Evidence-based Medicine (EBM) involves the judicious use of current best evidence in the context of patient preferences using the clinical expertise of the physician. It is now accepted at the standard of health care practice worldwide. The NMC regulations also emphasize that Indian Medical Graduates must become life-long learners, able to critically look at medical literature and apply to patient care. With these in mind, we initiated a course on EBM for undergraduate medical students in 2016. This course was conducted over 8 weeks and divided into 4 modules. Target learners were 6th semester MBBS students undergoing student clerkship program in 6 disciplines (internal medicine, general surgery, anesthesiology, critical care, casualty and orthopedics). Since then this course has been conducted regularly every year for the 6th semester students. In 2018 a formal module on EBM was developed based and validated using experts. In 2019, a simulated RCT was incorporated into the course to teach students critical appraisal of randomized controlled studies.

Specific learning objectives

At the end of the course the students shall be able to:

1. List the principles and components of EBM
2. Appreciate the advantages of EBM over traditional sources of information
3. Describe the hierarchy of evidence
4. List the steps in practicing EBM
5. Define parts of a good foreground question in the PICO format
6. Demonstrate sufficient skill in using the web and other sources to search for evidence for a given problem
7. Critically appraise a given evidence especially a randomized controlled trial using principles of internal validity, magnitude and reliability of results and external validity.

Teaching learning methods

Module 1: Introduction to EBM (2 weeks) using interactive lectures and group discussion.

Module 2: Developing a clinically relevant foreground question (2 weeks) using group discussions based on problems seen by students in wards.

Module 3: Searching for current best evidence (2 weeks) using group activities on framing foreground questions, followed by hands on sessions facilitated by resource persons on effective search and finally assignments to search for evidence on specific problems provided by the facilitator.

Module 4: Critical appraisal of evidence (2 weeks). These sessions were initially conducted as journal clubs in large and small groups on different articles on therapy. Problems were also used to derive Odds ratios, relative risks and likelihood ratios. Later, we incorporated

Simulated RCT within class to enable better understanding on critical appraisal. Hypothetical results were generated after they were given the toffees as “pill or placebo” and these situations used to discuss concepts like randomization, blinding, follow up and calculation of effect estimates.

Assessment: A pretest is conducted before each course using the Fresno test to assess baseline knowledge and skill of EBM practice. Formative assessments occur at end of each module in the form of online and offline assignments A post-test is performed at end of the course to determine learning.

Evaluation: the course has been evaluated every 2 years based on feedback from students and resource faculty as well as the pretest and posttest scores.