UNIVERSITY OF WARMIA AND MAZURY IN OLSZTYN

of Medicine

Course/module syllabus - part A

48SJ-EBM
ECTS: 0,5
YEAR: 2023L

EBM WITH ELEMENTS OF MEDICAL STATISTICS
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COURSE CONTENT
CLASSES

1. History and development of EBM and Cochrane Collaboration. Basic assumptions and principles of evidence based medicine. Definition of endpoints (hard, soft, primary, secondary, clinically important, surrogate, composite). Quality of life and tools to its assessment. Types of studies (original: experimental, observational, surveys; secondary: review papers, systematic analysis, meta- analysis, guidelines and recommendations). Randomisation. 2. Design and performance of double blind randomized control trial, basic statistical analysis and outcome analysis. Principles of making a poster. Sources of reliable answers. 3. Poster presentations. Types of variables. Effect size, definitions: risk, risk difference, absolute risk reduction, absolute risk increase, absolute benefit increase, number needed to treat, number needed to harm, hazard ratio, odds ratio, p value and statistical significance, outcome interpretation. Statistical vs. clinical significance. Diagnostic tests, usefulness of test, sensitivity and specificity. Partial and full economic analysis. Markov model. Meta- analysis and systematic analysis, assessment of their reliability. Analysis and interpretation of outcomes in meta-analysis. 4. Drugs registration, phases of clinical trials. Ethical aspects of clinical trials, bioethics committee. Definitions: Hirsch index, Impact factor. Strength of recommendations (classes of recommendations and levels of evidences). GRADE system.

LECTURES

EDUCATIONAL OBJECTIVE:

learning of critical analysis of medical literature and independent evaluation values of scientific, medical publications

DESCRIPTION OF LEARNING OUTCOMES FOR THE COURSE IN RELATION TO FIELD AND MAJOR LEARNING OUTCOMES

Codes of learning outcomes in a major field of study:	M/NM+++,
Codes of learning outcomes in a major area of study:	B.U11.+, B.U12.+, B.U13.+, D.U17.+, D.W23.+++, K.8.+,

LEARNING OUTCOMES:

Knowledge

W1 - Knows basic methods of statistical analysis used in population and diagnostic studies.
W2 - Knows principles of performing research (observational, experimental and in vitro) supporting development of clinical medicine.
W3 - Knows principles of evidence based medicine.

Skills

U1 - Is able to explain differences between prospective and retrospective studies, randomized and case- control trials, case reports and experimental studies, and ranks them according their o reliability and level of evidence.
U2 - Uses databases (including online ones), searches for necessary information using available tools.
U3 - Is able to choose appropriate statistical tests, performs basic statistical analysis and uses relevant ways to present the results; interprets results of meta-analysis, performs probability of survival analysis.
U4 - Is able to plan and prepare simple research, to interpret its results and draw conclusions.

Social competence

K1 - Is aware of own limitations and recognizes the need for continuous education to be up to date with medical knowledge.

BASIC LITERATURE

1) Sharon E. Straus MD, Evidence-Based Medicine: How to Practice and Teach , wyd. It. 4th Edition. Churchill-Livingston Elsevier, 2011

SUPPLEMENTARY LITERATURE

1) Peacock JP, Peacock PJ, Oxford Hanbook oof Medical Statistics, wyd. Oxford Medical Handbooks, 2017

Course/module:
EBM with Elements of Medical Statistics

Fields of education:

Course status:	mandatory
Course group:	B - przedmioty kierunkowe
ECTS code:	
Field of study:	Medicine
Specialty area:	Medicine
Educational profile:	General academic
Form of study:	full-time
Level of study:	uniform master's studies
Year/semester:	4 / 8

Type of course:
Classes

Number of hours per semester/week: Classes: 10

Teaching forms and methods
Classes(K1, U1, U2, U3, U4, W1, W2, W3) : Discussion on scientific papers, poster presentations.

Form and terms of the verification results:
CLASSES: Prezentation - Discussion on scientific paper.(K1, U1, U2, U3, U4, W1, W2, W3)

Number of ECTS points: 0,5

Language of instruction: English

Introductory courses:
internal medicine, pathophysiology, pharmacology, surgery, paediatrics, biostatistics

Preliminary requirements:
knowledge basics of pathophysiology, diagnostics, biostatistics and treatment

Name of the organizational unit offering the course:
Katedra Chorób Wewnętrznych,

Person in charge of the course:
prof. dr hab. n. med. Tomasz Stompór,

Course coordinators:

Notes:

Detailed description of the awarded ECTS points - part B

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The awarded number of ECTS points is composed of:

1. Contact hours with the academic teacher:

- participation in: classes	10 h.
- consultation	2 h.
	12 h.

2. Student's independent work:

- student reads scientific papers, prepares poster and presentation.	0,5 h.
	0,5 h.

1 ECTS point = 25-30 h of the average student's work, number of ECTS points = 12,5 h : 25 h/ECTS = 0,50 ECTS
on average: **0,5 ECTS**

- including the number of ECTS points for contact hours with direct participation of the academic teacher: 0,48 ECTS points,
- including the number of ECTS points for hours completed in the form of the student's independent work: 0,02 ECTS points,