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جامعة المنوفية / كلية الطب  
قسم الصحة العامة وطب المجتمع  
Evidence based medicine (Basics of medical research and Biostatistics)  
module  
**Study guide**



**Evidence based medicine (Basics of  
medical research and Biostatistics) module**

**Study guide**



## Study guide

السيد الأستاذ الدكتور / عميد الكلية

### تحية طيبة و بعد

نحيط سيادتكم علما بأن مجلس قسم الصحة العامة وطب المجتمع المنعقد بتاريخ ٢٠٢٣/٩/٣ قد قرر

اعتماد study guide الخاص بموديول البحث العلمي لعام ٢٠٢٣/٢٠٢٤

<b>Module Title:</b>	Evidence based medicine (Basics of medical research and Biostatistics) module
<b>Module Code:</b>	EBM/BMR/B 2104
<b>Academic Year:</b>	2023 /2024
<b>Semester:</b>	Third semester

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## Module Specification

### Module Identification:

<b>Institution:</b>	Menoufia University.	
<b>College:</b>	Faculty of Medicine.	
<b>Module Title and Code:</b>	Evidence based medicine ( Basics of medical research and Biostatistics) module Code: EBM/BMR/B 2104	
<b>Module Coordinator</b>	Name:	<b>Dr. Asmaa Sharfeldin</b>
	Office:	مدرج الدور السادس ٢
	Office hours	<ul style="list-style-type: none"><li>• one hour for lecture</li><li>• 1.5 hour for practical session</li></ul>
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	e-Mail	<a href="mailto:asmaasharfeldin@gmail.com">asmaasharfeldin@gmail.com</a> <a href="mailto:asmaasharfeldin@med.menofia.edu.eg">asmaasharfeldin@med.menofia.edu.eg</a>
<b>Module members</b>	Members of Community Medicine and Public Health Department	



## Study guide

### Module General Information:

<b>Academic Year:</b>	(2023/ 2024)		
<b>Semester:</b>	<ul style="list-style-type: none"><li>• First.</li><li>○ Second.</li></ul>		
<b>Student Level (Studying Year)</b>	<ul style="list-style-type: none"><li>○ One.</li><li>• Two.</li><li>○ Three.</li><li>○ Four.</li><li>○ Five.</li><li>○ Six.</li></ul>		
<b>Module Type:</b>	<ul style="list-style-type: none"><li>○ Introductory.</li><li>• <b>Core.</b></li><li>○ Elective.</li><li>○ Special.</li></ul>		
<b>Module Duration:</b>	8 Weeks		
<b>Credit Hours:</b>	2 Credit Hours.		
<b>Contact hours</b>	<b>Lectures</b>	<b>Practical</b>	<b>Activities</b>
	12	18	27
<b>Pre-requisites (If any):</b>	-		
<b>Module Location/s:</b>	Blended (Online platform on EKB for activity discussion, and faculty classrooms for lectures and practical)		



## Study guide

### Welcome Message:

My dear students, you are welcome to the Evidence Based Medicine (Basics of medical research and biostatistics) module. This module is prepared in a manner that would prepare a scientific research -oriented physician capable of conducting different types of study designs and be aware of essential knowledge of biostatistics.

*Module Coordinator*

*Dr. Asmaa Sharfeldin*



## Study guide

### Overall aims and learning outcomes of the module

*At the end of the module the students enrolled should be able to:*

#### **I – Overall aims of Module:**

- a. To prepare a scientific research-oriented physician capable of implementing different designs of studies.
- b. To develop a graduate who is aware about importance of scientific research.
- c. To prepare a graduate who is aware about community problems need to be investigated.
- d. To develop a graduate who will apply the knowledge and skills learned, in community development and solving the community problems.
- e. To connect between medical statistics and its clinical application in the hospital.
- f. To identify evidence based medicine.

