

Title: Teaching EBM skills at undergraduate level in a Pakistani medical school

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Context and setting: Practice of Evidence based medicine (EBM) is an important competency in modern day clinical practice which requires life long self learning skills to stimulate critical thinking in clinical problem solving. Skills for EBM practice have become a norm in both undergraduate and post graduate levels.

Why the change was necessary: Practice of medicine in Pakistan is opinion based and makes physician as a sole authority in clinical decision making process. Opinion based practice has led to the use of several unproven and at times harmful therapies. We introduced the principles of EBM at undergraduate level with the intention to initiate long-term change in clinical practice.

What was done: Practice of EBM comprises of asking a question during patient encounter, acquiring appropriate evidence, appraising the evidence, and applying it in the care of patients. We chose final year students (five year curriculum) to train them in asking a clinical question and acquiring the appropriate evidence on Medline. As an initial step, interested faculty was trained in two McMaster style workshops conducted by self-trained internal medicine faculty. “EBM for the beginners” workshops were planned for final students in the beginning of their session prior to internal medicine clerkships.

Students filled a baseline screening questionnaire and were given a pre-workshop case scenario in which they were required to construct a clinical question and subsequently search on Medline to pull appropriate article. At the end, students were given a post workshop case scenario and scores were compared with pre-test on pre-identified competencies. Self reported gain in knowledge and attitudes were recorded on a retrospective-pre instrument at the end of workshop. Subsequently student batches were routinely examined for EBM skills in their end-of-clerkship OSCEs where a station was dedicated for a clinical scenario to be searched for best evidence on Medline. Five months post workshops, students filled a self reported EBM skills and attitudes survey.

Mean scores for pre & post and self rated knowledge/attitudes were compared with paired t-test.

Evaluation of the impact: Half of the students had attended a prior workshop in literature search skills and most of them rated their skills at a beginner level. They deemed use of research articles important in patient care but utilized textbooks as a major resource.

Point scores from pre and post workshop showed significant increase in all 4 domains ($P < 0.001$) including developing a clinical question, search strategy, use of Medline features, and retrieving appropriate level of evidence. Self perceived EBM knowledge and attitudes also showed significant gain ($P < 0.001$).

In response to open ended statements, students mentioned that they would use EBM skills in patient care during clerkships but still had concerns pertaining to physician awareness, availability of internet, and utility of EBM in a developing country. They recommended EBM skills training to commence early in their medical education.

During subsequent end-of-clerkship OSCEs, mean score of students in EBM related OSCE station was 6.43 ± 0.64 (10 maximum). Five months post-workshop, most of the students rated their frequency of asking questions during clerkships between 1 & 4. They also agreed that practice of EBM was important and would very likely to recommend such a workshop to other students. Mean score for self reported EBM-skills on a 6 point scale was 4 (adequate).

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