Academic year 2021./2022.

Course title Evidence-based dentistry - methodology and principles

Department Department of Pharmacology

Adress Salata 11, Zagreb

Total ECTS points

Course leader Assoc.prof. Kristina Peros

Course associates Assoc.prof. Ivana Sutej, Assist.prof Tina Poklepovic Pericic

Teaching plan

	No. classes
Lecture	6
Seminar	10
Practical	4
Total	20

1 class = 45 minutes

Course description

The concept of evidence-based medicine refers to the conscientious, explicit and judicious use of currently best available evidence in making the best decision to care for individual patients. Evidence-based dentistry (EBD) is an oral health care approach that requires the reasonable integration of systematic assessments of clinically relevant scientific evidence (relating to the patient's oral and medical status) into the existing clinical expertise of a dental doctor aligned with the patient's needs. Because patient needs are diverse and subjective, and clinical expertise may differ between providers, relevant scientific evidence is crucial.Despite the multitude of scientific publications, there is a gap in evidence-based knowledge in several fields of clinical dentistry.Although we may have the best evidence obtained from well-made systematic reviews and meta-analyzes in specific areas of dental medicine, it is often tedious for practitioners to read detailed reviews and extract relevant information from them. For that purpose, it is important to create clinical recommendations / guidelines and critical summaries that can be useful to all.The significance of providing a balanced combination of science and clinical expertise to optimize patient care is invaluable in practice, therefore, it is in the best interest of the practitioner to permanently adopt the principles of Evidence-based dentistry.The purpose of the course is to comprehend the process of developing recommendations and clinical guidelines, to master the skills of searching, selecting and using existing EBD guidelines, and to those interested - how to contribute to the creation of new guidelines.

Learning outcomes

1. Define EBD, identify EBD accomplishments and limitations, evaluate sources of information and critically review their content
2. Design a clinical question from practice
3. Critical appraisal of the study results of existing research
4. Plan the application of the obtained evidence in clinical practice
5. Evaluate the significance of the evidence found in planning a new research

Course contet

Lecture

	Lecture topics	Number of classes/hours
1.	- The Meaning of Evidence Based Dentistry (EBD)	1
2.	- Objectives and Purposes of Evidence Based Dentistry (EBD)	1
3.	- Accomplishments of EBD	1
4.	- Limitations of EBD	1
5.	- Cochrane collaboration (collaboration organization, library, begining and maintenance, Cochrane in Croatia)	1
6.	- Cochrane collaboration II (development of systematic review work; formulation of question, selection of a working group of researchers, registration of title, drafting and publication of protocol, drafting, publication and maintenance of review)	1

1 sat = 45 minuta

Seminari

	Seminar topics	Number of classes/hours
1.	- Definition of Clinical Question (PICOS system question development: selection of participants, selection of intervention, setting of standards for comparison, selection of outcomes, determination of types of studies for analysis)	1
2.	- Designing a purposeful clinical question from daily practice (according to the content of seminar 1, elaborate on an example of making a clinical / scientific question)	1
3.	- Principles for searching sources for experts and non-experts to find evidence (search of CENTRAL, EMBASE and MEDLINE databases based on words and concepts from titles and inclusion criteria)	1
4.	- Critical evaluation of existing evidence for diagnostic procedures (evaluating guidelines using the AGREE tool; studies of the reproducibility, accuracy, feasibility, cost and risk of the diagnostic test; effects of testing on outcomes; study design flaws for diagnostic tests)	1
5.	- Evaluation of new/planned research on diagnostic procedures in relation to existing evidence (according to the content of seminar 4: examples for system error – bias)	1
6.	- Critical evaluation of evidence in etiology and prognosis of disease (evaluating guidelines on AGREE collaboration; association, causality and confounding; advantages and disadvantages of cohort and case studies)	1
7.	- Evaluation of new/planned research on prognostic procedures in relation to existing evidence (according to the content of seminar 6: the study design examplesprospective / retrospective cohort study,	1

	cross-sectional studies, case studies, choice among observational designs)	
8.	- Critical evaluation of evidence of therapeutic procedures. (evaluating guidelines using AGREE tool; selection of participants, techniques for determining sample size, determining baseline variables, selecting outcome measures, randomization and blinding)	1
9.	- Evaluation of new/planned research on therapeutic procedures in relation to existing evidence based research approach (according to the content of seminar 8: examples of sample size determination for different studies; use and misuse of the t-test)	1
10.	- Application of the evidence found to everyday clinical practice and to the design of new research (application of international research adapted to the local environment; design of a new one or translation of an existing questionnaire; data entry, processing, data analysis - finding and correction of errors; finalizing research protocols; research funding)	1

1 sat = 45 minuta

Vježbe

	practicals topics	**Number of classes/hours**
1.	- Cochrane collaboration III (meta-analysis and forest graph)	1
2.	- Cochrane collaboration IV (publication of systematic review; updating systematic review)	1
3.	- Presentations and questions	1
4.	- Final discussion, preparation for the exam	1

1 class = 45 minutes

Literature

1. Hackshaw A, Paul E, Davenport E. Evidence-Based Dentistry An Introduction. 2nd edition. Oxford: Blackwell Munksgaard; 2007.
2. Glasziou P, Del Mar C, Salisbury J. Evidence-based Medicine Workbook. 1st edition. BMJ Books, London/Canberra:BMJ Publishing Group; 2003.
3. Marušić M i sur. Uvod u znanstveni rad u medicini. 6. izd. Zagreb, Medicinska naklada; 2019.
4. Medicina temeljena na dokazima. Medicina Fluminensis, 2017;53(4):400-501
5. Ferenczi E, Muirhead N. Statistika i epidemiologija u jednom potezu. Zagreb: Medicinska naklada; 2011.
6. Hulley SB et al. Designing clinical research. 3rd ed. Philadelphia USA, Lippincott Williams & Wilkins; 2007.
7. Day RA, Gastel N. How to write and publish a scientific paper, 6th edition. Westport (CT): Greenwood Press; 2006.
8. Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, Welch VA (editors). Cochrane Handbook for Systematic Reviews of Interventions version 6.2 (updated February 2021). Cochrane, 2021. Available from www.training.cochrane.org/handbook.

CV (*curriculum vitae*) and bibliography of course leader

Associate Professor at the Department of Pharmacology, School of Dental Medicine, University of Zagreb, Head of the Department. She actively participates in the preparation and holding of classes for students in the courses Pharmacology, Clinical Pharmacology and Toothpaste preparation. She is also the head of the course at the postgraduate doctoral study. She has published, as an author and co-author, several scientific papers in journals indexed in the Current contents database, chapters in books that are university textbooks, and several conference papers and other papers. At the invitation of the editor of the journal, she reviewed papers for journals indexed in the Current contents database and in other databases. She is the leader and collaborator on several scientific projects (completed or still active) funded by the Ministry of Science, Education and Sports, as well as on projects of the Croatian National Science Foundation. She is a member of the Croatian Society of Physiologists, the Croatian Society of Pharmacologists (HDF), the European Pharmacological Association (EPHAR) and the International Pharmacological Association (IUPHAR).

https://www.bib.irb.hr/pregled/profil/23282