



BLOCK EBM-336

Evidence Based Medicine - Fundamentals

STUDY GUIDE



**FACULTY OF MEDICINE
SOHAG UNIVERSITY**

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Revised by

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Block specification

A-Basic Information

Program on which the course is given: Bachelor of Medicine and Surgery (M.B., B.Ch.).

Elements (major or minor) of the program: (undergraduate):

Departments offering the course: (Medical Education)

Academic year/level: 3rd year, 5th semester.

Date of specification approval: 2022/2023, 2024/2025

⊗ Title: Evidence Based Medicine - Fundamentals

⊗ Code: EBM -336

⊗ Credit points: 2

⊗ Vertical block.

⊗Lecture: 20 hours

⊗Practical: 10 hours

⊗ Student learning activities: hours {self-directed learning (SDL), Group discussion & quiz} 30 hours

⊗ Total: 60 hours

Block Map of: Principles of studying medicine

Block	Points	days/week	Learning Activities		
			Contact hours/poin ts	Formative assessment/feedback	Assignment
Evidence Based Medicine	2	2 hours/week	30 hours/ 1 point	0.25 point	0.75 point

B- Professional Information

1- Block aims

⊗ Overall aim of the block:

The aim of this block is to enable the students to practice fundamentals of evidence based medicine and to develop their ability to critically appraisal medical literature. Moreover, to intensify the flow of knowledge from academic research to clinical practice.

2-Intended Learning Outcomes

At the end of this block, the students will be able to:

A- Knowledge and understanding:

- A1- Define evidence based medicine and component of EBM
- A2- List the steps of evidence based practice.
- A3- Identify different types of clinical studies (diagnosis -prognosis - therapy -prevention)
- A4- Recognize best evidence, the leaking pipeline of evidence and explain barriers to transfer evidence in clinical practice.

B) Intellectual skills:

- B1- Differentiate between expert base medicine and Evidence based medicine
- B2-Recognize EBM question
- B3- Select a suitable clinical study.
- B4 – Identify the best evidence
- B5- Critically appraise different types of study design,

C) Psychomotor Skills:

- C1-Formulate clinical questions and make them answerable in a scientific way
- C2-Search for and select relevant literature for scrutinizing and critical appraisal
- C3-Evaluate simple numerical results

D) General and transferable skills:

D1- Explain basic principles in adult learning theories in context of EBM teaching.

D2- Evaluate their own performance.

3-NARS Competencies covered by the block

The competency areas of the NARS- Medicine competency framework are

- 1- The graduate as a health care provider.
- 2- The graduate as a health promoter.
- 3- The graduate as a professional.
- 4- The graduate as a scholar and scientist.
- 5- The graduate as a member of the health team and a part of the health care system.
- 6- The graduate as a lifelong learner and researcher.

Sub competencies**1 Competency Area I: The graduate as a health care provider**

- 1.1 Take and record a structured, patient centered history.
- 1.2 Adopt an empathic and holistic approach to the patients and their problems.
- 1.3 Assess the mental state of the patient.
- 1.4 Perform appropriately-timed full physical examination of patients, appropriate to the age, gender, and clinical presentation of the patient while being culturally sensitive.
- 1.5 Prioritize issues to be addressed in a patient encounter.
- 1.6 Select the appropriate investigations and interpret their results taking into consideration cost/ effectiveness factors.
- 1.7 Recognize and respond to the complexity, uncertainty, and ambiguity inherent in medical practice.
- 1.8 Apply knowledge of the clinical and biomedical sciences relevant to the clinical problem at hand.
- 1.9 Retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM).
- 1.10 Integrate the results of history, physical examination and laboratory test findings into a meaningful diagnostic formulation.

2 Competency Area II: The graduate as a health promoter

- 2.1 Identify the basic determinants of health and principles of health improvement.
- 2.2 Recognize the economic, psychological, social, and cultural factors that interfere with wellbeing.
- 2.3 Discuss the role of nutrition and physical activity in health.
- 2.4 Identify the major health risks in his/her community, including demographic, occupational and environmental risks; endemic diseases, and prevalent chronic diseases.
- 2.5 Describe the principles of disease prevention, and empower communities, specific groups or individuals by raising their awareness and building their capacity.
- 2.6 Recognize the epidemiology of common diseases within his/her community, and apply the systematic approaches useful in reducing the incidence and prevalence of those diseases.

3 Competency Area III: The graduate as a professional

- 3.1 Exhibit appropriate professional behaviors and relationships in all aspects of practice, demonstrating honesty, integrity, commitment, compassion, and respect.
- 3.2 Adhere to the professional standards and laws governing the practice, and abide by the national code of ethics issued by the Egyptian Medical Syndicate.
- 3.3 Respect the different cultural beliefs and values in the community they serve.
- 3.4 Treat all patients equally, and avoid stigmatizing any category regardless of their social, cultural or ethnic backgrounds, or their disabilities.
- 3.5 Ensure confidentiality and privacy of patients' information.

4- Course Content

Topics to be Covered			
List of Topics		# Weeks	Contact Hours
A. Lectures			
1	Introduction to Evidence-based Medicine. A1, B1	1 st	4 hours
2	Basic steps of EMB. A2, B2	2 nd	4 hours
3	Types of Clinical studies. A3	3 rd	4 hours

4	The Best evidence. A4, B4	4 th	4 hours
5	Critical appraisal. A4, B5	5 th	4 hours
TOTAL			20
B. Practical Sessions (TBL)			
1	Posing questions and running searches in PubMed. C1	2 nd /3 rd	4 hours
2	Critically appraise a scientific research. C2, C3	4 th /5 th	3 hours
3	Critically appraise a scientific research. C2, C3	4 th /5 th	3 hours
TOTAL			10 hours
Self-Directed Learning (SDL) {Portfolio-based}			
1	Critically appraise a scientific research. C2, C3, D1, D2	4 th	
2	Critically appraise a scientific research. C2, C3, D1, D2	5 ^h	

Assignments/ learning activities:

#	Title of Activities	Week number	% of points
1	SDL 1	4 th	
2	SDL 2	5 th	

Formative assessment and Assignments

This is used to monitor student's learning to provide ongoing feedback that can be used by instructors to improve their teaching and by students to improve their learning.