#### **II – Intended Learning Outcomes:**

**Competency Area 1: The graduate as a health care provider.**

Key competency		Module ILOs
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).	<ol style="list-style-type: none"><li>1.9.1. Define sources of data collections and different sampling techniques</li><li>1.9.2. Identify different types of data and convert it from type to type</li><li>1.9.3. Modulate different types of samples and define its proper use</li><li>1.9.4. Conclude a proper information and introduce beneficial recommendation for the problem solving.</li><li>1.9.5. Create practical solutions for the community problems.</li><li>1.9.6. Retrieve information and able to use the recent information and communications technologies.</li><li>1.9.7. Think and respond properly when solving public health problems, appropriately address different problems.</li><li>1.9.8. Effectively manage time and resources and set priority</li></ol>

## Study guide

### Competency Area 6: The graduate as a lifelong learner and researcher.

Key competency		Module ILOs
<b>6.8</b>	Critically appraise research studies and scientific papers in terms of integrity, reliability, and applicability.	<p>6.8.1 Define research and list its components</p> <p>6.8.2 Formulate a research question about a certain problem.</p> <p>6.8.3 Criticize different research manuscripts</p>
<b>6.9</b>	Analyze and use numerical data including the use of basic statistical methods.	<p>6.9.1 Define statistics, its functions and describe different types of data</p> <p>6.9.2 Define morbidity, mortality and fertility indices</p> <p>6.9.3 Identify test of significance appropriate of each type of data</p> <p>6.9.4 Demonstrate ethical relationship with faculty and staff members.</p> <p>6.9.5 Choose the best study design for the research objectives.</p> <p>6.9.6 Differentiate between different types of study designs and their assumptions.</p> <p>6.9.7 Minimize research bias and follow research ethics.</p>
<b>6.10</b>	Summarize and present to professional and lay audiences the findings of relevant research and scholarly inquiry.	<p>6.10.1 Define different methods of data presentation; also describe different shapes of distribution of data</p> <p>6.10.2 Acquire the skills to present data in its different forms (tabular, graphical and mathematical)</p> <p>6.10.3 Express freely and adequately themselves by improving descriptive capabilities and communication skills.</p>



## Study guide

### E. Module Syllabus:

### Lectures table

اليوم	الموضوع	الموعد	عضو هيئة التدريس
الأحد ٩/٢٤	<b>Research</b>	١-١٢ م	أ.د/ داليا السيد
الثلاثاء ٩/٢٦	<b>Study design (cross-sectional, case control, cohort)</b>	١١,٥ - ١٠,٥ ص	د. يسرا الغلبان
الأحد ١٠/١	<b>Study design (clinical trial, risk management, bias)</b>	١٢,٥ - ١١,٥ م	د. شيماء يحيى
الثلاثاء ١٠/١٠	<b>Data &amp; Sampling</b>	١١,٥ - ١٠,٥ ص	أ.د/ هبة علام
الأحد ١٠/١٥	<b>Data presentation Normal distribution curve Tests of significance</b>	١٢,٥ - ٩,٥ م	د. عزيزة البدرى د. نهاد بدر
الثلاثاء ١٠/٣١	<b>Vital statistics Hospital statistics</b>	١١,٥ - ٨,٥ ص	أ.د/ زينب قاسمي د. شيماء شريف
السبت ١١/٤	<b>Evidence based medicine</b>	١٠ - ٩ ص	د. غدير ماهر

## Study guide

### Practical table

اليوم	الموضوع	الموعد	الهيئة المعاونة
الأحد ٩/٢٤	<b>Research</b>	٢,٥-١ م	ط. أسماء ط. آية
الثلاثاء ٩/٢٦	<b>Study design (cross-sectional, case control, cohort)</b>	١١,٥-١ م	ط. ابتسام
الأحد ١٠/١	<b>Study design (clinical trial, risk management, bias)</b>	٢,٥-١٢ م	ط. جهاد
الثلاثاء ١٠/١٠	<b>Data Sampling</b>	١١,٥-١ م	ط. سارة
الأحد ١٠/١٥	<b>Data presentation</b>	١٢,٥-٣ م	ط. خلود
الثلاثاء ١٠/٣١	<b>Normal distribution curve Tests of significance Hospital statistics</b>	٢,٥-١١,٥ م	ط. سارة
السبت ١١/٤	<b>Vital statistics</b>	١١,٥-٢,٥ م	ط. أنغام
الثلاثاء ١١/١٤	<b>Evidence based medicine</b>	١١,٥-١٠ ص	ط. فاطمة
الأحد ١١/١٩	<b>Revision</b>	١١,٥-١٠ ص	ط. مروة



## Study guide

### Teaching Methods

The following teaching / learning methods are used to promote better understanding:

- **Interactive Lectures/online**
- **Small Group Sessions**
- **Seminars**
- **Team- Based Learning**
- **Practical sessions**
- **Self-directed learning**

➤ **Interactive lectures:** In large group, the lecturer introduces a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients' interviews, exercises, etc. Students are actively involved in the learning process.

