

Pondicherry Institute of Medical Sciences
(A Unit of The Madras Medical Mission)

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.

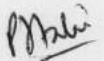
Teaching learning methods

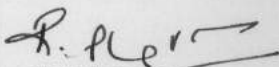
Module 1: Introduction to EBM (2 weeks) using interactive lectures and group discussion.

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

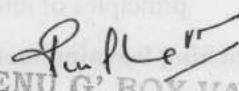

Dr. P. STALIN
DEAN RESEARCH
Pondicherry Institute of Medical Sciences
(A unit of The Madras Medical Mission)
Kalapet, Pondicherry-605 014.



Dr. RENU G. BOY VARGHESE
Director - Principal
Pondicherry Institute of Medical Sciences
Ganapathichettikulam, Kalapet,
Pondicherry - 605 014.

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.

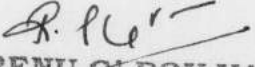

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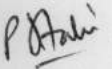

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Evidence Based Medicine Course for 6th Semester MBBS – Schedule
(March to May, 2017) Time: Tuesday- 2-4 pm & Thursday – 2-3 pm

Date	Topic	Facilitators
11.04.17 (Tues)	Appraising evidence critically – why do it?	Dr. Aneesh Basheer Dr. Nayyar Iqbal Dr. Thomas Alexander
	HOLIDAY	
18.04.17 (Tues)	Basic study designs – Cohort study	Dr. Anil Purty
20.04.17 (Thurs)	Basic study designs - Case control study	Dr. Stalin Prabakaran
25.04.17 (Tues)	Basic study designs – RCT 1	Dr. Aneesh Basheer Dr. Vishnu
27.04.17 (Thurs)	Basic study designs – RCT 2	Dr. Aneesh Basheer Dr. Stalin Prabakaran
02.05.17 (Tues)	Advanced study designs – Systematic reviews and meta-analysis Why they are better than others?	Dr. Thomas Alexander Dr. Aneesh Basheer
04.05.17 (Thurs)	Steps in critical appraisal of an article on therapy	Dr. Aneesh Basheer Dr. Nayyar Iqbal
09.05.17 (Tues)	Critical appraisal of article on therapy – hands on	All faculty
11.05.17 (Thurs)	Critical appraisal of article on therapy – hands on	All faculty


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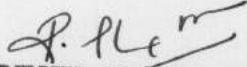

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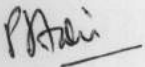
Schedule for EBM course classes from 02.05.2016 to 12.05.2016

Date	Topic	Faculty
02.05.2016 (Monday)	Basic study designs – an introduction (including need for research)	Dr. Stalin P Dr. Nayyar Iqbal
04.05.2016 (Wednesday)	Case control studies	Dr. Anil Purty (Dr. Nayyar Iqbal Dr. Stalin P)
05.05.2016 (Thursday)	Cohort studies	Dr. Thomas Alexander Dr. Satyaki Ganguly
09.05.2016 (Monday)	Randomised controlled trials – 1 (basic design, advantages over other designs, research question for an RCT)	Dr. Aneesh Basheer Dr. Thomas Alexander
11.05.2016 (Wednesday)	Randomised controlled trials – 2 (Randomisation, Blinding, ethical issues)	Dr. Aneesh Basheer Dr. Thomas Alexander
12.05.2016 (Thursday)	Systematic reviews & meta-analysis – Why are they at the top? (Basic design, examples, advantages and limitations)	Dr. Nayyar Iqbal Dr. Satyaki Ganguly Dr. Aneesh Basheer

Kindly make sure all sessions are interactive and illustrative with examples paralleling understanding of the 6th semester students. Discussion may be limited to only aspects that are required for the practice of EBM.

Handouts may be given for the sessions either after sessions or if faculty deem fit a day prior as pre-reading material.


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