



UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Farmakoepidemiologija in farmakoekonomika
Course title:	Pharmacoepidemiology and Pharmacoeconomics

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
BIOMEDICINSKA TEHNOLOGIJA BIOMEDICAL TECHNOLOGY		2	3 ali 4

Vrsta predmeta / Course type

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
15	30	-	-	-	105	5

Nosilec predmeta / Lecturer:

doc. dr. Uroš Maver

Sonosilci predmeta / Lecturer

doc. dr. Eva Turk

Jeziki /

Predavanja / Lectures:

Slovenski, Angleščina/Slovene, English

Languages:

Vaje / Tutorial:

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Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Kandidat mora doseči 300 ECTS na predhodnem študiju.

Prerequisites:

Graduate degree 300 ECTS

Vsebina:

- Primerjava zdravstvenega sistema v SLO in EU.
- Koncepti farmakoepidemioloških in farmakoekonomskih raziskav.
- Ocenjevanje terapevtskih (kliničnih, humanističnih in ekonomskih) izidov pri zdravljenju z zdravili.
- Kritičen pregled raziskav
- Baze podatkov za farmakoepidemiološko in farmakoekonomsko ocenjevanje ter vrste farmakoepidemioloških in farmakoekonomskih študij.
- Farmakoepidemiološke analize (poročilo primerov, raziskava serije primerov, raziskava primer-kontrola, raziskava izpostavljeni-neizpostavljeni (kohortna študija).
- Farmakoekonomske analize (analiza zmanjševanja stroškov, analiza stroškovne učinkovitosti, analiza stroškovne koristnosti, analiza stroškovne uporabnosti).
- Farmakovigilanca: regulatorni, terapevtski in vedenjski vidiki.
- Modeliranje v farmakoepidemiologiji in farmakoekonomiki.
- Pomen epidemioloških, farmakoepidemioloških in

Content (Syllabus outline):

- Comparison of the Slovenian and EU Healthcare systems.
- Concepts of pharmacoepidemiologic and pharmacoeconomic research.
- Assessment of therapeutic (clinic, humanistic and economic) outcomes in pharmacotherapy.
- Critical appraisal of studies
- Data sources for pharmacoepidemiologic and pharmacoeconomic assessment and types of pharmacoepidemiologic and pharmacoeconomic studies.
- Pharmacoepidemiologic analysis (case reports, case series studies, case-control studies, cohort studies).
- Pharmacoeconomic analysis (cost minimization analysis, cost effectiveness analysis, cost benefit analysis, cost utility analysis).
- Pharmacovigilance: regulatory, therapeutic and behavioural aspects.
- Modeling in pharmacoepidemiology and pharmacoeconomics.
- The role of epidemiologic, pharmacoepidemiologic and economic data and data on efficacy and safety of drugs on rationalization of their usage in routine

ekonomskih podatkov ter podatkov o učinkovitosti in varnosti zdravil za racionalizacijo njihove uporabe v rutinski klinični praksi.

- Na dokazih podprta klinična praksa

clinical practice.

- Evidence based clinical practice

Temeljni literatura in viri / Readings:

- Drummond, Michael F., Mark J. Sculpher, Karl Claxton, Greg L. Stoddart, and George W. Torrance. Methods for the economic evaluation of health care programmes. Oxford university press, 2015.
- Eddy, David. "Health technology assessment and evidence-based medicine: what are we talking about?." value in health 12 (2009): S6-S7.
- Rupel-Prevolnik V, Simčič B, Turk E. Dictionary of Terminology in the Health Care System. Ljubljana: Ministrstvo za zdravje Republike Slovenije; 2014. (Slovenian)
- B. L. Strom, Pharmacoepidemiology, John Wiley&Sons, Chichester, Second edition, 1994
- Tekoča periodika: Pharmacoepidemiology and Drug Safety
- J. L. Bootman, R. J. Townsend, W. F. McGhan, Principles of Pharmacoeconomics, Harvey Whitney Books Company, Cincinnati, Second edition, 1996. M. F. Drum
- mond, B O Brian, G. L. Stoddart, G. W. Torrence, Methods for the Economic Evaluation of Health Care Programs, Oxford University Press, Oxford, 1997.
- L. E. Baskin, Practical Pharmacoeconomics (how to design, perform and analyze outcomes research), Advanstar Communications, Inc., Cleveland, 1998.
- Ozcan, Y.A. Health care benchmarking and performance evaluation: an assessment using data envelopment analysis (DEA). New York: Springer, 2008
- McIntosh, E. et al. Applied methods of cost-benefit analysis in health care. Oxford [etc.]: Oxford University Press, 2011
- Gray, A. Applied methods of cost-effectiveness analysis in health care. Oxford [etc.]: Oxford University Press, 2011
- Tekoča periodika: PharmacoEconomics

Cilji in kompetence:

- Umestitev zdravila v sistem zdravstvenega varstva, njegov pomen za populacijo in ciljne skupine ter njegov pomen za posameznika bio-psiho-socialno-ekonomskem smislu.
- Spoznati osnove farmakoepidemiologije, ki jo definiramo kot aplikacijo epidemiološkega utemeljevanja, metod ter znanja za študij uporabe zdravil ter njihovih učinkov na človeški populaciji.
- Spoznati osnove farmakoekonomike, ki na osnovi ekonomskih, kliničnih in epidemioloških metod omogoča racionalizacijo zdravljenja z zdravili in je hkrati orodje, ki omogoča racionalizacijo sredstev v sistemu zdravstvenega varstva.

