.5</td>
<td>5.0</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sample of Student Comments

I really enjoyed this experience and felt that it was a very low pressure way for students to learn the importance of finding evidence-based sources of information to improve patient care.

The EBM experience was a fantastic opportunity to learn more about searching and analyzing the quality, validity, and relevance of resources available to healthcare professionals.

Conclusion

Providing a patient-centered learning experience with collaboration between clinical faculty and medical librarians has been successful in improving third-year medical students’ knowledge and skills in medical information literacy for clinical decision-making.