A Need of Continuous Education for Evidence-Based Medicine in Medical Curriculum

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\section*{Background}
Evidence-Based medicine (EBM) is an important tool for life-long learning of medicine and is essential for medical students.\textsuperscript{1} It was evident that the undergraduates who learned EBM significantly improved in their skills of searching and critically appraising evidence when compared to the control group.\textsuperscript{2} However, there was variation in the teaching and learning methods of EBM for undergraduates globally.\textsuperscript{3-5} In addition, the practical and acceptable educational approach to the incorporation of EBM into a medical curriculum has not been recommended explicitly.

\section*{Objective}
To assess the effect of integration of (EBM) in small-group discussion using case scenario among medical students on their knowledge, attitudes and skills.

\section*{Methods}
- A prospective study was conducted and the flow of study is demonstrated as a diagram in Figure 1.
- Knowledge was measured on the 8-item scale.
- Positive attitude and skills were self rated from 1 (the least) to 5 (the most)
- Data were analyzed using paired t test, analysis of variance and generalized-linear mixed model.

(Flow diagram)
Figure 1 Flow diagram of study
EBM was taught to the fourth-year medical students in 2008 and continuation on the fifth-year medical students with small-group discussion and self practice. The informative knowledge was measured by pretest and posttest. Attitudes and skills were measured by self-rating assessments: before learning (T0) and after 1 and 5 weeks of learning during the 4th year (T1 and T2) and three times in the 5th year after 13, 25 and 37 weeks of first learning EBM (T3, T4 and T5).

Results

- Mean age was 21.7±0.8 years (n=114).
- 50.9% was male (n=58) and 49.1% was female (n=56).
- Table 1 shows the mean of knowledge scores increased significantly and the proportion of students who achieved full 8 score increased from 4% before to 54% after learning (Table 1).

<table>
<thead>
<tr>
<th>Knowledge Scores</th>
<th>Pretest</th>
<th>Posttest</th>
<th>P value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>2-8</td>
<td>3.5-8</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.93±1.31</td>
<td>7.43±0.74</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Levels (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>5 (4.4%)</td>
<td>0</td>
<td>0.47</td>
</tr>
<tr>
<td>3-4</td>
<td>30 (26.3%)</td>
<td>1 (0.9%)</td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td>69 (60.5%)</td>
<td>8 (7.0%)</td>
<td></td>
</tr>
<tr>
<td>7-8</td>
<td>10 (8.8%)</td>
<td>105 (92.1%)</td>
<td></td>
</tr>
<tr>
<td>Percentage of full scores of 8</td>
<td>3.5%</td>
<td>53.5%</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

*p value by paired t test or Fisher’s exact test as appropriate

- Attitudes and skills increased significantly from T0 by analysis of variance (p<0.001).
- After excluding T0, attitudes of students in the 5th year was slightly lower than in the 4th year (p=0.03) but skills were not significantly changed using generalized-linear mixed model (Figure 2).
Figure 2 Attitude and skills during continuous education for evidence-based medicine

Conclusions
Integration of EBM into the medical curriculum is needed. Continuous education with small-group discussion and self practice is important.
References