➤ **Small group session:** This format helps students to clarify concepts acquire skills or attitudes. Sessions are structured with the help \ of specific exercises such as patient case, interviews or discussion topics. Students exchange opinions and apply knowledge gained from lectures, tutorials and self study. The facilitator role is to ask probing questions, summarize, or rephrase to help clarify concepts.

➤ **Practical Sessions:** Basic clinical practical sessions are scheduled for student learning.

**The practical teaching is conducted using:**

- Clinical rounds
- Simulated patients
- Web based video and Multimedia applications
- Problem solving

➤ **Self-directed learning:** Students' assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Center, teachers and resource persons within and outside the college. Students can utilize the time within the college scheduled hours of self-study.

## Study guide

### Assessment of Module Outcomes

#### Methods of Student Assessment

##### A. Attendance criteria:

The minimum acceptable attendance is 75%, otherwise students failing to reach that percentage will be prevented from attending the final examination.

##### B. Types of Assessment:

- 1- Formative assessment exam (an online Quiz exam): Once at end of the 6<sup>th</sup> week of the clinical round.
- 2- Summative examination (written exam): at the end of the semester for all students.
- 3- Participation in the activities through: criticizing a published paper.

##### C- Summative Assessment methods:

- **40% final written exam at the end of the semester**
  - Include problem solving, multiple choice questions, give reason, matching, extended matching, complete and compare.
- **30% final practical exam** at the end of the semester
- **30% Regular evaluation** including
  - 10% Online exam at the end of the module and periodicals including, multiple choice questions.
  - 10% Attendance and behaviour
  - 10% Participation in activities and research.

✓ **FEEDBACK:** From the students and faculty to further improve the module.

##### Weighing of Assessment:

Method of Assessment	Marks	Percentage
Final Written exam.	20	40%
Final Practical exam.	15	30%
Activities	15	30%
<b>Total</b>	<b>50</b>	<b>100%</b>

### Grading for module by GPA System:

The Percentage	Symbol	Grade
≥85%	A	Excellent.
75-84 %	B	Very Good
65 - 74 %	C	Good.
60 - 64 %	D	Passed.
< 60 %	F	Failed.
	W	Withdrawn

## Study guide

### Final Examination Description:

Examination	Description	Marks
<b>Final examination</b> <b>Written</b>	written paper	20
<b>Final examination</b> <b>Practical</b>	<ul style="list-style-type: none"> <li>• Identification slides</li> <li>• identification points for slides, definitions, enumerate and complete</li> </ul>	15
<b>Periodical examination</b>	MCQs (online quiz)	5

### Student Attendance Policy

- Attendance of students is mandatory for all sessions of the module. An unexcused absence is considered a breach of professional responsibility and conduct. The student's absence affects not only himself but also the others in his group whom rely on each other to generate ideas, share knowledge, and participate in problem solving.
- It is understood that unforeseen circumstances can arise. Therefore, a student will be allowed to sit for the end-module exam if his total attendance is 75% or more (with unexcused absence),
- If the total percentage of the student's attendance (with unexcused absence) during any given module is less than 75%, he is considered failed in that module and he has the right to attend the resit exam. Therefore, if his total attendance is less than 50%, he is considered failed and he has to repeat the whole module (study and exams).
- For any accepted emergency excuse that interferes with the student sitting for the end-module exam (*or part of it*), an alternative exam will be provided to him within the same academic year to attend.



## Reset Examination Policy

- Those who fail in the module assessment will have to appear in the reset exam for the module/s he failed in at the end of the same year.
- The student who fails in the reset exam in any module/s has to repeat the year and enroll in that module/s when offered and take all required assessments (*except for short modules carry maximum 2 credit hours where he can carry it with him for only one academic year*).
- Those who fail in any module for the fourth time i.e. after repeating the year will be referred to the Faculty Board with appropriate recommendation from the module committee for giving him a last chance or not to attend the exam once more.

## VI. List of references and resources:

- Course handout.
- Essential Books:
  - Department book
  - Maxy of public health
- Websites: [www.Medscape.com](http://www.Medscape.com)
- Recommended books

Publications of national and international public health organization; EMOHP, WHO, CDC and APHA

## VII- Facilities required for teaching and learning:-

- 1-Faculty Lecture halls
- 2-Faculty library for textbooks & electronic library for web search.
- 3-Audiovisual aids as boards, data show and computers

منسق الموديول

د. أسماء شرف الدين

رئيس القسم

أ.د/ محمود أبوسالم