Objectives and competences:

- Positioning a medicine in the health care system and its importance for the population and target groups as well as its importance for the individual bio-psycho-social-economic means.
- Basic knowledge of pharmacoepidemiology, which is defined as the application of epidemiologic reasoning, methods, and knowledge for the study of the use of drugs and their effects on the human population.
- Learning the basics of pharmacoeconomics that relies on the economic, clinical and epidemiological methods to rationalize drug treatment and is a tool that allows for efficient resource allocation in the health care system.

Predvideni študijski rezultati:

Znanje in razumevanje:

- Študent osvoji znanje in razumevanje materije, potrebne za racionalno uporabo zdravil.

Prenesljive/ključne spretnosti in drugi atributi:

- Študent pridobi sposobnost izvajanja farmakoepidemioloških in farmakoekonomskih raziskav.

Metode poučevanja in učenja:

Predavanja
Seminarji
Samostojno delo

Intended learning outcomes:

Knowledge and understanding:

- Student wins knowledge and understanding of subject-matter, needed for rational usage of drugs

Transferable/Key Skills and other attributes:

- Student becomes master of performing pharmacoepidemiologic and pharmacoeconomic research.

Learning and teaching methods:

Lectures
Seminars
Individual work

pisni izpit, seminarska naloga (pisna in predstavitev)	60% 40%	written examination, seminars (written and presented)
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Reference nosilca / Lecturer's references:

- DOVNIK, Andraž, MUJEZINOVIĆ, Faris, TREIBER, Milena, PEČOVNIK-BALON, Breda, GORENJAK, Maksimiljan, **MAVER, Uroš**, TAKAČ, Iztok. Seasonal variations of vitamin D concentrations in pregnant women and neonates in Slovenia. *European Journal of Obstetrics, Gynecology and Reproductive Biology*, ISSN 0301-2115. [Print ed.], 2014, vol. 181, str. 6-9.
- MAVER, Tina, **MAVER, Uroš**, STANA-KLEINSCHKEK, Karin, SMRKE, Dragica, KREFT, Samo. A review of herbal medicines in wound healing. *International journal of dermatology*, ISSN 0011-9059. [Print ed.], Article first published online: 24 Mar. 2015, vol. , iss. , str. [1-12].
- DEVETAK, Miha, PERŠIN, Zdenka, STANA-KLEINSCHKEK, Karin, **MAVER, Uroš**. Utilization of optical polarization microscopy in the study of sorption characteristics of wound dressing host materials. *Microscopy and microanalysis*, ISSN 1431-9276. [Print ed.], Apr. 2014, vol. 20, iss. 02, str. 561-565.
- MAVER, Uroš**, VELNAR, Tomaž, GABERŠČEK, Miran, PLANINŠEK, Odon, FINŠGAR, Matjaž. Recent progressive use of atomic force microscopy in biomedical applications. *TrAC, Trends in analytical chemistry*, ISSN 0165-9936, Available online 15 March 2016, vol. , str. 1-4, doi: 10.1016/j.trac.2016.03.014.
- ORTHABER, Kristjan, PRISTOVNIK, Matevž, SKOK, Kristijan, PERIČ, Barbara, **MAVER, Uroš**. Skin cancer and its treatment : novel treatment approaches with emphasis on nanotechnology. *Journal of Nanomaterials*, ISSN 1687-4129, 2017, vol. 2017, str. 1-20.
- TURK, Eva**, PREVOLNIK RUPEL, Valentina, TAPAJNER, Alojz, ISOLA, Arja. Reliability and validity of the audit on diabetes-dependent quality of life (ADDQoL) and EQ-5D in elderly Slovenian diabetes mellitus type 2 patients. *Health*, ISSN 1949-5005, Mar. 2014, vol. 6, no. 8, str. 699-711.
- LEGIDO-QUIGLEY, Helena, PANTELI, Dimitra, BRUSAMENTO, Serena, KNAI, Cecile, SALIBA, Vanessa, **TURK, Eva**, SOLÉ, Meritxell, AUGUSTIN, Uta, CAR, Josip, MCKEE, Martin, BUSSE, Reinhard. Clinical guidelines in the European Union : mapping the regulatory basis, development, quality control, implementation and evaluation across member states. *Health policy*, ISSN 0168-8510, 2012, vol. 107, str. 146-156.
- KNAI, Cécile, BRUSAMENTO, Serena, LEGIDO-QUIGLEY, Helena, SALIBA, Vanessa, PANTELI, Dimitra, **TURK, Eva**, CAR, Josip, MCKEE, Martin, BUSSE, Reinhard. Systematic review of the methodological quality of clinical guideline development for the management of chronic disease in Europe. *Health policy*, ISSN 0168-8510, 2012, vol. 107, str. 157-167.