It's given at least once in the form of quizzes that is made available for the students at the E-learning site at the end of the block.

Answers are presented instantly after the attempts and discussed on the students groups or in person with the teaching staff

Questions should be consistent with the level of the final exam. The student's attendance is a condition for entering the summative exams. The electronic or paper achievement file must be used to follow up on the students' evaluation, and its completion is a condition for entering the final exams

Course components (total contact hours and credits per semester):							
	Lecture	Practical	*SDL	Tutorial (Discussion)	Formative	Quiz	Total
Contact Hours	20	10	30	-			30
Credit	1		1		0.25	0.75	2

***Not included in contact hours.**

4- Teaching and learning Methods

- 1- Lectures for knowledge and intellectual skill outcomes.
- 2- Practical sessions to gain practical skills.
- 3-Self-directed learning (SDL) for the topics studied in lectures or related topics, including E learning (questions of different topics available online for student's assessments) and consulting professors for gathering of information.

5- Student Assessment

Assessment task	Proportion of Total Assessment	Marks
Mid-term examination (assignments)	30 %	9
Portfolio	10 %	3
Final Exams (25%MCQs, 75% short answer questions and modified short essay)	60 %	18

5- List of references (Recommended books)

1. Power point handout
2. Essential books
Guyatt G, Rennie D, Meade MO, Cook DJ, eds. Users' Guides to the Medical Literature: A Manual for Evidence-Based Clinical Practice. 2nd Ed. New York, NY: McGraw-Hill; 2008.
3. Recommended books
Straus SE, Glasziou P, Richardson WS, Haynes RB. Evidence-Based Medicine. How to practice and teach EBM. Edinburg: Elsevier Churchill Livingstone, Fourth Edition, 2011.

6- Facilities required for teaching and learning

- 1- Data show for power point presentations.
- 2- Computer club in the Faculty with net access.
- 3- Libraries with available textbooks for gathering of information.

Blueprint								
List of Topics		ILO S	Contact Hours	Wt.	End of block	Portoflio/ assignments 10%	Final Exam	
Lectures							MCQ	SAQs & MEQs
1	Introduction to Evidence based Medicine.	A1, B1	4 hours	20%	1	X	2.5	X
2	Basic steps of EMB.	A2, B2	4 hours	20%	2	X	2.5	1
3	Types of Clinical studies.	A3	4 hours	20%	2	1	2.5	1
4	The Best evidence.	A4, B4	4 hours	20%	2	1	3	1
5	Critical appraisal.	A4, B5	4 hours	20%	2	1	3	1.5
	Total		20	100%	9	3	13.5 marks	4.5 marks
Practical							Assignment	
1	Posing questions and running searches in PubMed.	C1	4 hours			X		
2	Critically appraise a scientific research.	C2, C3	3 hours			X		
3	Critically appraise a scientific research.	C2, C3	3 hours			X		
	Total		10 hours			X		
SDL								
1	Critically appraise a scientific research.	D1, D2				X		
2	Critically appraise a scientific research.	D1, D2				X		
	Total				X	X	X	X

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Note: The second-round assessment: Final Exam 100%= 30 marks
 25% short answer question (7.5 marks) and modified short essay questions, 75% MCQ =22.5 marks.

1- Topic outlines

Lecture (1) Introduction to Evidence-based Medicine.	
By the end of the lecture the student will be able to: • Define Evidence-based Medicine. • Recognize component of EBM • Differentiate between expert base medicine and Evidence based medicine	
Content of the lecture ▪ Introduction to EBM ▪ Definition of EBM ▪ Component of EBM ▪ Expert base medicine and Evidence based medicine	
Sources	
❖	Power point handout

Lecture (2) Basic Steps of EBM	
By the end of the lecture the student will be able to: ▪ Identify the Basic Steps of EBM ▪ Formulate EBM question	
Content of the lecture ▪ Basic Steps of EBM ▪ EBM question	
Sources	
❖	Power point handout

Lecture (3) Types of Clinical studies.	
By the end of the lecture the student will be able to: • Identify types of study design • Select suitable study design in medical field	
Content of the lecture ▪ Types of study design in medical field	

Sources
Power point handout

Lecture (4) The Best Evidence
By the end of the lecture the student will be able to: • Identify the Best evidence • Recognize steps to find the best evidence • Identify literature search sources Content of the lecture • The Best evidence • Steps to find the best evidence • Literary search
Sources
❖ Power point handout

Lecture (5) Critical appraisal.
By the end of the lecture the student will be able to: ▪ Critically appraise different types of study design Content of the lecture ▪ Critical appraisal
Sources
Power point handout

9- Block timetable

All sessions are held in the big lecture halls

Day/Tim	1 st week	2 nd week	3 rd week	4 th week	5 th week
Lectures	Lecture 1	Lecture 2	Lecture 3	Lecture 4	Lecture 5
Practical	Practical 1	Practical 2	Practical 3		

10- Declarations

Block Contributor	Name	Signature	Date
Principle Coordinator:	Prof. Rasha Abd El-Hamid Ali		2024-2025